AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 93

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0002	08-Aug-2003	W22W9K-3058-5607	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
MILITARY/RESERVE 600 DR. MARTIN LUTHER KING, JR. PLACE, LOUISVILLE KY 40202-2230	DACA27	MILITARY/RESERVE 600 DR. M. L. KING, JR. PL., RM ATTN: KIM J. MCKNIGHT LOUISVILLE KY 40202-2230	DACA27

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
	X	9A. AMENDMENT OF SOLICITATION NO. DACA27-03-R-0011
	X	9B. DATED (SEE ITEM 11) 22-Jul-2003
		10A. MOD. OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [ ] is extended, [X] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

[ ] A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

[ ] B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DACA27-03-R-0011, Vehicle/Pallet Facility, Fort Dix, New Jersey, is hereby amended as follows:

1. The sign-in sheet and the minutes from the August 5, 2003 pre-proposal conference are attached.
2. Section 01020: Additional SOW items are added to this section.
3. The updated geotechnical report is included.
4. Section 01320: Additional information is added to this section.
5. Section 15900: Addtional information is added to this section.
6. Five photos have been included for additional information to supplement Appendix 16.
7. The Fort Dix Base gate location map is included in reference to the Base security requirements.
8. Section 00700: Revise clause as indicated in this amendment.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: EMAIL:	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 08-Aug-2003

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

Pre-Proposal Conference Meeting Minutes
Fort Dix Pallet Facility
DACA27-03-R-0011
5 August 2003

1. Kim McKnight opened the meeting with introductions of COE personnel and Fort Dix personnel.

2. Ms. McKnight suggested that prospective bidders also access the Louisville District website to see the information in DACA27-03-B-0009, Add/Alt Apron Taxiway Project at Fort Dix, NJ. This project abuts the pallet facility project site. Website: http://ebs.lrl.usace.army.mil/ebs/AdvertisedSolicitations.asp

3. The project is 8A competitive, certified by the Small Business District Offices that service New York, New Jersey, Pennsylvania and Delaware. This is not restricted to SBA Regions 2 and 3 as originally advertised.

4. Access Control Issues for Contractor Personnel, Fort Dix, NJ were addressed by Tom Kordell of Fort Dix, NJ. All contractors working on base are required to have completed Background Investigations (BI) done. These must be 5 year BIs, which can be done by a private agency or through the State Police. Badges good for the life of the project will be issued upon review/approval of BI. Contractors who are only on-site for a day or a week will be assigned escorts. Coordinate with the Military Police, and provide them a list of personnel expected to arrive at least 24 hours in advance. Background Investigations completed for McGuire AFB should be good for Fort Dix.

5. Military Police Access Control Issues for Vehicles was discussed by SGT Stewart. Coordinate early with the MPs to ensure timely access of vehicles.
Contractors are advised to commute with personally owned vehicles (POV) and to leave heavy equipment in place on the post to cut down on delays entering the post. Average wait to get in or out is approximately 15 minutes. (See the Fort Dix Gate location map, which has been included as a reference for Base security requirements).

Heavy vehicles: All heavy vehicles must use Checkpoint 9 gate. Coordinate scheduled deliveries with the MPs as soon as possible.
Cement and asphalt delivery will be given priority. Contractors must get advance notice to the MPs of the firm delivery schedule. With sufficient advance notice, and proper documentation for personnel and vehicles, access for asphalt/cement can usually be accomplished within 10 minutes. Concrete pour requires at least 24 hours notice minimum. Provide the MPs with a list of the providers for asphalt and concrete; to include company name, list of drivers, schedule, etc.

Deliveries of loads of equipment such as steel: Provide driver with a valid invoice identifying the base contractor's name, and phone number (not a cell phone).

Weekend Deliveries: Not a good idea, not recommended. If essential, weekend deliveries must be coordinated well in advance. Only Checkpoint 1 is open. Vehicles over 6000 pounds cannot use this checkpoint.

If a 24-hour paving must take place, coordinate with Mike Borovicka at (609) 562-2853 and/or Tom Trumbetas 609-562-4313.

Contractor personnel working on Fort Dix must have valid identification (Passport, Driver's license, social security card, etc., issued by a state or federal agency). Subcontractors must be advised that all personnel must have these documents. Social Security numbers must be valid. Illegal labor will be reported to the Immigration authorities and will be prosecuted.

Drivers' must possess current, valid driver's license. Drivers making deliveries must have a valid point of contact on post, an address/location on Fort Dix for delivery, and a post phone number for that contact (not a cell phone number).

Vehicles must have current original registrations, (no photocopies), and proof of insurance. All vehicles must be able to pass roadside inspections, load safety inspections, etc.

No knives, guns, weapons, explosives, drugs, etc. are to be transported onto Fort Dix, NJ.

Threat conditions: Should the base be upgraded to Threatcon Delta, the base will be closed to traffic unless it supports the soldiers and mission directly. If the threat condition is raised to Threatcon Charlie, anticipate a two-hour delay in getting on base.

Military Police POC: SGT Stewart (609) 562-4708/2624.
Hours: 7 am – 3 pm Monday through Friday
Sailor's Pond Road
Fort Dix, NJ

6. Contractor Queries and other Technical Issues:

Q: Where are connections to existing utilities? To include where the water and sewer are to be connected?

A: The design/builder will need to verify utility locations. All known above and underground utilities are shown on the drawings.

Q: The drawings do not show where the utility connections should be made. Are the distances 20 feet? 30 Feet? Where does the sewer come in? The water main is where? Electrical connection is where?

A: We will clarify in the amendment all major utility locations and hookup locations (for sewer, water, telephone, gas, electrical). **F**or the purposes of bidding this RFP, assume all major utility connections at a point directly perpendicular to the building at the center of Texas Avenue.

Q: We need the sewer inverts as well, can we get them?

A: This will also be addressed as part of the amendment. Only invert information that is in the RFP is available at this time. Information may be provided by Fort Dix Public Works during the design phase.

Q: Electrical lines on the project, are they to be relocated by contractor or Fort Dix?

A: All primary electrical work shall be performed by New Jersey Power & Light (NJP&L) and shall be coordinated through Stephen Whitmore of Fort Dix DPW.

The overhead three phase lines running north-south from Princeton Avenue and the affected lines along Texas Avenue shall be replaced with underground utilities. All primary underground lines shall be installed in concrete encased duct. Other utilities such as communications, cable television, etc. using the same poles shall also be relocated, with work coordinated with DPW.

A new primary tap shall run underground from the existing/relocated primary lines to serve the new Pallet Facility. Appropriately sized primary conductors shall installed from the point of connection to the new pad-mounted transformer location.

The work shall also include new underground feeds to the existing pump house and existing (other building) including appropriately sized pad-mounted transformers.

The contractor shall provide/install concrete pads for transformers in accordance with NJP&L specifications and shall provide and install secondary conductors into the buildings. NJP&L shall provide and install transformers.

Site lighting relocations/removals shall be performed by the contractor.

Q: Do we move the poles in the footprint of the building?

A: New Jersey Power & Light will move them. There will be **no allowance** for utilities in this project; this will not be a contract expense. (See the preceeding answer for more details).

Q: Water flow information? Size of water mains?

- A: Hydrant test was done two years ago on Texas Avenue. Design/builder will be required to run a further test again and supply that information as part of the design submittal. Proposal should be based upon the two-year old data. This will be clarified in the amendment.

Q: What is the required pavement elevation?

A: Matchup of pavement is required where the adjacent Apron project will tie in to this project at the fence line. We will provide elevations that need to be matched. It is approximately 39.15. Reference should be made to DACA27-03-B-0009, designed by Mason Hanger Group, Civil Sheet 600. Grade at that location will depend on the designer of record's final design.

Q: Is there a crane in the facility?

A: No.

Q: Furniture required? Do we provide?

A: Contractor will provide design only for the furniture, and will NOT buy any furniture. Second floor furniture design is an option. The furniture package provided by the contractor will be used to procure separately through a separate contract.

Q: Anti-Terrorism Force Protection (AT/FP) requirement, what is it? Do we have to comply with the whole spec? Set backs, stand offs, barricades, bollards etc.?

A: Design for an uninhabited building within a controlled perimeter, following appropriate AT/FP criteria. The design/build contractor must review and comply with the applicable ATFP criteria. POV parking setback requirements are 30 feet as shown on the drawings.

Q: SOW references 70-ton tank? Where? It's not on any drawing.

A: Lane 1 is a 70-ton lane as shown on Sheet 4 of the drawings. The entire slab, the width of Lane 1, is intended to support a tank (Abrams M1 tank).

Q: Without wheel spaces, How do we design for this tank?

A: Use M1 tank specifications. Three of the many references are:
http://www.globalsecurity.org/military/systems/ground/m1-specs.htm
http://www.clubi.ie/exalted/m1abrams.htm
http://207.234.171.161/armor/armorspecs.htm

Q: What is the 20 ton wheeled vehicle?

A: Paragraph 6-3.22 of Section 01020 references AASHTO HS 20-44. This is to be the design criteria for a 20-ton vehicle.

Q: Structural section 13120 paragraph 2 under "Design Conditions" references a collateral load requirement of 24 Kpa -- is this correct or a typo?

A: This should be 0.24Kpa.

Q: Tank. Still have a question about the width of the tank. What is it?

A: See the answers above.

Q: Staging Area?

A: Stay away from the wetlands. See site plan C200. Use the Quonset hut (K-Span building) for staging, (Bldg # 4461**)** and perimeter area. There is a requirement to tear down the existing motor pool fence and relocate it and the curb.

We will put information and definition about the fence in the amendment. Unless otherwise stated in the RFP, bidders shall assume responsibility for providing fence closure to the existing motor pool and new curb along the east side of the Pallet/Facility site.

Power to the K-Span building may be interrupted due to construction of the adjacent Add/Alt Apron/Taxiway project.

Q: Clarify pallet options? Option 1? 60K loaders?

A: 60 K refers to the largest pallet loader vehicle that will operate in the building. These "K loader" vehicles themselves are not part of this contract. Base bid includes a surface flush mounted pallet scale. Option 1 is an in-ground scale/lift that will lower into a pit below grade as pallet is being assembled, and then raises to allow the pallet to roll down toward the door. The floor mounted roller conveyor is part of the base bid. At the other end of the rollers is the other Option, a scissors lift which raises the pallet up to allow the K-Loader vehicle (Not in Contract) to pick up the pallet. The Military Traffic Management Command (MTMC) Transportation Engineering Agency is a good reference for these types of equipment (Mike Atamanchuk, 757-599-1189).

Q: Capacity of the lift?

A: Only one pallet at a time, no more that 10,000 pounds.

Q: Option 1 and 3 are the same thing? Sample we can see?

A: We have some photos available, there is one on McGuire AFB. Sample photos are attached to this amendment, which are included as information to supplement Appendix 16.

Q: Telephone and data? Bldg 5632 Texas Avenue…How far away is it?
Underground?

A: Two blocks away, as stated in the specs. We will put location in the amendment.
See paragraph 9-6 of Section 01020 and use distance for RFP planning purposes as 800 feet from the west edge of the pallet facility to the entry point of Building 5632, which is due west on Augusta Street, which is directly across Texas Avenue from the site.

Q: Will you enforce BACnet requirement re: HVAC? Reference page 248, item 11 Section 15900.

A: Fort Dix does have an EMCS, which will require Ethernet communication. It is typically a Honeywell system and will require one of the two protocols mentioned. For further information, contact John Lamb at Fort Dix, (609) 562-6687.

7. Section 00115 contains proposal submission requirements; what you must provide, and samples you can use.

Section 00130 tells you how we will evaluate the submitted proposals.

Our process includes a review of all technical proposals, then a consensus decision on a rating for each. Only after that will we open price. We will select the contractor providing the best value for the government.

Forms are behind the bid page for your use in asking further questions. Questions must be submitted in writing.

We intend to award by the end of September. 21 August at 4:30 PM is the deadline for submission of proposals. One original plus seven copies of the technical proposal, and one copy of the price proposal are to be submitted.

Contractual amendment will be issued Thursday, 7 August 2003.
Technical amendment will be issued Friday, 8 August 2003.

SECTION 00700 - CONTRACT CLAUSES

The following included by full text have been revised:

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUN 2003)

(a) The Contractor shall not acquire, for use in the performance of this contract, any supplies or services originating from sources within, or that were located in or transported from or through, countries whose products are banned from importation into the United States and its outlying areas under regulations of the Office of Foreign Assets Control, Department of the Treasury. Those countries are Cuba, Iran, Iraq, Libya, North Korea, Sudan, the territory of Afghanistan controlled by the Taliban, and Serbia (excluding the territory of Kosovo).

(b) The Contractor shall not acquire for use in the performance of this contract any supplies or services from entities controlled by the government of Iraq.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

Section 01020: The following information has been added to this section.

The design/builder will need to verify utility locations. All known above and underground utilities are shown on the drawings.

For the purpose of bidding this RFP, assume all major utility connections at a point directly perpendicular to the building at the center of Texas Avenue.

All primary electrical work shall be performed by New Jersey Power & Light (NJP&L) and shall be coordinated through Stephen Whitmore of Fort Dix DPW.

The overhead three phase lines running north-south from Princeton Avenue and the affected lines along Texas Avenue shall be replaced with underground utilities. All primary underground lines shall be installed in concrete encased duct. Other utilities such as communications, cable television, etc. using the same poles shall also be relocated, with work coordinated with DPW.

A new primary tap shall run underground from the existing/relocated primary lines to serve the new Pallet Facility. Appropriately sized primary conductors shall installed from the point of connection to the new pad-mounted transformer location.

The work shall also include new underground feeds to the existing pump house and existing (other building) including appropriately sized pad-mounted transformers.

The contractor shall provide/install concrete pads for transformers in accordance with NJP&L specifications and shall provide and install secondary conductors into the buildings. NJP&L shall provide and install transformers.

Site lighting relocations/removals shall be performed by the contractor.

New Jersey Power & Light will move the poles in the footprint of the building. There will be **no allowance** for utilities in this project; this will not be a contract expense. (See the preceeding answer for more details).

Wa**ter Flow Information:** It has been clarified that the hydrant test was done two years ago on Texas Avenue. Design/builder will be required to run a further test again and supply that information as part of the design submittal. Proposal should be based upon the two-year old data.

Required pavement elevation: The match up of pavement is required where the adjacent Apron project will tie in to this project at the fence line. We will provide elevations that need to be matched. It is approximately 39.15. Reference should be made to DACA27-03-B-0009, designed by Mason Hanger Group, Civil Sheet 600. Grade at that location will depend on the designer of record's final design.

Contractor will provide design only for the furniture, and will NOT buy any furniture. Second floor furniture design is an option. The furniture package provided by the contractor will be used to procure separately through a separate contract.

Anti-Terrorism Force Protection (AT/FP) requirement: Design for an uninhabited building within a controlled perimeter, following appropriate AT/FP criteria. The design/build contractor must review and comply with the applicable ATFP criteria. POV parking setback requirements are 30 feet as shown on the drawings.

Design criteria for 20-ton vehicle: Paragraph 6-3.22 of Section 01020 references AASHTO HS 20-44. This is to be the design criteria for a 20-ton vehicle.

Staging Area information: Stay away from the wetlands. See site plan C200. Use the Quonset hut (K-Span building) for staging, (Bldg # 4461**)** and perimeter area. There is a requirement to tear down the existing motor pool fence and relocate it and the curb.

Fence Information: Unless otherwise stated in the RFP, bidders shall assume responsibility for providing fence closure to the existing motor pool and new curb along the east side of the Pallet/Facility site.

Power to the K-Span building may be interrupted due to construction of the adjacent Add/Alt Apron/Taxiway project.

As stated in the specifications, telephone and data are located two blocks away.

See paragraph 9-6 of Section 01020 and use distance for RFP planning purposes as 800 feet from the west edge of the pallet facility to the entry point of Building 5632, which is due west on Augusta Street, which is directly across Texas Avenue from the site.

Section 13120: The following information has been added to this section.

Structural section 13120 paragraph 2 under "Design Conditions" is corrected to read "0.24Kpa".

Section 15900: The following information has been added to this section.

Section 15900 - Fort Dix has an EMCS, which will require Ethernet communication. It is *typically* a Honeywell system and will require one of the two protocols mentioned. For further information, contact John Lamb at Fort Dix, (609) 562-6687.

MEETING ROSTER

U.S. ARMY CORPS OF ENGINEEERS
Louisville District

Subject: Vehicle/Pallet Facility
Location: Fort Dix, N.J.
Date/Time: 05 August 03 0900

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MEETING ROSTER

U.S. ARMY CORPS OF ENGINEEERS
Louisville District

Subject: Vehicle/Pallet Facility
Location: Fort Dix, NJ.
Date/Time: 05 AUGUST 03/ 0900

Name	Organization	Phone #	E-mail address
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Tom Kardell	FT DIX, DOD Police	609-562-5267	thomas.Kardell@dix.army.mil
SHAWN STEWART	FT DIX, DOD POLICE	609-562-2624	
KANU BHANDARI	NEELAM CONSTRUCTION	201. 768.2213	Neelam1238@aol.com

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May 28, 2003

Mr. Michael Hagen
GEOD CONSULTING, INC.
20 Kanouse Road
Newfoundland, NJ 07435

LAURENCE E. FRENCH, P.E.
ARGO T. PARRELLO, P.E.
JAMES B. HELLER, P.E.
JOSEPH M. EDWARDS, P.E.
SCOTT D. WATKINS, P.E.

Re: Preliminary Report of Subsurface Exploration &
Geotechnical Engineering Evaluation
Fort Dix Aircraft Runway Improvements & Pallet Building
Fort Dix, Burlington County, New Jersey
FPA No. 03G007AR2

Dear Mr. Hagen:

INTRODUCTION

This report presents the preliminary results of a subsurface exploration and geotechnical engineering evaluation performed in connection with the above referenced project at the Fort Dix Army Base and McGuire Air Force Base in Burlington County, New Jersey. The project includes the construction of a Pallet Building, a new aircraft parking apron and the replacement of Taxiway H at McGuire Air Force Base. This report addresses the results of our subsurface exploration program performed to date and includes recommendations for site preparation, foundation and pavement design and earthwork.

Project Description

The proposed project will include the replacement of the Taxiway H pavement and the construction of a new aircraft parking apron and Pallet Building. The project site lies on the border of the Fort Dix Army Base and McGuire Air Force Base. The Pallet Building and parking apron will be constructed on Fort Dix, east of Texas Avenue near its intersection with Princeton Avenue. The taxiway that will be replaced, Taxiway H, is located on McGuire Air Force Base approximately 200 feet east of the Fort Dix, McGuire Air Force Base property line. The regional location of the project site is presented on Drawing No. 1, "Regional Location Plan."

Based on information provided to our office, the section of Taxiway H to be replaced is approximately 4,800 feet long. The proposed building will be an approximately 34,000 square foot, single story prefabricated building constructed with a slab-on-grade. One section of the building will have a second floor mezzanine level that is approximately 40 feet by 100 feet. At the time this letter was prepared, the finished floor elevation of the building was not available.

The general site configuration, showing the location of Pallet Building and Storage Facility, parking apron and Taxiway H is presented on Drawing No. 2, "Test Boring Location Plan."

Purpose

The purpose of our involvement on the project at this time was to explore the subsurface soil and groundwater conditions in the vicinity of the Pallet Building, parking apron and taxiway and to offer geotechnical engineering recommendations to assist with the design and construction of the proposed improvements. Our scope of services provided in connection with our evaluation included the subcontracting and technical observation of 35 test borings, laboratory testing of selected soil samples, engineering evaluation of the available subsurface data and the preparation of this report. Our services were performed in accordance with our proposal dated February 12, 2003.

SUBSURFACE EXPLORATION

The subsurface conditions in the vicinity of the proposed improvements were explored during the time period of April 3 through April 30, 2003 by the advancement of 35 test borings. The test borings were advanced by a test boring subcontractor while under the full-time technical observation by a representative of French and Parrello Associates (FPA). The test boring locations were field located by a representative of FPA. The approximate test boring locations are presented on the Drawing No. 2, "Test Boring Location Plan."

The test borings, designated as B-1 through B-35, were advanced to depths ranging from 10 to 32 feet from the existing ground surface using mud rotary drilling techniques. Soil samples were taken continuously from the ground surface to a depth of 12 feet and then at maximum 5-foot intervals to the terminating depth of the test boring. The samples were obtained using a 2-inch outside diameter split spoon sampler advanced in accordance with ASTM Test Method D-1586, The Standard Penetration Test. The test boring samples were classified in the field using the Burmister Soil Classification System and were returned to our in-house soils laboratory for further review and selected testing. The samples will be stored for a period of 60 days from the date of the final report. Specific details pertaining to the drilling techniques utilized, soil classifications, measured depth to groundwater, and Standard Penetration Test results are presented on the test boring logs in Appendix A.

LABORATORY TESTING

2003 FPA Laboratory Testing

Laboratory testing was performed on selected soil samples obtained from our subsurface exploration program to assess the grain size characteristics of the encountered soils, obtain CBR

values, as well as to verify field visual classifications. The laboratory testing program included the following testing:

Test Procedure	No. of Tests
Mechanical Grain Size (ASTM D-422)	5
Modified Proctor (ASTM D-1557)	1
CBR Test (ASTM D-1883)	2

A summary of the FPA laboratory test results is presented in Appendix B.

2003 Accutest Laboratory Testing

Laboratory testing was performed on 7 samples obtained from our subsurface exploration program to assess the sulfate content of the soils beneath the taxiway. The laboratory testing was performed in accordance with EPA Test Method 300/SW846 9056. A summary of the sulfate testing performed by Accutest Laboratories is presented in Appendix C.

SUBSURFACE CONDITIONS & SEISMICITY

Regional Geology

Based upon our review of published geologic data pertaining to the project region, the native soils consist of stratified, marine deposits referred to on the Geologic Map of New Jersey as the Cohansey sands. The marine deposits typically consist of sand, silty sand and sandy silt with occasional thin layers and lenses of silt and clay. Bedrock is encountered at depths greater than 100 feet throughout Burlington County.

Subsurface Conditions

The test borings performed in the vicinity of the proposed Pallet Building and parking apron encountered a thin layer of surficial cohesive deposits underlain by granular soils. The borings performed on Taxiway H encountered granular soils throughout the soil profile. The layer of cohesive deposits varied in thickness from 6 inches to 4 feet and consisted of primarily silt and clay with varying proportions of medium to fine sand. The granular soils consisted of coarse to fine sand intermixed with minor proportions of silt and clay as well as fine gravel. Several one to two foot thick discontinuous layers of primarily silt and clay were interbedded within the granular soils in borings B-22, B-23, B-25 and B-29. Based upon the results of the Standard Penetration Tests, the consistency of the cohesive deposits varied from very soft to medium stiff. The relative density of the granular soils varied from loose to dense.

Groundwater was encountered at depths ranging from approximately 4 to 9 feet from the existing ground surface. Seasonal fluctuations in the groundwater level should be anticipated. For

specific details pertaining to the Burmister Classifications of the soil samples and measured depth to groundwater, please refer to the test boring logs in Appendix A.

Seismicity

We have reviewed the guidelines presented in the BOCA Code regarding the seismic design. Based upon our review, we offer the following site characterization parameters:

Peak Acceleration Coefficient (A_v) 0.08g
Site Soil Coefficient (S).....1.2

DISCUSSION & RECOMMENDATIONS

Based on the results of our subsurface exploration program and geotechnical engineering evaluation, it is our opinion that the proposed Pallet Building and pavements may be adequately supported within the in-situ soil deposits. Site preparation, including stripping and proof-rolling, will be required prior to the construction of the improvements. The proposed Pallet Building may be founded on conventional shallow foundations.

Groundwater was encountered at a depth of 6 to 9 feet below existing grade in the vicinity of the Pallet Building. We do not anticipate that the static groundwater table will be encountered within excavations for the foundations provided the building is constructed with a slab-on-grade. In the event that perched groundwater is encountered in the foundation excavations, it is our opinion that the associated dewatering may be accomplished using in-trench sump pumps, placed within crushed stone.

Sulfate Considerations for Pavements

To facilitate our evaluation for the presence of sulfate in the soils, we performed 7 sulfate tests in accordance with EPA 300/SW846 9056. The results of the tests are presented in Appendix C. The sulfate test results indicate that the soil beneath the existing taxiway has a sulfate content ranging from 200 to 240 miligrams per kilogram (mg/kg) or parts per million (ppm). We recommend that the results of the tests be presented to the pavement designer to determine what impact they might have upon the proposed pavement section.

Building Foundations

It is our opinion that the proposed building may be founded on conventional shallow foundations. We note that 3 of the test borings encountered loose sands at relatively shallow depths and that site preparation will require these soils be densified using high-energy vibratory rollers.

Initial Site Preparation

Prior to the start of construction, the ground surface should be stripped and proof-rolled using a minimum 20-ton, smooth drum, vibratory roller. A minimum of 7 passed should be made within the building area. Any soft areas within the building footprint should be removed and replaced with compacted fill. We recommend that fills required under or in the vicinity of the proposed building consist of approved on-site soils which are readily compactable or imported NJDOT Type I-5 fill. Fills should be placed in maximum 12-inch lifts and compacted to a minimum of 95 percent of their maximum dry density determined by ASTM Test Method D-1557, The Modified Proctor Test. The use of heavy compaction equipment within 5 feet of any retaining walls should be prohibited. The gradational requirements for NJDOT Type I-5 fill are presented in Appendix D.

We anticipate that on-site granular soils that are readily compactable will be suitable for re-use as fill material. However, we note that portions of the on-site soils contain significant amounts of fine-grained soils which tend to be moisture sensitive during construction and may present difficulties in handling and achieving adequate compaction. If proper compaction of these soils is not possible, they should be replaced with imported NJDOT Type I-5 Fill. The use of heavy compaction equipment within 5 feet of any below-grade walls should be prohibited.

Shallow Foundations

Foundations bearing within the in-situ soil deposits or on compacted fills may be designed for an allowable bearing capacity of 3,000 psf. We recommend that continuous wall footings and individual column footings be a minimum of 24 inches and 36 inches in width, respectively. In accordance with BOCA regulations, we recommend that for frost protection the bottom of all foundations exposed to outside ambient temperatures extend to a minimum depth of 36 inches below adjacent grades.

We estimate that footings loaded to the recommended allowable static bearing pressure should undergo less than one inch of total settlement. We anticipate that post construction differential settlements will be less than ½ inch over a horizontal distance of 50 feet. Since the existing soils consist primarily of sands, the majority of the estimated settlement will occur within a period of one month from the time the load is applied.

Floor Slabs

Provided that the building area is prepared in accordance with the aforementioned recommendations, it is our opinion that the floor slab be designed using a modulus of subgrade reaction of 200 pci. Additionally, we recommend that a minimum 6-inch thick layer of NJDOT No. 57 Coarse Graded Aggregate be placed beneath the floor slab. The gradational requirements for NJDOT No. 57 Coarse Graded Aggregate are presented in Appendix D.

Foundation Excavation

We anticipate that the contractor may utilize conventional earth excavating equipment for performing excavations for the foundations. We recommend that all excavations be hand trimmed, in a workmanlike manner, and that the subgrade be compacted using a vibra-plate compactor to further densify the subsoils and to delineate soft regions. Any areas exhibiting excessive yielding should be over-excavated and backfilled using compacted NJDOT Type I-5 fill. Fills should be placed in maximum 12-inch lifts and compacted to a minimum of 95 percent of the maximum dry density determined by ASTM Test Method D-1557, The Modified Proctor Test. In the event that foundation excavations are conducted during inclement weather, or if the subgrades are left open overnight, we recommend that the foundation subgrades be over-excavated to allow for the placement of a 6-inch thick layer of NJDOT No. 57 coarse graded aggregate. The coarse graded aggregate will serve as a work mat to mitigate disturbance of the subgrade due to construction and inclement weather and will facilitate in-trench dewatering, if necessary.

Pavement Design

The construction of the parking apron and replacement of Taxiway H will require the installation of new pavement. It is our opinion that the encountered soils are capable of supporting the new pavement section provided the site is prepared in accordance with the following recommendations.

Site Preparation at Taxiway & Parking Apron

In the area of the Taxiway H, the existing taxiway pavement section should be completely removed and any unsuitable soils stripped from the ground surface. In the area the parking apron, the ground surface should be stripped of all topsoil and vegetation. These areas should then be proof-rolled using a minimum 20-ton, smooth drum, vibratory roller. A minimum of 7 passed should be made across the entire area of the apron and taxiway. Any soft areas should be removed and replaced with compacted fill. We recommend that fills required in the vicinity of the proposed parking apron should consist of compacted NJDOT Type I-9 fill. Fills should be placed in maximum 8-inch lifts and compacted to a minimum of 100 percent of their maximum dry density as determined by ASTM Test Method D-1557, The Modified Proctor Test, within the top 8 inches and a minimum of relative compaction of 98 percent thereafter.

Commentary on Laboratory CBR Testing

Laboratory testing was performed to obtain the soil gradation, modified proctor value and CBR value for the subgrade soils in the area of the taxiway and parking apron. Samples from the top 6 feet of all of the borings performed in the area of proposed pavement were combined to obtain a representative bulk, composite sample of the subgrade material. A bulk sieve analysis was performed to determine the gradation of the sample and a Modified Proctor Test was performed to determine the compaction characteristics of the sample and obtain a maximum dry density

value. Thereafter, California Bearing Ratio (CBR) tests were performed to determine the CBR value at a relative compaction of 90 and 95 percent of the maximum dry density. The results of the laboratory testing indicate that the subgrade soils have a static CBR value of 5.2 at a relative compaction of 90 percent and a static CBR value of 22.9 at a relative compaction of 95 percent. The results of all FPA laboratory testing are presented in Appendix B.

Recommendations

It is our opinion that provided the parking apron and taxiway subgrade is prepared in accordance with the aforementioned recommendations, the pavement subgrade will have a minimum modulus of subgrade reaction of 200 pci and a static CBR value of 10. We recommend that these values be utilized in the design of the airfield pavement section.

We note that the granular soils encountered beneath the existing pavement and within the upper 4 feet of the soil profile at the proposed parking apron location contained approximately 8 to 15 percent silt and clay sized soil particles, by weight. These soils are not considered to be free draining soils. We recommend that the designer consider the installation of a drainage layer beneath the pavement section.

CLOSING & LIMITATIONS

The recommendations contained herein are contingent upon subsurface conditions remaining consistent with those encountered during our subsurface exploration. They are also contingent upon the basis that all foundation related aspects of construction, including stripping, controlled fill operation, foundation excavation, and subgrade preparation, be observed by a representative of French & Parrello Associates, P.A. This is to observe compliance with the design concepts and specifications and to allow design changes in the event that subsurface conditions differ from those anticipated prior to construction.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of wetlands, chemically hazardous, or biologically toxic materials in the soil, surface water, groundwater or air, on or below or around the site.

Services performed by French & Parrello Associates, P.A. during this project have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty, guarantee, or fiduciary responsibility is included or intended in the services provided.

Should you have any questions or comments or if we can be of service to you in the future, please feel free to contact us.

Very truly yours,

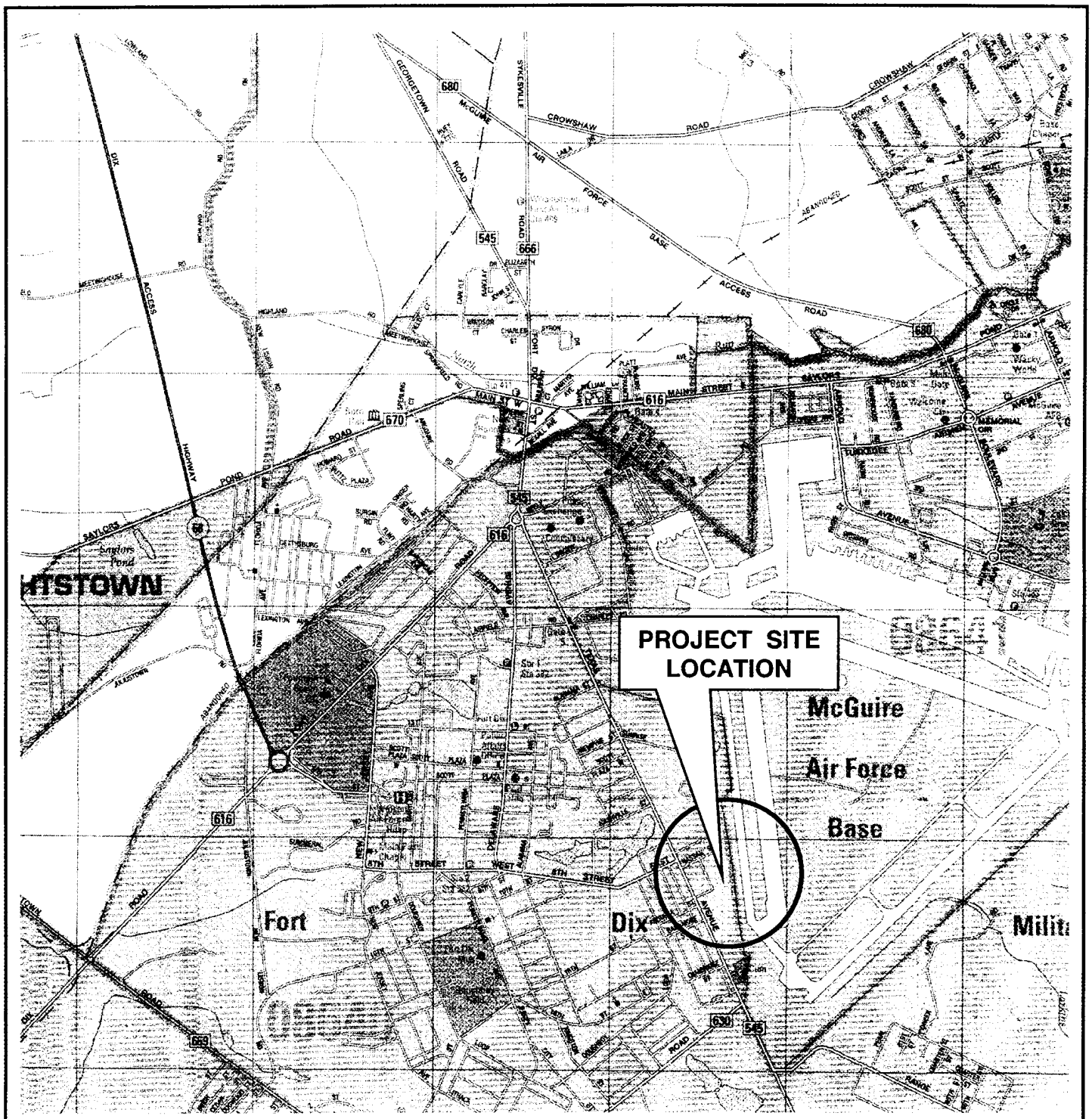
FRENCH & PARRELLO ASSOCIATES, P.A.

Matthew S. Gizzi, P.E.
Project Manager

Steven A. Tardy, P.E.
Director of Geotechnical Services

SAT/MSG/td

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS



REGIONAL LOCATION PLAN

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ

SCALE:	DATE:	JOB NO.:	DRAWING NO.:
NTS	April 9, 2003	03G007A	1

APPENDIX A
TEST BORING LOGS

FPA

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-1
SHEET 1 OF 1

DATE STARTED: 4/04/03
DATE FINISHED: 4/04/03
DEPTH OF WATER: 9'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 1 – 2 – 2		S-1 TOP 4": Topsoil BOT 20": Brown **Clayey SILT**, trace^{+} f Sand.
	S-2 2-4'	3 – 5 – 7 – 8		S-2 Brown m^{-} f **SAND**, trace Silt.
--- 5'---	S-3 4-6'	5 – 6 – 8 – 6		S-3 Brown mf **SAND**, trace Silt.
	S-4 6-8'	4 – 6 – 10 – 10		S-4 Light Brown cmf **SAND**, trace f Gravel, trace Silt.
	S-5 8-10'	7 – 9 – 8 – 8		S-5 Light Grey cmf **SAND**, trace f Gravel, trace Silt.
---10'---	S-6 10-12'	7 – 13 – 11 – 10		S-6 Tan c^{+} mf **SAND**, trace^{-} Silt.
---15'---	S-7 15-17'	3 – 6 – 10 – 11		S-7 Tan cmf **SAND**, trace Silt.
---20'---	S-8 20-22'	3 – 4 – 4 – 4		S-8 Tan c^{-} mf **SAND**, trace^{+} Silt.
---25'---	S-9 25-27'	3 – 5 – 6 – 6		S-9 Same as **S-8**.
---30'---	S-10 30-32'	4 – 6 – 7 – 6		S-10 Light Grey m^{-} f **SAND**, little^{-} Silt. END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-2
SHEET 1 OF 1

DATE STARTED: 4/04/03
DATE FINISHED: 4/04/03
DEPTH OF WATER: 8'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 2 – 2 – 2		S-1 TOP 4": Topsoil BOT 20": Brown **Clayey SILT**, little f Sand.
	S-2 2-4'	1 – 1 – 2 – 6		S-2 TOP 18": Same as **S-1 BOT**. BOT 6": Brown mf **SAND**, little Silt.
--- 5'---	S-3 4-6'	3 – 4 – 3 – 3		S-3 Brown mf **SAND**, trace Silt.
	S-4 6-8'	1 – 1 – 1 – 1		S-4 Light Brown cmf^{+} **SAND**, trace Silt, trace f Gravel.
---10'---	S-5 8-10'	1 – 1 – 1 – 1		S-5 Grey cmf **SAND**, trace Silt.
	S-6 10-12'	1 – 2 – 2 – 4		S-6 Grey-Brown cmf **SAND**, trace f Gravel, trace Silt.
---15'---	S-7 15-17'	4 – 7 – 6 – 8		S-7 Light Brown cmf **SAND**, trace^{+} Silt.
---20'---	S-8 20-22'	4 – 5 – 4 – 6		S-8 Light Grey cmf **SAND**, little^{-} Silt, trace^{+} f Gravel.
---25'---	S-9 25-27'	4 – 6 – 9 – 8		S-9 Light Grey m^{-} f **SAND**, trace Silt.
---30'---	S-10 30-32'	6 – 8 – 8 – 8		S-10 Same as **S-9**.
				END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-3
SHEET 1 OF 1

DATE STARTED: 4/04/03
DATE FINISHED: 4/04/03
DEPTH OF WATER: 9'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 5 – 5 – 5		S-1 TOP 4": Topsoil BOT 20": Brown mf **SAND**, little⁻ Silt.
	S-2 2-4'	2 – 3 – 4 – 7		S-2 Brown mf **SAND**, trace Silt.
--- 5'---	S-3 4-6'	5 – 6 – 7 – 8		S-3 Light Brown mf **SAND**, trace⁺ Silt.
	S-4 6-8'	7 – 13 – 10 – 12		S-4 Same as **S-3**.
---10'---	S-5 8-10'	12 – 9 – 9 – 10		S-5 Light Brown c⁺ mf **SAND**, trace Silt.
	S-6 10-12'	4 – 8 – 8 – 8		S-6 Light Brown cmf **SAND**, little⁺ Silt, trace f Gravel.
---15'---	S-7 15-17'	10 – 11 – 9 – 8		S-7 Tan cmf **SAND**, little⁻ Silt.
---20'---	S-8 20-22'	3 – 5 – 4 – 6		S-8 Grey m⁻ f **SAND**, little⁻ Silt.
---25'---	S-9 25-27'	5 – 5 – 7 – 7		S-9 Light Grey f **SAND**, trace⁺ Silt.
---30'---	S-10 30-32'	4 – 5 – 8 – 9		S-10 Light Brown m⁻ f **SAND**, trace⁺ Silt. END OF BORING @32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

FPA

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-4
SHEET 1 OF 1

DATE STARTED: 4/04/03
DATE FINISHED: 4/04/03
DEPTH OF WATER: 7'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 2 – 2 – 3		S-1 TOP 4": Topsoil BOT 20": Brown **Clayey SILT**, some^{-} mf^{+} Sand.
	S-2 2-4'	2 – 3 – 5 – 5		S-2 TOP 12": Same as **S-1 BOT**. BOT 12": Brown mf **SAND**, little^{-} f Gravel, trace Silt.
--- 5'---	S-3 4-6'	4 – 4 – 3 – 4		S-3 Light Brown mf^{+} **SAND**, trace^{+} Silt.
	S-4 6-8'	4 – 3 – 3 – 3		S-4 Light Brown c^{-} mf **SAND**, little^{-} Silt.
	S-5 8-10'	2 – 2 – 2 – 4		S-5 Light Brown mf **SAND**, trace^{+} Silt.
---10'---	S-6 10-12'	3 – 4 – 4 – 4		S-6 Light Brown/Grey mf **SAND**, little^{+} Clayey Silt.
---15'---	S-7 15-17'	6 – 12 – 13 – 14		S-7 Tan c^{-} mf **SAND**, trace Silt.
---20'---	S-8 20-22'	2 – 3 – 3 – 5		S-8 Light Brown/Grey cmf **SAND**, little^{-} Silt.
---25'---	S-9 25-27'	5 – 6 – 5 – 7		S-9 Grey m^{-} f **SAND**, trace^{+} Silt.
---30'---	S-10 30-32'	5 – 6 – 8 – 7		S-10 Same as **S-9**. END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-5
SHEET 1 OF 1

DATE STARTED: 4/04/03
DATE FINISHED: 4/04/03
DEPTH OF WATER: 7.5'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 2 – 2 – 3		S-1 TOP 4": Topsoil BOT 20": Brown **Clayey SILT**, little f Sand.
	S-2 2-4'	1 – 2 – 4 – 7		S-2 Same as **S-1 BOT**.
--- 5'---	S-3 4-6'	13 – 10 – 13 – 13		S-3 Brown mf **SAND**, trace Silt.
	S-4 6-8'	10 – 7 – 10 – 10		S-4 Tan cmf **SAND**, trace Silt.
	S-5 8-10'	8 – 10 – 15 – 15		S-5 Light Brown cmf^{+} **SAND**, trace Silt.
---10'---	S-6 10-12'	5 – 10 – 6 – 4		S-6 Light Brown cmf^{+} **SAND**, little^{-} Silt.
---15'---	S-7 15-17'	10 – 14 – 16 – 17		S-7 Orange-Brown c^{+} mf **SAND**, trace^{+} Silt.
---20'---	S-8 20-22'	4 – 6 – 5 – 5		S-8 Grey cmf^{+} **SAND**, trace^{+} Silt.
---25'---	S-9 25-27'	5 – 7 – 7 – 6		S-9 Light Grey mf^{+} **SAND**, trace Silt.
---30'---	S-10 30-32'	4 – 4 – 7 – 5		S-10 Grey f **SAND**, trace^{+} Silt. END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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FPA

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-6
SHEET 1 OF 1

DATE STARTED: 4/04/03
DATE FINISHED: 4/04/03
DEPTH OF WATER: 7.5'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 1 – 2 – 3		S-1 TOP 4": Topsoil BOT 20": Brown **SILT**, little f Sand.
	S-2 2-4'	1 – 1 – 3 – 5		S-2 TOP 18": Same as **S-1 BOT.** BOT 6": Brown mf **SAND**, trace Silt.
--- 5'---	S-3 4-6'	7 – 7 – 12 – 14		S-3 Brown cmf^{+} **SAND**, trace Silt, trace f Gravel.
	S-4 6-8'	12 – 12 – 12 – 14		S-4 Tan cmf^{+} **SAND**, trace Silt.
---10'---	S-5 8-10'	7 – 7 – 10 – 11		S-5 Same as **S-4.**
	S-6 10-12'	4 – 6 – 8 – 11		S-6 Tan c^{+} mf **SAND**, trace Silt.
---15'---	S-7 15-17'	3 – 5 – 5 – 5		S-7 Light Brown cmf **SAND**, little Silt, little^{-} f Gravel.
---20'---	S-8 20-22'	2 – 3 – 6 – 5		S-8 Grey c^{-} mf **SAND**, little^{-} Silt, trace f Gravel.
---25'---	S-9 25-27'	4 – 8 – 7 – 6		S-9 Light Grey f **SAND**, trace^{+} Silt.
---30'---	S-10 30-32'	4 – 7 – 6 – 7		S-10 Same as **S-9.** END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-7
SHEET 1 OF 1

DATE STARTED: 4/03/03
DATE FINISHED: 4/03/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	3 – 1 – 1 – 2		S-1 TOP 4": Topsoil BOT 20": Brown f **SAND**, some Silt & Clay, trace f Gravel.
	S-2 2-4'	3 – 6 – 7 – 8		S-2 Light Brown mf **SAND**, trace Silt.
--- 5'---	S-3 4-6'	6 – 7 – 6 – 8		S-3 Tan/Light Brown mf **SAND**, trace^{+} Silt.
	S-4 6-8'	8 – 9 – 10 – 9		S-4 Light Brown c^{-} mf **SAND**, little^{-} Silt.
	S-5 8-10'	5 – 7 – 7 – 7		S-5 Light Brown mf^{+} **SAND**, little^{-} Silt.
---10'---	S-6 10-12'	6 – 7 – 7 – 9		S-6 Light Brown mf **SAND**, little^{-} Silt.
---15'---	S-7 15-17'	6 – 13 – 11 – 7		S-7 Light Brown c^{+} mf **SAND**, trace f Gravel, trace Silt.
---20'---	S-8 20-22'	4 – 4 – 5 – 6		S-8 Light Brown/Grey cmf **SAND**, trace^{+} Silt.
---25'---	S-9 25-27'	6 – 7 – 9 – 8		S-9 Light Brown mf **SAND**, trace^{+} Silt.
---30'---	S-10 30-32'	6 – 8 – 7 – 7		S-10 Orange-Brown mf^{+} **SAND**, little^{-} Silt. END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-8
SHEET 1 OF 1

DATE STARTED: 4/03/03
DATE FINISHED: 4/03/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	2 – 1 – 3 – 2		S-1 TOP 4": Topsoil BOT 20": Brown f **SAND**, some Silt & Clay, trace f Gravel.
	S-2 2-4'	3 – 6 – 10 – 10		S-2 Light Brown mf^{+} **SAND**, trace Silt.
--- 5'---	S-3 4-6'	10 – 12 – 12 – 12		S-3 Brown c^{+} mf **SAND**, trace Silt.
	S-4 6-8'	12 – 6 – 8 – 10		S-4 Light Brown c^{+} mf **SAND**, trace^{+} f Gravel, trace Silt.
---10'---	S-5 8-10'	6 – 8 – 8 – 10		S-5 Light Brown cmf **SAND**, trace^{+} Silt.
	S-6 10-12'	5 – 11 – 13 – 10		S-6 Light Grey cmf **SAND**, trace Silt.
---15'---	S-7 15-17'	4 – 6 – 7 – 8		S-7 Brown/Grey c^{+} mf **SAND**, trace^{+} Silt, trace f Gravel.
---20'---	S-8 20-22'	2 – 4 – 5 – 6		S-8 Light Grey cmf **SAND**, trace^{+} Silt.
---25'---	S-9 25-27'	5 – 7 – 5 – 8		S-9 Grey/Brown mf^{+} **SAND**, trace Silt.
---30'---	S-10 30-32'	4 – 5 – 7 – 6		S-10 Light Brown mf^{+} **SAND**, little Silt. END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-9
SHEET 1 OF 1

DATE STARTED: 4/03/03
DATE FINISHED: 4/03/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	2 – 1 – 1 – 1		S-1 TOP 4": Topsoil BOT 20": Brown mf **SAND**, and Silt & Clay, trace f Gravel.
	S-2 2-4'	WOH-WOH-WOH-WOH		S-2 Brown **SILT & CLAY**, and cmf^{+} Sand.
--- 5'---	S-3 4-6'	1 – 1 – 3 – 6		S-3 TOP 6": Same as **S-2**. BOT 18": Light Brown c^{-} mf **SAND**, trace f Gravel, trace Silt.
	S-4 6-8'	6 – 9 – 9 – 10		S-4 Light Brown c^{+} mf **SAND**, trace Silt.
---10'---	S-5 8-10'	7 – 10 – 11 – 13		S-5 Brown c^{+} mf **SAND**, trace^{+} Silt.
	S-6 10-12'	4 – 6 – 7 – 8		S-6 Light Brown c^{+} mf **SAND**, trace^{+} Silt, trace f Gravel.
---15'---	S-7 15-17'	4 – 4 – 5 – 6		S-7 Light Grey cmf **SAND**, trace^{+} Silt.
---20'---	S-8 20-22'	2 – 5 – 6 – 8		S-8 Light Grey mf **SAND**, trace^{+} Silt.
---25'---	S-9 25-27'	6 – 6 – 6 – 8		S-9 Light Grey f **SAND**, trace^{+} Silt.
---30'---	S-10 30-32'	3 – 3 – 6 – 12		S-10 Light Brown f **SAND**, trace^{+} Silt. END OF BORING @ 32.0'
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-10
SHEET 1 OF 1

DATE STARTED: 4/03/03
DATE FINISHED: 4/03/03
DEPTH OF WATER: 7'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 2 – 10 – 4		S-1 Brown **SILT**, and mf^{+} Sand, little^{-} f Gravel.
	S-2 2-4'	9 – 7 – 6 – 6		S-2 TOP 12": Same as **S-1 BOT**. BOT 12": Orange-Brown **Clayey SILT,** trace^{+} f Sand.
--- 5'---	S-3 4-6'	8 – 5 – 5 – 3		S-3 Brown c^{-} mf **SAND**, little Silt.
	S-4 6-8'	4 – 4 – 4 – 5		S-4 Light Brown mf **SAND**, trace Silt.
	S-5 8-10'	5 – 11 – 13 – 15		S-5 Tan c^{-} mf **SAND**, little^{-} Silt.
---10'---	S-6 10-12'	5 – 11 – 11 – 12		S-6 Same as **S-5**.
---15'---	S-7 15-17'	7 – 6 – 10 – 10		S-7 Tan c^{-} mf **SAND**, little^{-} Silt, trace^{+} f Gravel.
				END OF BORING @ 17.0'
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-11
SHEET 1 OF 1

DATE STARTED: 4/03/03
DATE FINISHED: 4/03/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	7 – 5 – 3 – 3		S-1 Brown **Clayey SILT**, some f Sand.
	S-2 2-4'	6 – 7 – 9 – 9		S-2 Brown mf **SAND**, trace Silt.
--- 5'---	S-3 4-6'	8 – 8 – 10 – 12		S-3 Light Brown c+ mf **SAND**, trace+ f Gravel, trace Silt.
	S-4 6-8'	1 – 6 – 8 – 7		S-4 Same as **S-3**.
	S-5 8-10'	8 – 10 – 13 – 13		S-5 Same as **S-3**.
---10'---	S-6 10-12'	6 – 6 – 9 – 8		S-6 Tan cmf **SAND**, trace+ Silt.
---15'---	S-7 15-17'	3 – 5 – 6 – 7		S-7 Light Brown c f mf **SAND**, little Silt, little f Gravel.
				END OF BORING @17.0'
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

FRENCH & PARRELLO
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CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-12
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – 6 – 5 – 3		TOP 6": Asphalt
	0-2'			S-1 Brown **SILT**, trace^{+} mf^{+} Sand.
	S-2	5 – 6 – 8 – 12		S-2 Brown c^{-} mf **SAND**, trace Silt.
	2-4'			
--- 5'---	S-3	9 – 10 – 11 – 11		S-3 Brown cmf **SAND**, little^{-} f Gravel, trace^{+} Silt.
	4-6'			
	S-4	3 – 4 – 3 – 3		S-4 Light Brown m^{-} f **SAND**, little Silt.
	6-8'			
	S-5	1 – 1 – 1 – 5		S-5 Tan mf **SAND**, trace^{+} Silt.
---10'---	8-10'			
	S-6	3 – 4 – 6 – 5		S-6 Brown mf **SAND**, trace^{+} Silt.
	10-12'			
---15'---				
	S-7	3 – 8 – 13 – 16		S-7 Grey f **SAND**, trace Silt.
	15-17'			END OF BORING @ 17.0'
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-13
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 4'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	2 – 4 – 2 – 3		S-1 TOP 6": Topsoil BOT 18": Brown **Clayey SILT**, trace^{+} f Sand.
	S-2 2-4'	1 – 1 – 3 – 4		S-2 Grey f **SAND**, some^{-} Clayey Silt.
--- 5'---	S-3 4-6'	1 – 1 – 3 – 5		S-3 Tan c^{+} mf **SAND**, trace Silt.
	S-4 6-8'	4 – 7 – 10 – 11		S-4 Tan cmf **SAND**, trace^{+} Silt.
	S-5 8-10'	10 – 9 – 12 – 13		S-5 Grey mf **SAND**, little^{-} Silt.
---10'---	S-6 10-12'	4 – 5 – 9 – 10		S-6 Grey c^{-} mf **SAND**, trace Silt.
---15'---	S-7 15-17'	3 – 5 – 5 – 7		S-7 Grey m^{-} f **SAND**, trace Silt. END OF BORING @ 17.0'
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-14
SHEET 1 OF 1

DATE STARTED: 04/03/03
DATE FINISHED: 04/03/03
DEPTH OF WATER: 7'
LOCATION: SEE PLAN
GROUND ELEVATION: +'±
GROUND WATER ELEV.: +'±

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	9 – 12 – 7 – 5		S-1 Brown mf **SAND**, some Clayey Silt.
	S-2 2-4'	4 – 4 – 9 – 18		S-2 Brown **Clayey SILT**, trace f Sand.
--- 5'---	S-3 4-6'	9 – 12 – 17 – 17		S-3 Brown cmf **SAND**, little Silt.
	S-4 6-8'	5 – 7 – 12 – 13		S-4 Light Brown c˙ mf **SAND**, little Silt.
	S-5 8-10'	6 – 8 – 9 – 15		S-5 Same as **S-4**.
---10'---	S-6 10-12'	8 – 8 – 6 – 5		S-6 Orange-Brown cmf **SAND**, little Silt.
---15'---	S-7 15-17'	12 – 4 – 5 – 5		S-7 Same as **S-6**.
				END OF BORING @ 17.0'
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-15
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 5'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	3 – 3 – 3 – 2		S-1 Brown **SILT**, trace$^+$ f Sand.
	S-2 2-4'	1 – 2 – 2 – 1		S-2 Brown mf **SAND**, trace$^+$ Silt.
--- 5'---	S-3 4-6'	1 – 1 – 1 – 1		S-3 Brown mf **SAND**, some f Gravel, trace$^+$ Silt.
	S-4 6-8'	7 – 9 – 11 – 11		S-4 Brown c$^+$ mf **SAND**, some$^-$ f Gravel, trace$^+$ Silt.
	S-5 8-10'	7 – 8 – 10 – 10		S-5 Brown c$^+$ mf **SAND**, trace$^+$ Silt, trace f Gravel.
---10'---	S-6 10-12'	2 – 6 – 11 – 12		S-6 Light Brown mf **SAND**, little$^-$ Silt, trace f Gravel.
---15'---	S-7 15-17'	4 – 6 – 6 – 8		S-7 Tan c$^+$ mf **SAND**, little$^-$ Silt.
				END OF BORING @ 17.0'
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-16
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 8 – 12		TOP 7": Concrete
	1-2'			S-1 Brown c^- mf **SAND**, little$^-$ Silt.
	S-2	10 – 10 – 11 – 13		S-2 Grey-Brown mf^+ **SAND**, trace Silt.
	2-4'			
--- 5'---	S-3	7 – 10 – 8 – 9		S-3 Tan c^- mf **SAND**, $trace^+$ Silt.
	4-6'			
	S-4	5 – 9 – 11 – 19		S-4 Tan c^+ mf **SAND**, $trace^+$ Silt.
	6-8'			
	S-5	7 – 10 – 13 – 13		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-17
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 8 – 11		TOP 7": Concrete
	0-2'			S-1 Brown c^- mf **SAND**, trace$^+$ Silt, trace f Gravel.
	S-2	13 – 14 – 14 – 17		S-2 Brown mf **SAND**, little$^-$ Silt, trace$^+$ f Gravel.
	2-4'			
--- 5'---	S-3	7 – 8 – 10 – 13		S-3 Brown mf **SAND**, little Silt.
	4-6'			
	S-4	9 – 13 – 15 – 16		S-4 Brown cmf **SAND**, trace$^+$ Silt.
	6-8'			
	S-5	8 – 10 – 10 – 12		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-18
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 7 – 10		TOP 7": Concrete
	1-2'			S-1 Brown c⁻ mf **SAND**, little⁻ Silt, trace⁺ f Gravel.
	S-2	13 – 11 – 11 – 17		S-2 Dark Tan c⁻ mf **SAND**, little⁻ Silt, trace f Gravel.
	2-4'			
--- 5'---	S-3	19 – 12 – 7 – 7		S-3 Same as **S-2**.
	4-6'			
	S-4	2 – 6 –10 – 15		S-4 Grey-Brown cmf **SAND**, trace Silt.
	6-8'			
	S-5	7 – 8 – 10 – 13		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-19
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 6 – 11		TOP 7": Concrete
	1-2'			S-1 Brown c⁻ mf **SAND**, trace⁺ Silt, trace f Gravel.
	S-2	11 – 13 – 17 – 20		S-2 Same as **S-1**.
	2-4'			
--- 5'---	S-3	17 –20 – 20 – 13		S-3 Tan Brown c⁻ mf **SAND**, little Silt, little⁻ f Gravel.
	4-6'			
	S-4	7 – 11 – 13 – 14		S-4 Light Grey mf **SAND**, trace⁺ Silt.
	6-8'			
	S-5	9 – 13 – 13 – 17		S-5 TOP 12": Same as **S-4**.
---10'---	8-10'			BOT 12": Brown cmf **SAND**, little⁻ Silt.
				END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-20
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 5 – 7		TOP 7": Concrete
	1-2'			S-1 Brown c⁻ mf **SAND**, little⁻ f Gravel, trace⁺ Silt.
	S-2	7 – 15 – 13 – 20		S-2 Same as **S-1**.
	2-4'			
--- 5'---	S-3	13 – 13 – 13 – 13		S-3 Light Brown c⁻ mf **SAND**, trace⁺ f Gravel, trace Silt.
	4-6'			
	S-4	9 – 7 – 8 – 10		S-4 Brown mf⁺ **SAND**, some⁻ Clayey Silt.
	6-8'			
	S-5	10 – 7 – 7 – 7		S-5 Brown cmf⁺ **SAND**, little Silt.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-21
SHEET 1 OF 1

DATE STARTED: 4/30/03
DATE FINISHED: 4/30/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA		DESCRIPTION OF SOIL
	S-1	X – X – 4 – 6			TOP 7": Concrete
	1-2'			S-1	Brown c⁻ mf **SAND**, little⁻ Silt, trace f Gravel.
	S-2	7 – 10 – 10 – 14		S-2	Same as **S-1**.
	2-4'				
--- 5'---	S-3	9 – 10 – 10 – 9		S-3	Tan Brown c⁻ mf **SAND**, trace⁺ Silt w/ 6"layer of Clayey Silt.
	4-6'				
	S-4	4 – 3 – 2 – 5		S-4	Grey and Brown f **SAND**, some Clayey Silt.
	6-8'				
	S-5	10 – 11 – 11 – 15		S-5	Tan cmf **SAND**, little⁺ f Gravel, trace⁺ Silt.
---10'---	8-10'				END OF BORING @ 10.0'
---15'---					
---20'---					
---25'---					
---30'---					
---35'---					
---40'---					

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-22
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 8 – 10		TOP 7": Concrete
	1-2'			S-1 Brown c⁻ mf **SAND**, little f Gravel, trace⁺ Silt.
	S-2	7 – 10 – 13 – 13		S-2 Tan Brown c⁻ mf **SAND**, trace⁺ Silt, trace f Gravel.
	2-4'			
--- 5'---	S-3	10 – 5 – 5 – 5		S-3 Dark Brown **SILT**, some mf Gravel, little mf Sand.
	4-6'			
	S-4	2 – 3 – 7 – 10		S-4 Tan Brown c⁻ mf **SAND**, some mf Gravel, little⁻ Silt.
	6-8'			
	S-5	11 – 12 – 14 – 15		S-5 Tan c⁻ mf **SAND**, some⁻ mf⁺ Gravel, trace⁺ Silt.
---10'---	8-10'			END OF BORING @10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-23
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 5'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA		DESCRIPTION OF SOIL
	S-1	X – X - 8 – 9			TOP 7": Concrete
	1-2'			S-1	Brown **Clayey SILT**, some^{-} mf^{+} Sand.
	S-2	6 – 6 –10 – 12		S-2	Orange-Brown cmf **SAND**, some f Gravel, trace^{+} Silt.
	2-4'				
--- 5'---	S-3	12 – 9 – 8 – 8		S-3	Same as **S-2**.
	4-6'				
	S-4	4 – 5 – 6 – 8		S-4	Brown cmf **SAND**, trace^{+} Silt, trace f Gravel.
	6-8'				
	S-5	7 – 9 – 9 –8		S-5	Tan c^{-} mf **SAND**, trace Silt.
---10'---	8-10'				END OF BORING @ 10.0'
---15'---					
---20'---					
---25'---					
---30'---					
---35'---					
---40'---					

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-24
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 8 – 10		TOP 7": Concrete
	1-2'			S-1 Brown c⁻ mf **SAND**, trace⁺ f Gravel, trace Silt.
	S-2	12 – 10 – 11 – 12		S-2 Same as **S-1**.
	2-4'			
--- 5'---	S-3	7 – 7 – 7 – 7		S-3 Brown c⁻ mf **SAND**, trace⁺ Silt.
	4-6'			
	S-4	4 – 5 – 8 – 9		S-4 Brown cmf **SAND**, trace Silt.
	6-8'			
	S-5	9 – 9 – 10 – 10		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-25
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 7 – 9		TOP 7": Concrete
	1-2'			S-1 Dark Brown **SILT**, little^{+} c^{-} mf Sand, little f Gravel.
	S-2	10 – 14 – 13 – 17		S-2 Brown c^{-} mf **SAND**, trace Silt.
	2-4'			
--- 5'---	S-3	6 – 7 – 10 – 13		S-3 Brown c^{-} mf **SAND**, trace^{+} Silt, trace f Gravel.
	4-6'			
	S-4	8 – 9 – 13 – 13		S-4 Brown mf^{+} **SAND**, trace^{+} Silt.
	6-8'			
	S-5	9 – 10 – 10 –12		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-26
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 5'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 8 – 9		TOP 7": Concrete
	1-2'			S-1 Brown c^{+} mf **SAND**, little f Gravel, trace Silt.
	S-2	8 – 9 – 13 – 14		S-2 Light Brown mf^{+} **SAND**, trace Silt.
	2-4'			
--- 5'---	S-3	6 – 8 – 9 – 13		S-3 Grey mf^{+} **SAND**, trace^{+} Silt.
	4-6'			
	S-4	6 – 7 – 8 – 7		S-4 Grey f **SAND**, trace^{+} Silt.
	6-8'			
	S-5	6 – 6 – 7 – 7		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-27
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 5'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 3 – 6		TOP 7": Concrete
	1-2'			S-1 Light Brown f **SAND**, trace^{+} Silt.
	S-2	6 – 6 – 6 – 6		S-2 Grey f **SAND**, trace Silt.
	2-4'			
--- 5'---	S-3	8 – 6 – 7 – 7		S-3 Same as **S-2**.
	4-6'			
	S-4	3 – 5 – 6 – 7		S-4 Same as **S-2**.
	6-8'			
	S-5	5 – 6 – 8 – 11		S-5 Same as **S-2**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-28
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 6 – 7		TOP 7": Concrete
	1-2'			S-1 Orange-Brown cmf **SAND**, little^{-} f Gravel, trace Silt.
	S-2	6 – 7 – 10 – 10		S-2 TOP 16": Tan mf **SAND**, little^{-} Silt, trace^{+} f Gravel.
	2-4'			BOT 8": Light Brown mf^{+} **SAND**, little^{-} Silt.
--- 5'---	S-3	4 – 6 – 11 – 12		S-3 Light Brown/Light Grey mf^{+} **SAND**, trace^{+} Silt.
	4-6'			
	S-4	5 – 5 – 5 – 5		S-4 Brown cmf **SAND**, little^{-} Silt.
	6-8'			
	S-5	6 – 4 – 4 – 6		S-5 Light Brown f **SAND**, little^{+} Silt.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-29
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 5 – 5		TOP 7": Concrete
	1-2'			S-1 Brown c⁻ mf **SAND**, little⁻ Silt, trace f Gravel.
	S-2	5 – 6 – 6 –10		S-2 Brown **SILT**, little mf⁺ Sand.
	2-4'			
--- 5'---	S-3	6 – 8 – 8 –10		S-3 Tan Brown mf⁺ **SAND**, little Silt.
	4-6'			
	S-4	9 – 7 – 7 –8		S-4 Dark Brown mf⁺ **SAND**, little⁺ Silt.
	6-8'			
	S-5	X – X – X – X		S-5 No Recovery.
---10'---	8-10'			END OF BORING @ 8.5'
---15'---				* Hit refusal on top of concrete at ±8.5' from the ground surface.
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-30
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 3 – 4		TOP 7": Concrete
	1-2'			S-1 Brown mf **SAND**, little^{-} Silt.
	S-2	3 – 3 – 3 – 3		S-2 Tan mf^{+} **SAND**, trace $^{+}$ Silt.
	2-4'			
--- 5'---	S-3	3 – 3 – 3 – 4		S-3 Light Brown c^{-} mf **SAND**, little^{-} Silt, trace^{+} f Gravel.
	4-6'			
	S-4	3 – 6 – 7 – 9		S-4 Light Brown c^{+} mf **SAND**, trace^{+} f Gravel, trace^{+} Silt.
	6-8'			
	S-5	9 – 9 – 7 – 10		S-5 Light Brown cmf **SAND**, little^{-} Silt, trace^{+} f Gravel.
---10'---	8-10'			
				END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-31
SHEET 1 OF 1

DATE STARTED: 04/29/03
DATE FINISHED: 04/29/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1	X – X – 8 – 8		TOP 7": Concrete
	1-2'			S-1 Brown c^{-} mf **SAND**, little^{+} Clayey Silt, little f Gravel. (Cemented)
	S-2	11 – 9 – 12 – 14		
	2-4'			S-2 Brown c^{-} mf **SAND**, trace^{+} Silt.
--- 5'---	S-3	10 – 9 – 9 – 13		S-3 Light Brown mf^{+} **SAND**, trace^{+} Silt.
	4-6'			
	S-4	10 – 11 – 11 – 10		S-4 Light Brown mf^{+} **SAND**, little^{-} Silt, trace f Gravel.
	6-8'			
	S-5	10 – 9 – 8 – 8		S-5 Same as **S-4**.
---10'---	8-10'			END OF BORING @ 10.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-32
SHEET 1 OF 1

DATE STARTED: 04/28/03
DATE FINISHED: 04/28/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – X – X		S-1 TOP 7": Concrete. (Drilled out to 2')
	S-2 2-4'	8 – 8 – 13 – 17		S-2 Light Brown c⁻ mf **SAND**, trace⁺ Silt.
--- 5'---	S-3 4-6'	8 – 12 – 12 – 12		S-3 Light Brown mf⁺ **SAND**, little Silt, trace f Gravel.
	S-4 6-8'	14 – 10 – 8 – 8		S-4 Light Brown f **SAND**, some⁻ Silt, trace f Gravel.
	S-5 8-10'	5 – 8 - 7 – 8		S-5 Orange-Brown f **SAND**, little⁺ Silt, little⁻ f Gravel.
---10'---	S-6 10-12'	5 – 7 – 6 – 8		S-6 Same as **S-5**.
				END OF BORING @ 12.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-33
SHEET 1 OF 1

DATE STARTED: 04/28/03
DATE FINISHED: 04/28/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – X – X		S-1 TOP 10": Asphalt, 4": Concrete. (Drilled out to 2')
	S-2 2-4'	9 – 8 – 9 – 9		S-2 Brown mf **SAND**, little Silt, little⁻ f Gravel.
--- 5'---	S-3 4-6'	13 – 14 – 13 – 15		S-3 Same as **S-1**.
	S-4 6-8'	16 – 16 – 16 – 16		S-4 Brown mf⁺ **SAND**, little Silt, little⁻ f Gravel.
	S-5 8-10'	10 – 15 – 14 – 17		S-5 Light Brown f **SAND**, little⁺ Silt, little⁻ f Gravel.
---10'---	S-6 10-12'	15 – 9 – 12 – 9		S-6 Same as **S-5**.
				END OF BORING @ 12.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

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TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-34
SHEET 1 OF 1

DATE STARTED: 04/28/03
DATE FINISHED: 04/28/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – X – X		S-1 TOP 10": Asphalt, 4": Concrete. (Drilled out to 2')
	S-2 2-4'	8 – 8 – 9 – 11		S-2 Brown c⁻ mf **SAND**, little⁻ Silt, trace⁺ f Gravel.
--- 5'---	S-3 4-6'	10 – 10 – 12 – 14		S-3 Brown c⁻ mf **SAND**, trace⁺ Silt, trace⁺ f Gravel.
	S-4 6-8'	9 – 9 – 11 – 17		S-4 Same as **S-3**.
---10'---	S-5 8-10'	17 – 19 – 20 – 24		S-5 Same as **S-3**.
	S-6 10-12'	19 – 24 – 21 – 25		S-6 Same as **S-3**.
				END OF BORING @ 12.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

TEST BORING LOG

FORT DIX AIRCRAFT RUNWAY IMPROVEMENTS
FORT DIX, BURLINGTON COUNTY, NJ (FPA NO. 03G007A)

BORING NO.: B-35
SHEET 1 OF 1

DATE STARTED: 04/28/03
DATE FINISHED: 04/28/03
DEPTH OF WATER: 6'
LOCATION: SEE PLAN
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: MUD ROTARY

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – X – X		S-1 TOP 10": Asphalt, 4": Concrete. (Drilled out to 2')
	S-2 2-4'	12 – 9 – 11 – 9		S-2 Brown c^- mf **SAND**, trace$^+$ Silt, trace f Gravel.
--- 5'---	S-3 4-6'	8 – 11 – 11 – 14		S-3 Brown mf **SAND**, little$^+$ f Gravel, little$^-$ Silt.
	S-4 6-8'	9 – 11 – 13 – 13		S-4 Light Brown f **SAND,** little$^-$ Silt, trace f Gravel.
	S-5 8-10'	13 – 11 – 9 – 11		S-5 Same as **S-4.**
---10'---	S-6 10-12'	13 – 10 – 9 – 10		S-6 Light Brown f **SAND**, little$^+$ Silt, trace f Gravel.
				END OF BORING @ 12.0'
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				
---40'---				

SOILS ENGINEER: M. GIZZI, P.E.
DRILLING INSPECTOR: M. COELHO

CONTRACTOR: CRAIG TEST BORING
DRILLER: R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

BURMISTER SOIL CLASSIFICATION SYSTEM

A. Cohesionless Soils: Particle Size Definitions

Soil	Fraction	U.S. Standard Sieve	Actual Sizes
Gravel	coarse	3 in. to 1 in.	76 mm to 25 mm
	medium	1 in. to 3/8 in.	25 mm to 9.5 mm
	fine	3/8 in. to No. 10	9.5 mm to 2.0 mm
Sand	coarse	No. 10 to No. 30	2.0 mm to 0.6 mm
	medium	No. 30 to No. 60	0.6 mm to 0.25 mm
	fine	No. 60 to No. 200	0.25 mm to 0.75 mm
Silt		< No. 200	< 0.075 mm

B. Terms Describing Gradation of Cohesionless Soils

Written Description	Symbol/Designation	Defining Proportions
coarse, medium to fine	cmf	all fractions > 10%
coarse to medium	cm	< 10% fine
medium to fine	mf	< 10% coarse
coarse	c	< 10% medium and fine
medium	m	< 10% coarse and fine
fine	f	< 10% coarse and medium

Note: Use (+) for upper limit and (-) for lower limit.

C. Cohesive Soils: Terms Describing Plasticity

Soil	Plasticity Index	Workability	Plasticity Description
SILT	0	--	Non-Plastic
Clayey SILT	1 to 5	1/4 in. thread	Slightly Plastic
SILT & CLAY	5 to 10	1/8 in. thread	Low Plasticity
CLAY & SILT	10 to 20	1/16 in. thread	Medium Plasticity
Silty CLAY	20 to 40	1/32 in. thread	High Plasticity
CLAY	>40	1/64 in. thread	Very High Plasticity

D. Terms Describing Overall Composition of Soil

Written Proportion	Proportion Symbol	Proportion Percent by Weight
and	a	35 to 50
some	s	20 to 35
little	l	10 to 20
trace	t	1 to 10

Note: Use (+) for upper limit and (-) for lower limit.

APPENDIX B
2003 FPA LABORATORY TEST RESULTS

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

SUMMARY OF LABORATORY TESTING

AASHTO Accreditated Laboratory

PROJECT: Fort Dix Aircraft Runway Improvements **PROJECT #:** 03G007A **DATE:** 5/03

Boring & Sample Number	Depth (ft)	Classification	Natural Water Content %	Atterberg Limits		Unconfined Compression		Unit Dry Weight PCF	Specific Gravity	Permeability cm/sec @ 20 deg C	Compaction	Grain Size	Consolidation	Triaxial	CBR	pH	Organic Content %
				Liquid Limit	Plastic Limit	Stress TSF	Strain %										
B-2 S-4	6 - 8	Light Brown cmf+ SAND, trace Silt, trace f Gravel	8									*					
B-4 S-3	4 - 6	Light Brown mf+ SAND, trace+ Silt	10									*					
B-5 S-6	10 - 12	Light Brown cmf+ SAND, little- Silt	17									*					
B-7 S-5	8 - 10	Light Brown mf+ SAND, little- Silt	23									*					
B-9 S-2	2 - 4	Brown SILT & CLAY, and cmf+ Sand	20									*					

* SEE TEST CURVES

FRENCH & PARRELLO
ASSOCIATES, P.A.
CONSULTING ENGINEERS

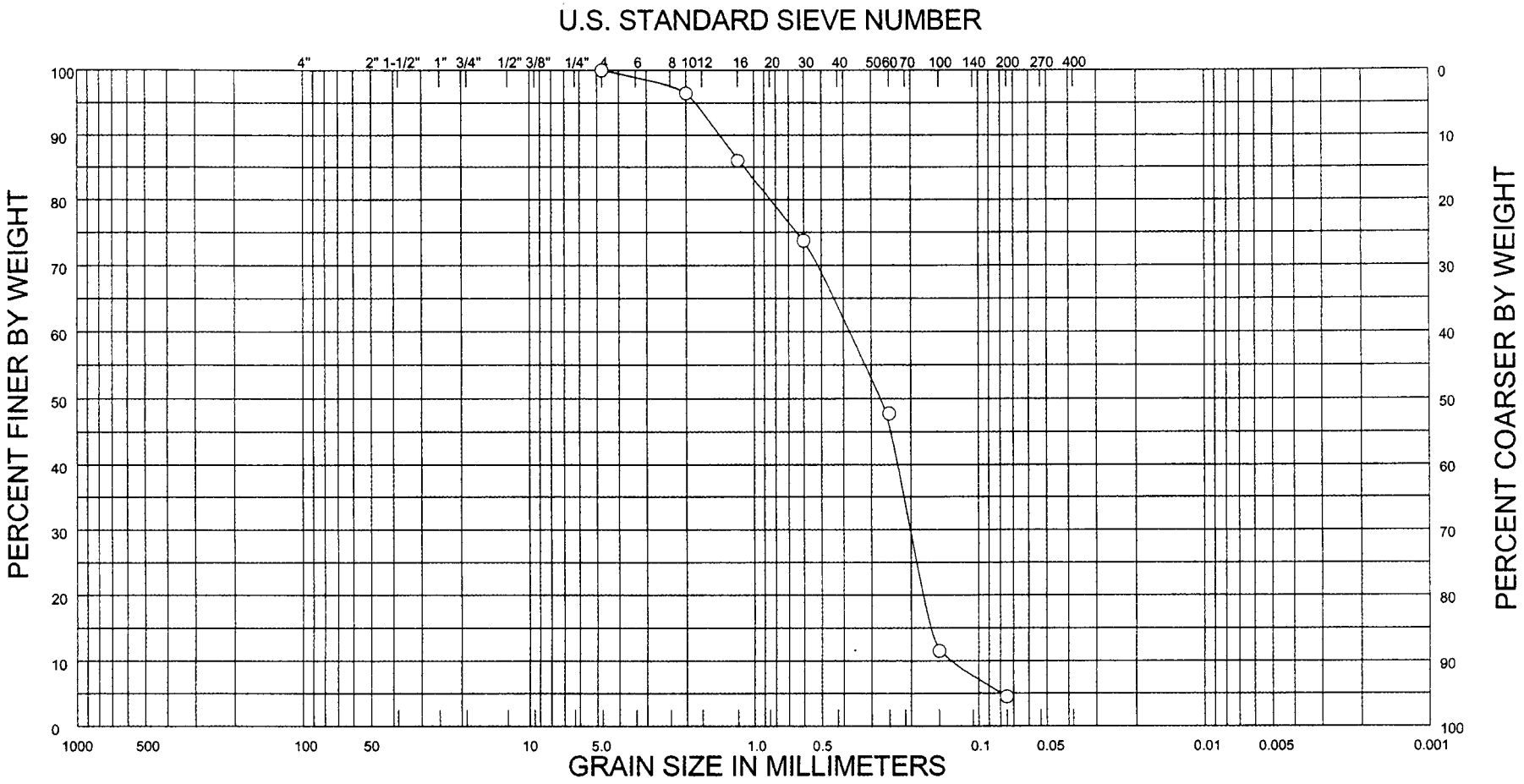
SUMMARY OF LABORATORY TESTING

AASHTO Accredited Laboratory

PROJECT: Fort Dix Aircraft Runway Improvements **PROJECT #:** 03G007A **DATE:** 5/03

Sample Number & Date Received	Source	Classification	Natural Water Content %	Atterberg Limits		Unconfined Compression		Unit Dry Weight PCF	Specific Gravity	Permeability cm/sec @ 20 deg C	Compaction	Grain Size	Consolidation	Triaxial	CBR	pH	Organic Content %
				Liquid Limit	Plastic Limit	Stress TSF	Strain %										
Comp-1		**Yellow Brown cmf+ SAND, little Silt, trace+ f Gravel**	**14**								*	*			*		

* SEE TEST CURVES



BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
		76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters
		3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves

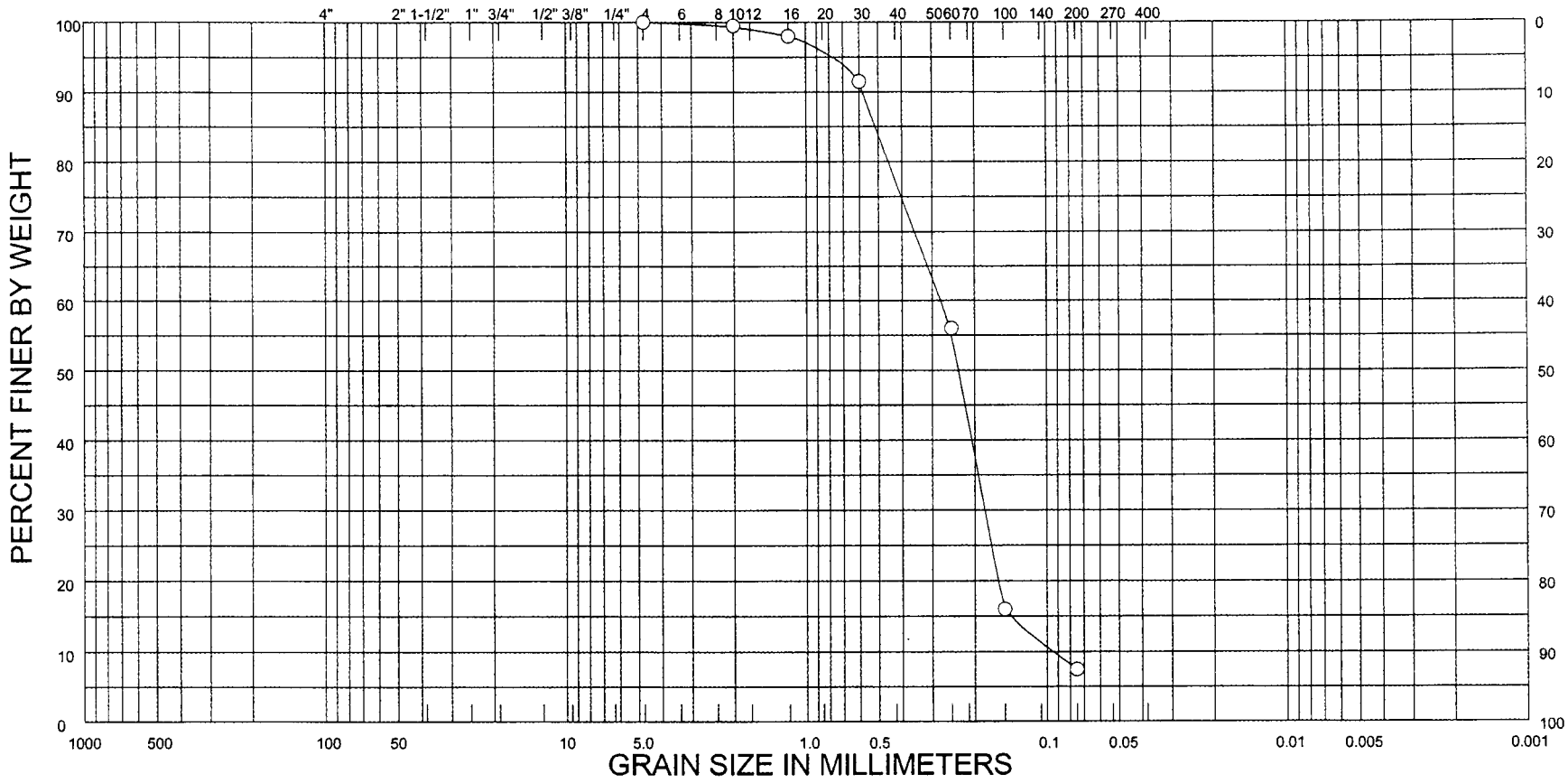
03G007A Fort Dix Aircraft Runway Improvements
B-2, S-4 6' - 8'
Light Brown cmf+ SAND, trace Silt, trace f Gravel

GRADATION CURVE

FPA

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS

U.S. STANDARD SIEVE NUMBER



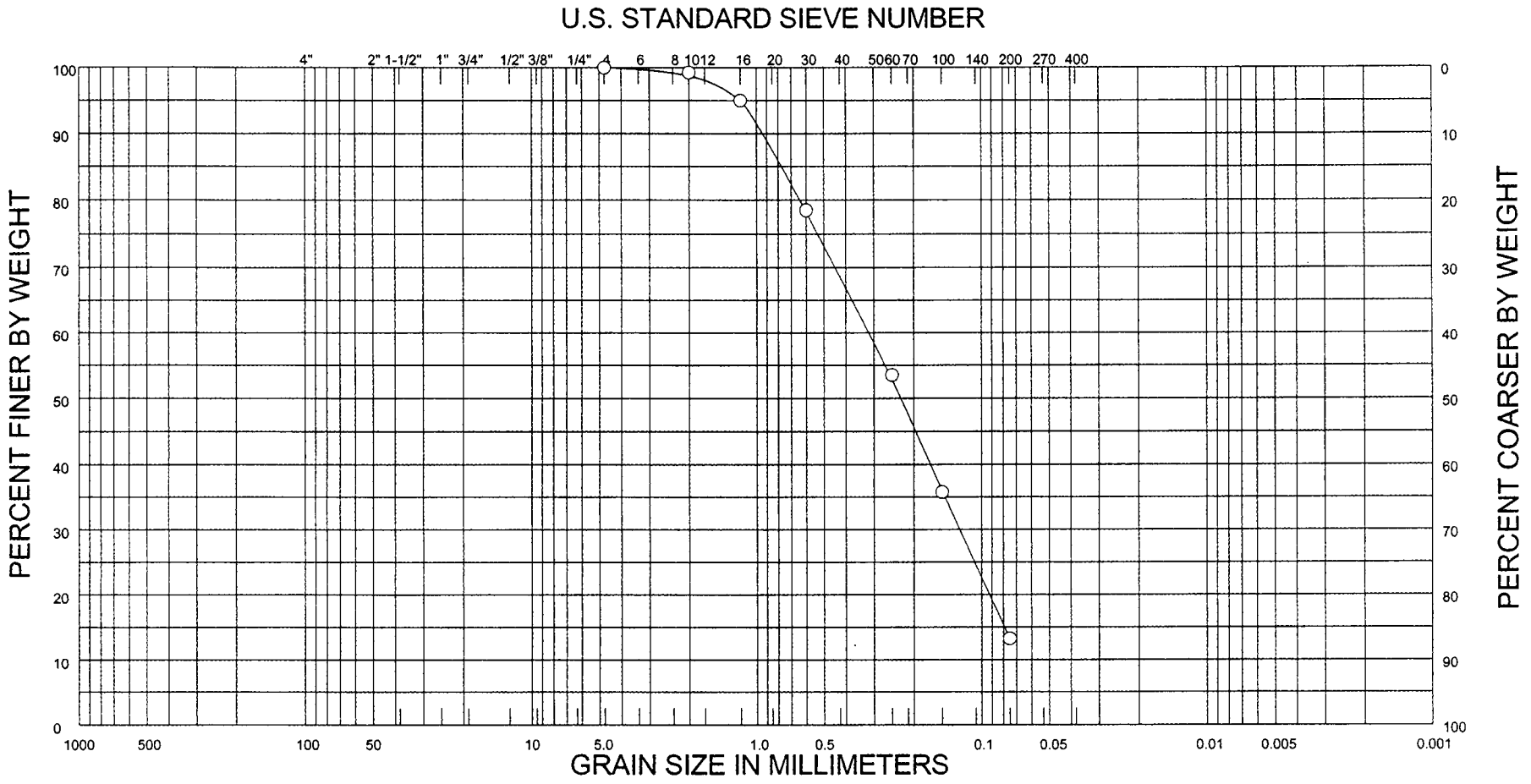
BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
		76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters
		3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves

03G007A Fort Dix Aircraft Runway Improvements
B-4, S-3 4' - 6'
Light Brown mf+ SAND, trace+ Silt

GRADATION CURVE

FPA

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS

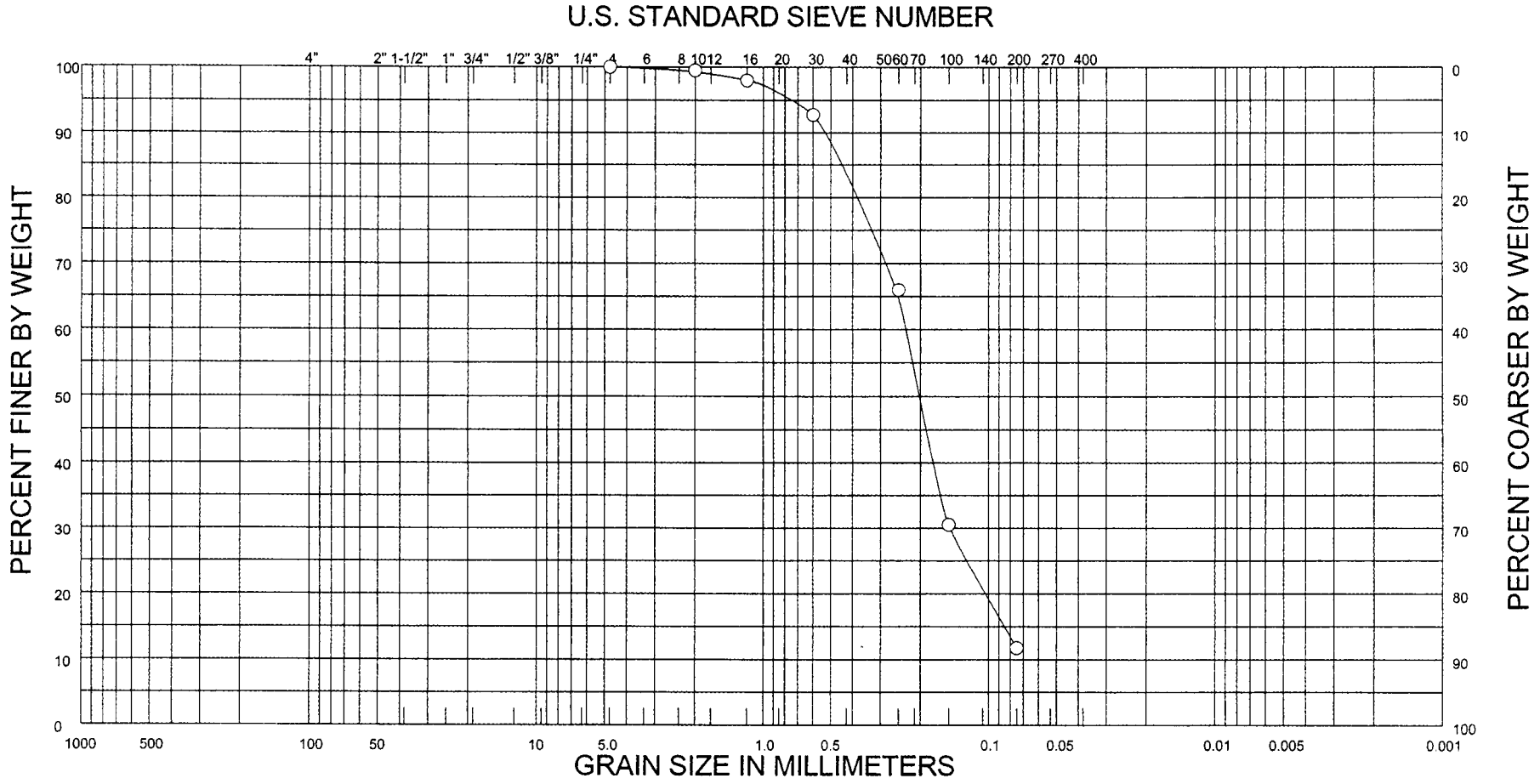


BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
		76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters
		3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves

03G007A Fort Dix Aircraft Runway Improvements
B-5, S-6 10' - 12'
Light Brown cmf+ SAND, little- Silt

GRADATION CURVE

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS



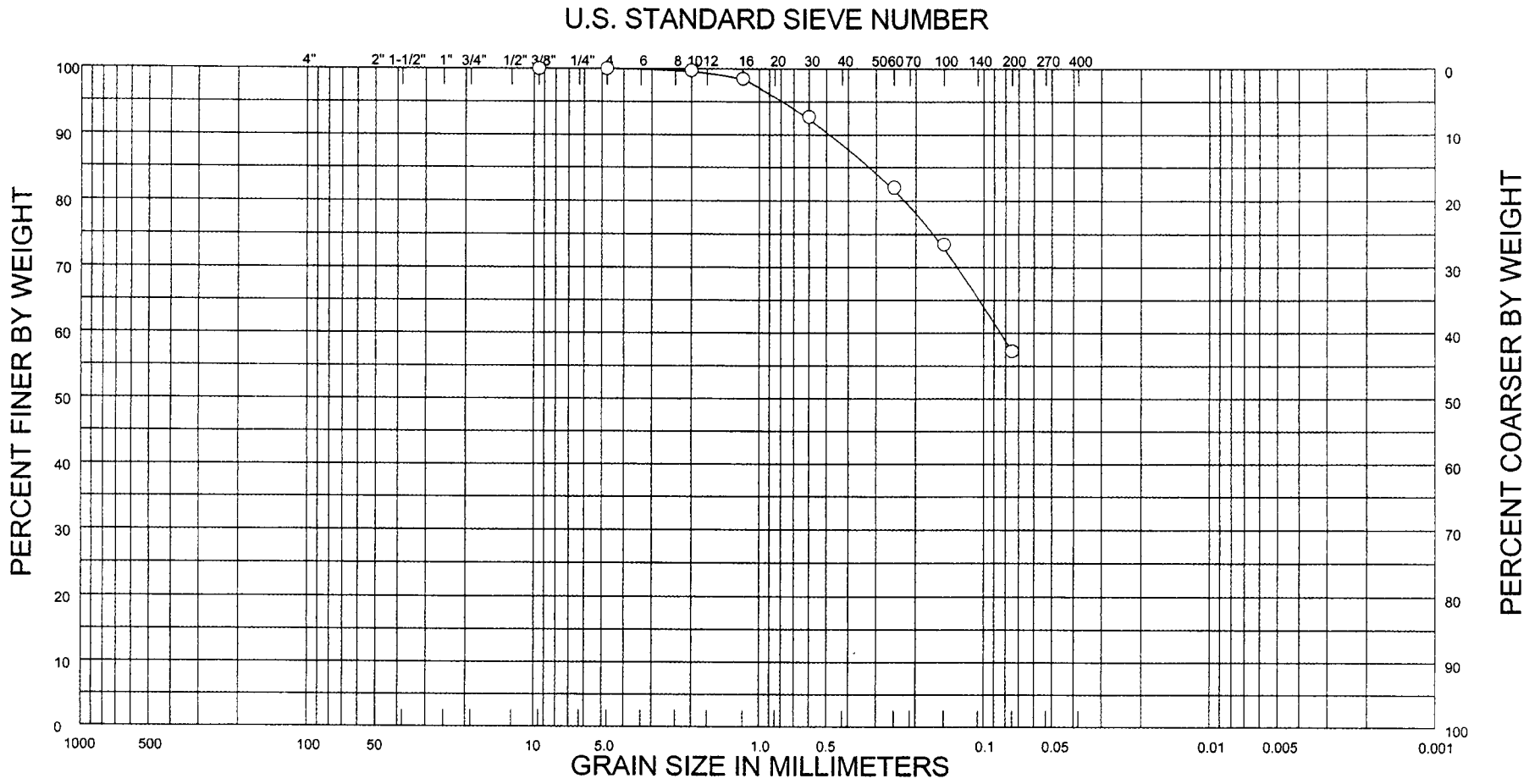
BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
	76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters	
	3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves	

03G007A Fort Dix Aircraft Runway Improvements
B-7, S-5 8' - 10'
Light Brown mf+ SAND, little- Silt

GRADATION CURVE

FPA

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS



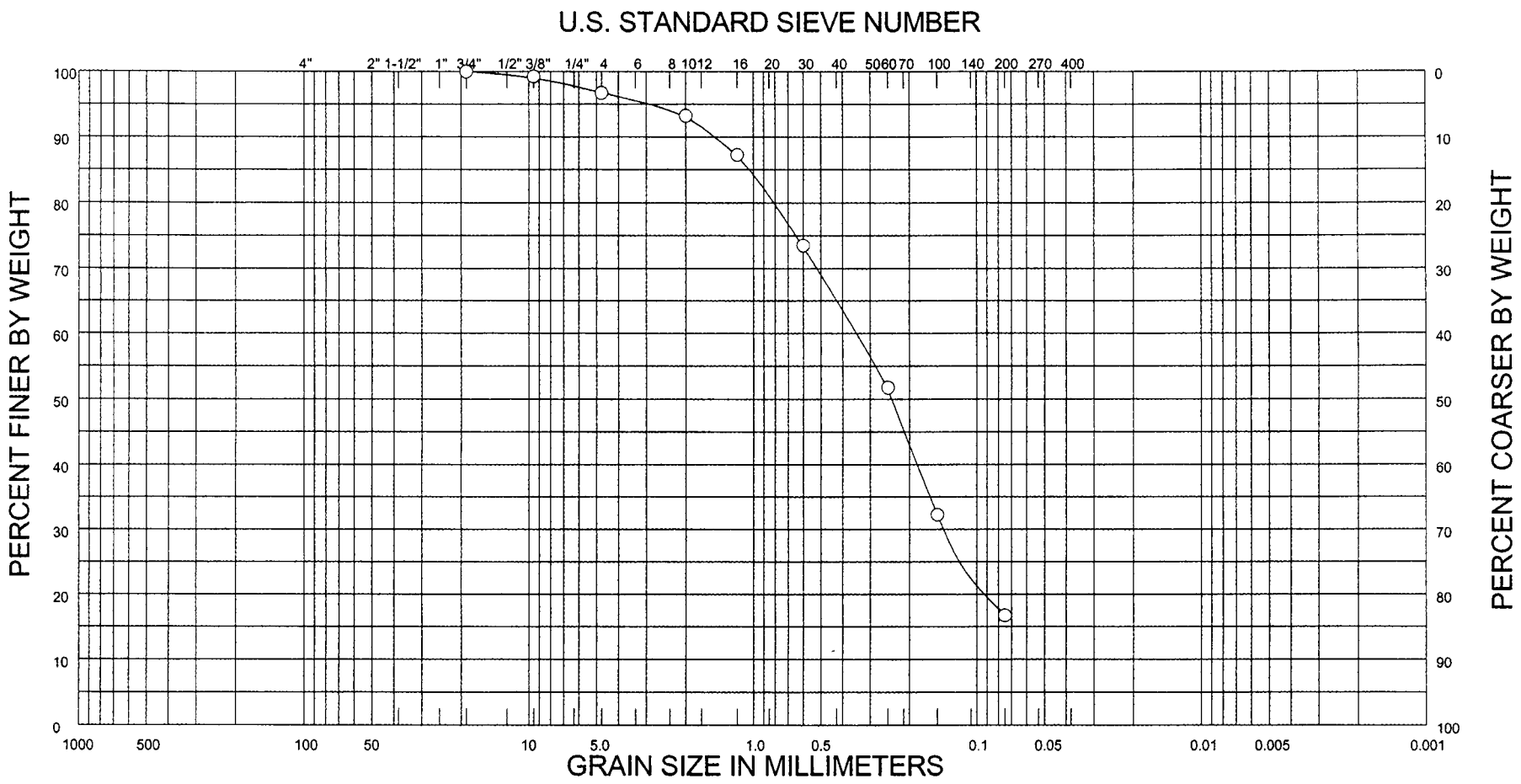
BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
		76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters
		3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves

03G007A Fort Dix Aircraft Runway Improvements
B-9, S-2 2' - 4'
Brown SILT & CLAY, and cmf+ Sand

GRADATION CURVE

FPA

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS



BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
		76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters
		3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves

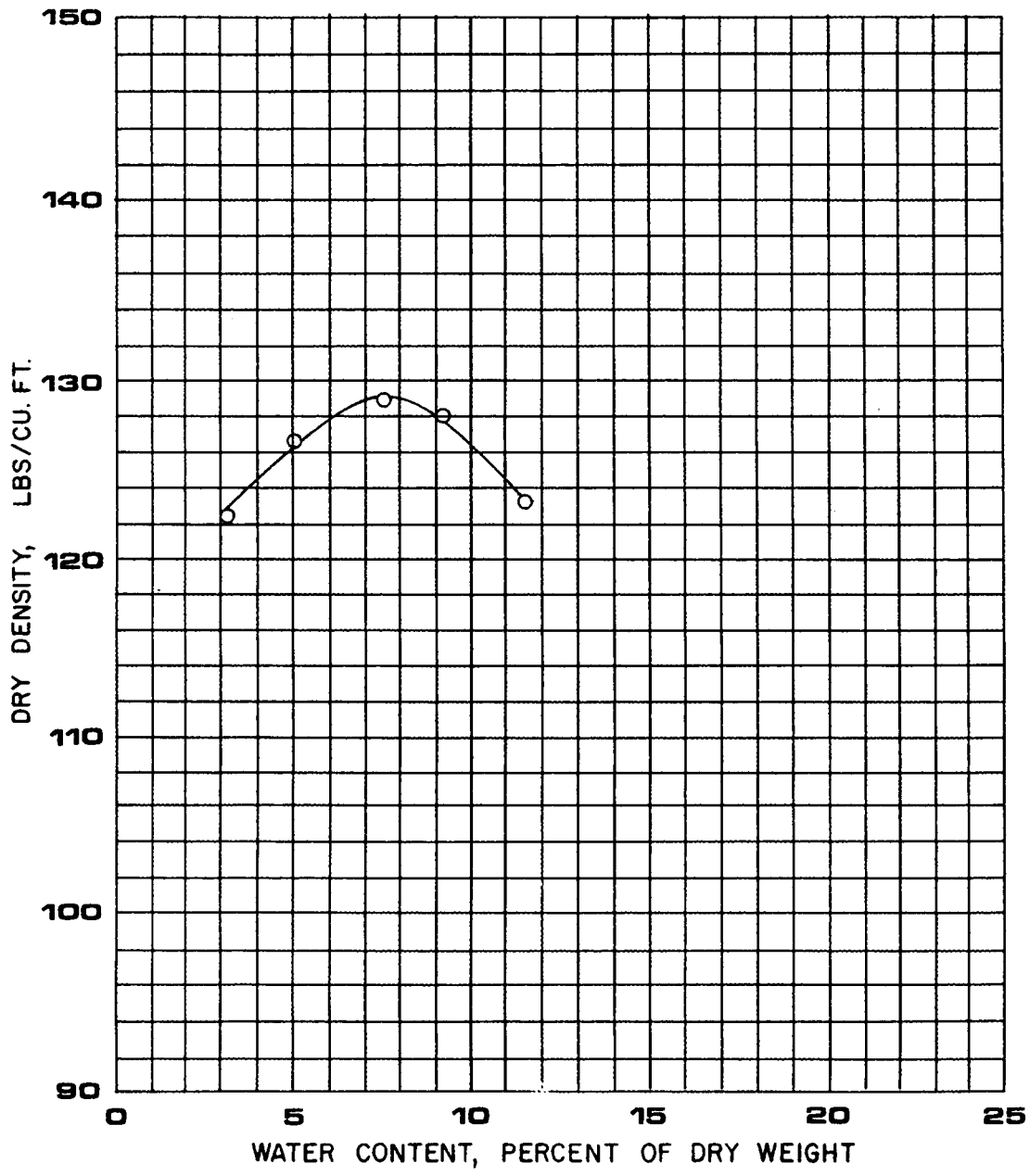
03G007A Fort Dix Aircraft Runway Improvments
Composite-1
Yellow Brown cmf+ SAND, little Silt, trace+ f Gravel

GRADATION CURVE

FPA

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS

COMPACTION TEST REPORT



FRENCH & PARRELLO ASSOCIATES, PA

PROJECT: FT. Dix Aircraft Runway Imp

03G007A

DATE: 5/14/03

SOURCE:

TYPE FILL:

DESCRIPTION:

Yellow Brown cmf+ SAND, little Silt, trace+ f Gravel

TEST METHOD:

ASTM D 1557C

SAMPLE NO.

Comp - 1

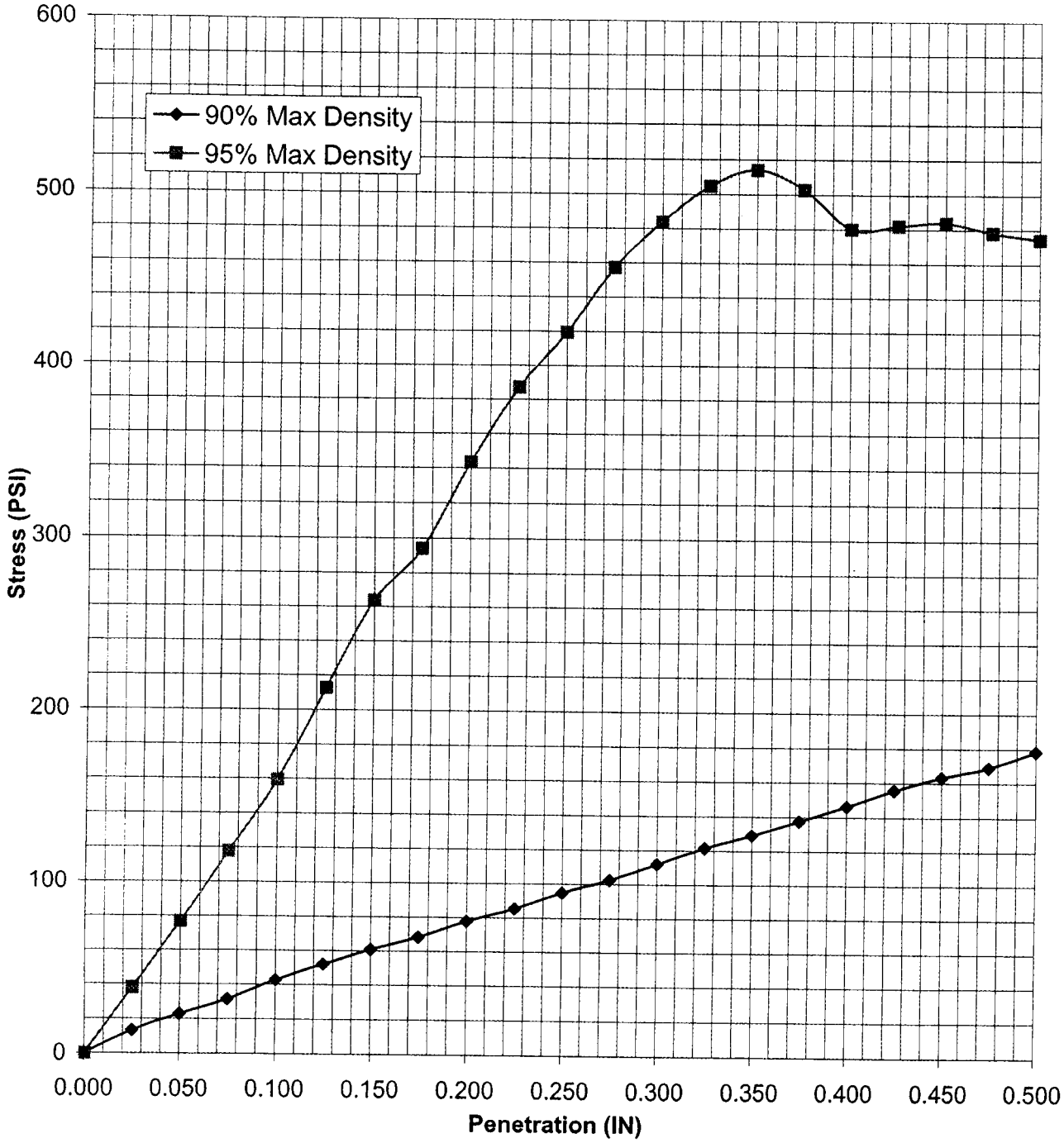
OPTIMUM WATER CONTENT 7.5%

MAX. DRY DENSITY 129 PCF

OPTIMUM WATER CONTENT CORR. FOR _____

MAX. DRY DENSITY CORR. FOR _____

Fort Dix - Aircraft Runway Improv. 03G007A California Bearing Ratio - Stress vs. Penetration



Test Summary

Sample Number:	Comp-1
CBR Value:	
At 90%	5.2
At 95%	22.9

Value at .2 was greater than .1
CBR Ran at 90% & 95% Optimum Density at the Optimum Moisture Content

Compaction Method:	ATSM D-1557 C

Sample Soaked for 24 Hours

Overall Swell (IN):	0.0025
Swell % of Height:	0.04%
Surcharge (LBS):	10.00

Dry Density of Sample

90% Before Soaking (PCF):	116.0
95% Before Soaking (PCF):	122.8
Optimum Density (PCF):	129.0
90% of Optimum (PCF):	116.1
95% of Optimum (PCF):	122.6

Moisture Content of 90% Sample

Natural Moisture (%):	14.4
Before Soaking (%):	7.2
After Soaking (%):	11.8
Optimum Moisture(%):	7.5

Moisture Content of 95% Sample

Natural Moisture (%):	14.4
Before Soaking (%):	7.2
After Soaking (%):	9.6
Optimum Moisture(%):	7.5

APPENDIX C
2003 ACCUTEST LABORATORY TEST RESULTS

New Jersey ACCUTEST Laboratories

05/23/03

Technical Report for

French & Parrello Associates, P.A.

Fort Dix Aircraft Runway Imp., NJ

03G007A

Accutest Job Number: N39220

Report to:

French & Parello
670 North Beers Street
Bldg. No. 3
Holmdel, NJ 07733

ATTN: Ron Heller

Total number of pages in report: 23

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, MA, MD, NC, PA, RI, SC, VA

Sample Summary

French & Parrello Associates, P.A.

Job No: N39220

Fort Dix Aircraft Runway Imp., NJ
Project No: 03G007A

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
N39220-1	04/30/03	12:00		05/15/03	SO	Soil	B-11 S-2
N39220-2	04/30/03	12:00		05/15/03	SO	Soil	B-15 S-2
N39220-3	04/30/03	12:00		05/15/03	SO	Soil	B-16 S-2
N39220-4	04/30/03	12:00		05/15/03	SO	Soil	B-21 S-2
N39220-5	04/30/03	12:00		05/15/03	SO	Soil	B-26 S-1
N39220-6	04/30/03	12:00		05/15/03	SO	Soil	B-31 S-1
N39220-7	04/30/03	12:00		05/15/03	SO	Soil	B-35 S-1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

ACCUTEST.

Laboratory Deliverables

1. Cover Page, Title Page Listing Certification #, Facility Name and Address, and Date of Report.	[Y]
2. Table of Contents.	[Y]
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds.	[Y]
4. Summary Table cross-referencing field ID #'s vs. lab ID #'s.	[Y]
5. Document bound, paginated and legible.	[Y]
6. Chain of Custody.	[Y]
7. Methodology Summary	[Y]
8. Laboratory Chronicle and Holding Time Check.	[Y]
9. Results submitted on a dry weight basis (if applicable)	[Y]
10. Method Detection Limits.	[Y]
11. Lab certified by NJDEPE for parameters or appropriate category of parameters or a member of the USEPA CLP.	[N/A]
12. Non-Conformance Summary.	[Y]

QC Reviewer Jamira

Date 1/23/2003

New Jersey • Fresh Ponds Corporate Village • Building B • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499 • http://www.accutest.com

ACCUTEST.

Percent Solids Determination

Accutest Laboratories employs a modified version of ASTM Method 4643-93 or EPA Method 160.3 M for the determination of percent solids to calculate dry weight. All data for solid matrices is reported on a dry weight basis by applying the percent solids data from this determination.

ACCUTEST.

Table Of Contents
Reduced Laboratory Data Deliverables
For
Non-USEPA/CLP Methods

Title/Cover Page

Deliverable Checklist

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Section 1 General

A. Results Summary
B. Chain of Custody
C. Laboratory Chronicles

Section 2 GC/MS Support Data (grouped by fraction)

A. Methodology Review
B. Conformance/Non-conformance Summary
C. Surrogate Recovery Results Summary
D. Matrix Spike/Matrix Spike Duplicate Summary
E. Method Blank Summary
F. Tune Results Summary
G. Calibration Summary (sorted by Instrument)
   Initial Calibration Check Summary
   Continuing Calibration Check Summary
H. Internal Standard Summary
I. Sample and Blank Chromatograms, Quant Reports, Mass Spectra, and Library Search Data

Section 3 GC Support Data

A. Methodology Review
B. Conformance/Non-conformance Summary
C. Surrogate Recovery Results Summary
D. Matrix Spike/Matrix Spike Duplicate Summary
E. Method Blank Summary
F. Calibration Summary (sorted by Instrument)
   Initial Calibration Check Summary
   Continuing Calibration Check Summary
G. Retention Time Shift Summary
H. Sample, Blank and Multi-peak Standard Chromatograms and Quant Reports

Section 4 Metals Support Data (sorted by Instrument Type-ICP, Furnace, Flame, and Mercury)

A. Methodology Review
B. Conformance/Non-conformance Summary
C. Blank Results Summary
   Initial and Continuing Calibration Blank Summary
   Method Blank Summary
D. Batch Quality Control Summary
   Matrix Spike and Duplicate Results Summary
   Spike Blank and Lab Control Sample Summary
   Serial Dilution Results Summary
E. Calibration Summary
   Calibration Check Standards Summary
   Interfering Elements Check Standard Summary

Section 5 General Chemistry/Petroleum Hydrocarbon Support Data

A. Methodology Review
B. Conformance/Non-Conformance Summary
C. Batch Quality Control Summary
   Method Blank and Spike Blank Results Summary
   Matrix Spike Results Summary
   Duplicate Results Summary
D. Raw Data and IR Spectra (Petroleum Hydrocarbons)
E. Raw Data and Run Record (Hexavalent Chromium)

New Jersey * Fresh Ponds Corporate Village * Building B * 2235 Route 130 * Dayton, NJ 08810 Tel: 732.329.0200 * Fax: 732.329.3499 * http://www.accutest.com

RESULTS

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-11 S-2		
Lab Sample ID:	N39220-1	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	95.9
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	95.9		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<210	210	mg/kg	1	05/20/03 21:40	MT	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-15 S-2		
Lab Sample ID:	N39220-2	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	89.4
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	89.4		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<220	220	mg/kg	1	05/20/03 21:54	MT	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-16 S-2		
Lab Sample ID:	N39220-3	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	83.7
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	83.7		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<240	240	mg/kg	1	05/20/03 22:08	MT	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-21 S-2		
Lab Sample ID:	N39220-4	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	89.7
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	89.7		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<220	220	mg/kg	1	05/20/03 22:23	MT	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-26 S-1		
Lab Sample ID:	N39220-5	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	95.4
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	95.4		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<210	210	mg/kg	1	05/20/03 22:37	MT	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-31 S-1		
Lab Sample ID:	N39220-6	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	87.2
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	87.2		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<230	230	mg/kg	1	05/20/03 22:52	MT	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-35 S-1		
Lab Sample ID:	N39220-7	**Date Sampled:**	04/30/03
Matrix:	SO - Soil	**Date Received:**	05/15/03
		Percent Solids:	98.0
Project:	Fort Dix Aircraft Runway Imp., NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	98		%	1	05/16/03	HBA	ASTM 4643-00
Sulfate	<200	200	mg/kg	1	05/20/03 23:35	MT	EPA 300/SW846 9056

RL = Reporting Limit

FRENCH & PARRELLO ASSOCIATES, P.A.
870 NORTH BEERS STREET, BLDG. No. 3, HOLMDEL, NEW JERSEY, 07733
PHONE (732) 888-7700

IV 50

CHAIN-OF-CUSTODY RECORD and Work Authorization

N39220

Page ___ of ___

Project Name Fort Dix Aircraft Runway Imp.
Project No. 036007A
Project Manager M. Gizzi
Contact Person Ron Helcer
Laboratory French + Parrello

	SAMPLE DESCRIPTION	TYPE GRB	TYPE COMP	MATRIX TYPE	DATE SAMPLED	TIME	PRES	NO. CONT.	ANALYSIS REQUIRED: Sulfate -	LAB JAR CODES
1	B-11 S-2			So: 1	4/30/03	12 Noon			X	
2	B-15 S-2								X	WCS
3	B-16 S-2								X	
4	B-21 S-2								X	
5	B-26 S-1								X	
6	B-31 S-1								X	
7	B-35 S-1	↓		↓	↓	↓			X	NABS

RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	REASON:

RELINQUISHED TO LABORATORY BY:	ACCEPTED FOR LAB BY:	DATE:	TIME:
Chris Krahl		5/15/03	1530

SAMPLED BY: NAME: ____ SIGNATURE: ____

REMARKS:

14

6 DAY TAT

DATA DELIVERABLES

- [x] NJDEPE REDUCED
- [ ] NJDEPE FULL
- [ ] EPA REDUCED
- [ ] EPA CLP
- [ ] RESULTS ONLY
- [ ] OTHER (SPECIFY): ____

TURNAROUND TIME REQUESTED

- [ ] STD
- [ ] 3 WEEKS
- [ ] 2 WEEKS
- [ ] FAST TRACK

THE FOLLOWING REQUIRE PRIOR LAB AUTHORIZATION

AUTHORIZATION NO. ____
AUTHORIZATION BY Marty DATE: ____

- [x] 6 DAY ~~4 WEEK~~
- [ ] 72 hr
- [ ] 48 hr
- [ ] 24 hr

- [ ] EXTRA COPIES
- No ____
- [ ] SEND DISK
- [ ] OTHER ____

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Internal Sample Tracking Chronicle

French & Parrello Associates, P.A.

Job No: N39220

Fort Dix Aircraft Runway Imp., NJ
Project No: 03G007A

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
N39220-1 B-11 S-2	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-1	ASTM 4643-00	16-MAY-03	HBA			%SOL
N39220-1	EPA 300/SW846 9056	20-MAY-03 21:40	MT	20-MAY-03	MT	SO4
N39220-2 B-15 S-2	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-2	ASTM 4643-00	16-MAY-03	HBA			%SOL
N39220-2	EPA 300/SW846 9056	20-MAY-03 21:54	MT	20-MAY-03	MT	SO4
N39220-3 B-16 S-2	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-3	ASTM 4643-00	16-MAY-03	HBA			%SOL
N39220-3	EPA 300/SW846 9056	20-MAY-03 22:08	MT	20-MAY-03	MT	SO4
N39220-4 B-21 S-2	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-4	ASTM 4643-00	16-MAY-03	HBA			%SOL
N39220-4	EPA 300/SW846 9056	20-MAY-03 22:23	MT	20-MAY-03	MT	SO4
N39220-5 B-26 S-1	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-5	ASTM 4643-00	16-MAY-03	HBA			%SOL
N39220-5	EPA 300/SW846 9056	20-MAY-03 22:37	MT	20-MAY-03	MT	SO4
N39220-6 B-31 S-1	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-6	ASTM 4643-00	16-MAY-03	HBA			%SOL
N39220-6	EPA 300/SW846 9056	20-MAY-03 22:52	MT	20-MAY-03	MT	SO4
N39220-7 B-35 S-1	Collected: 30-APR-03 12:00 By:		Received: 15-MAY-03 By: SMG			
N39220-7	ASTM 4643-00	16-MAY-03	HBA			%SOL

Internal Sample Tracking Chronicle

French & Parrello Associates, P.A.

Job No: N39220

Fort Dix Aircraft Runway Imp., NJ
Project No: 03G007A

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
N39220-7	EPA 300/SW846 9056	20-MAY-03 23:35	MT	20-MAY-03	MT	SO4

GEN CHEM

ACCUTEST.

GENERAL CHEMISTRY METHODOLOGY SUMMARY

Percent Solids: Percent solids are determined by following method ASTM 4643-00 or a modification of EPA 160.3. A homogeneous aliquot of the sample is tared and then dried to constant weight. The percent solids are calculated by dividing the dried weight by the wet weight of the sample aliquot.

New Jersey • Fresh Ponds Corporate Village • Building B • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499 • http://www.accutest.com

ACCUTEST.

GENERAL CHEMISTRY METHODOLOGY SUMMARY

Ion Chromatography for bromide, chloride, fluoride, and sulfate. This test is done following methods EPA 300.0, SW846 9056, or SM18 4110. For this method, a small volume of sample is introduced into an ion chromatograph. The anions of interest are separated and measured, using a system comprised of a guard column, and analytical column, a suppressor column, and a conductivity detector. The results are quantitated against calibration curves.

ACCUTEST.

General Chemistry Case Narrative/Conformance/Non-Conformance Summary

	NO	YES
1. Blank levels below reporting limits?		✓
If no, list analytes above reporting limits:		
2. Spike blank or lab control data within acceptable limits?		✓
If no, list analytes outside of acceptable limits. Refer to QC summary for additional comments:		
3. Matrix Spike data within acceptable limits?		✓
If no, list analytes outside of acceptable limits. Refer to QC summary for additional comments:		
4. Matrix duplicate data within acceptable limits?		✓
If no, list analytes outside of acceptable limits. Refer to QC summary for additional comments:		
5. Samples prepared and analyzed within holding time?		✓
If holding times were not met, list analytes where holding times were exceeded and explain:		
6. All analytical criteria met (calibrations, CCV checks, etc.)?		✓
If no, list affected samples and elements:		

Additional Comments:

QC Review Signature: Una Chang Date: 5/23/03

Form: RG07
Rev. Date: 2/10/00

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: N39220
Account: FPA - French & Parrello Associates, P.A.
Project: Fort Dix Aircraft Runway Imp., NJ

Analyte	Batch ID	RL	MB Result	Units	BSP %Recov	QC Limits
Sulfate	GP19361/GN57025	200	<200	mg/kg	96.1	90-110%

Associated Samples:
Batch GP19361: N39220-1, N39220-2, N39220-3, N39220-4, N39220-5, N39220-6, N39220-7

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: N39220
Account: FPA - French & Parrello Associates, P.A.
Project: Fort Dix Aircraft Runway Imp., NJ

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfate	GP19361/GN57025	N39220-1	mg/kg	<210	836	793	94.9	80-120%

Associated Samples:
Batch GP19361: N39220-1, N39220-2, N39220-3, N39220-4, N39220-5, N39220-6, N39220-7

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: N39220
Account: FPA - French & Parrello Associates, P.A.
Project: Fort Dix Aircraft Runway Imp., NJ

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Sulfate	GP19361/GN57025	N39220-1	mg/kg	<210	<210	0.0	0-20%

Associated Samples:
Batch GP19361: N39220-1, N39220-2, N39220-3, N39220-4, N39220-5, N39220-6, N39220-7

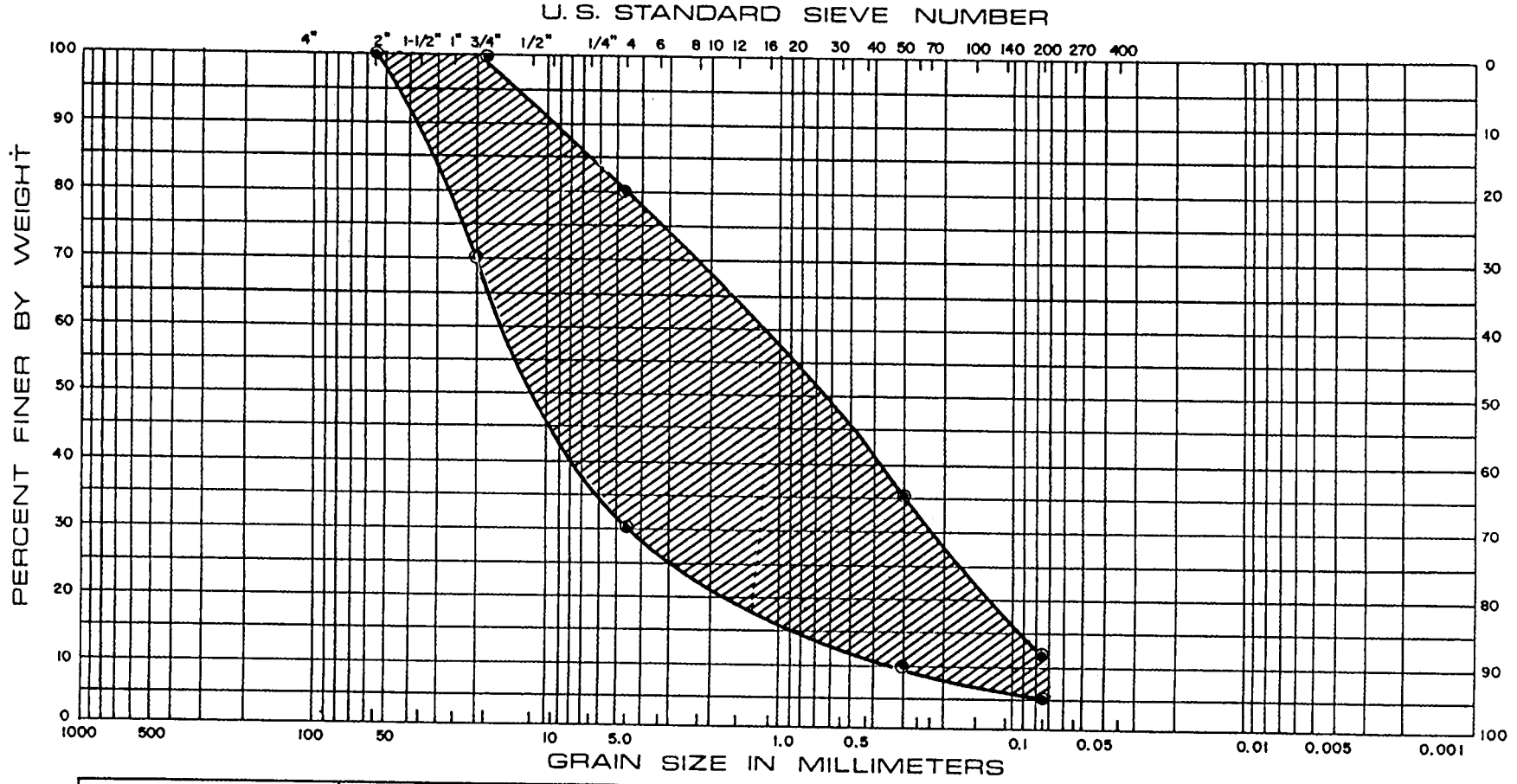
APPENDIX D
GRADATIONAL ENVELOPES

NEW JERSEY INTERAGENCY ENGINEERING COMMITTEE

Standard Soil Aggregate

Gradation Designation I-5

U.S. Standard Sieve Size	Percent Finer By Weight
2"	100
3/4"	70-100
No. 4	30- 80
No. 50	10- 35
No. 200	5- 12



BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
	76.2	25.4	9.52	2.0	0.59	0.25	0.074		Millimeters
	3 in.	1 in.	3/8 in.	Nos. 10	30	60	200		Sieves

NEW JERSEY INTERAGENCY ENGINEERING COMMITTEE

STANDARD SOIL AGGREGATE GRADATION DESIGNATION I-5

GRADATION CURVES

FPA

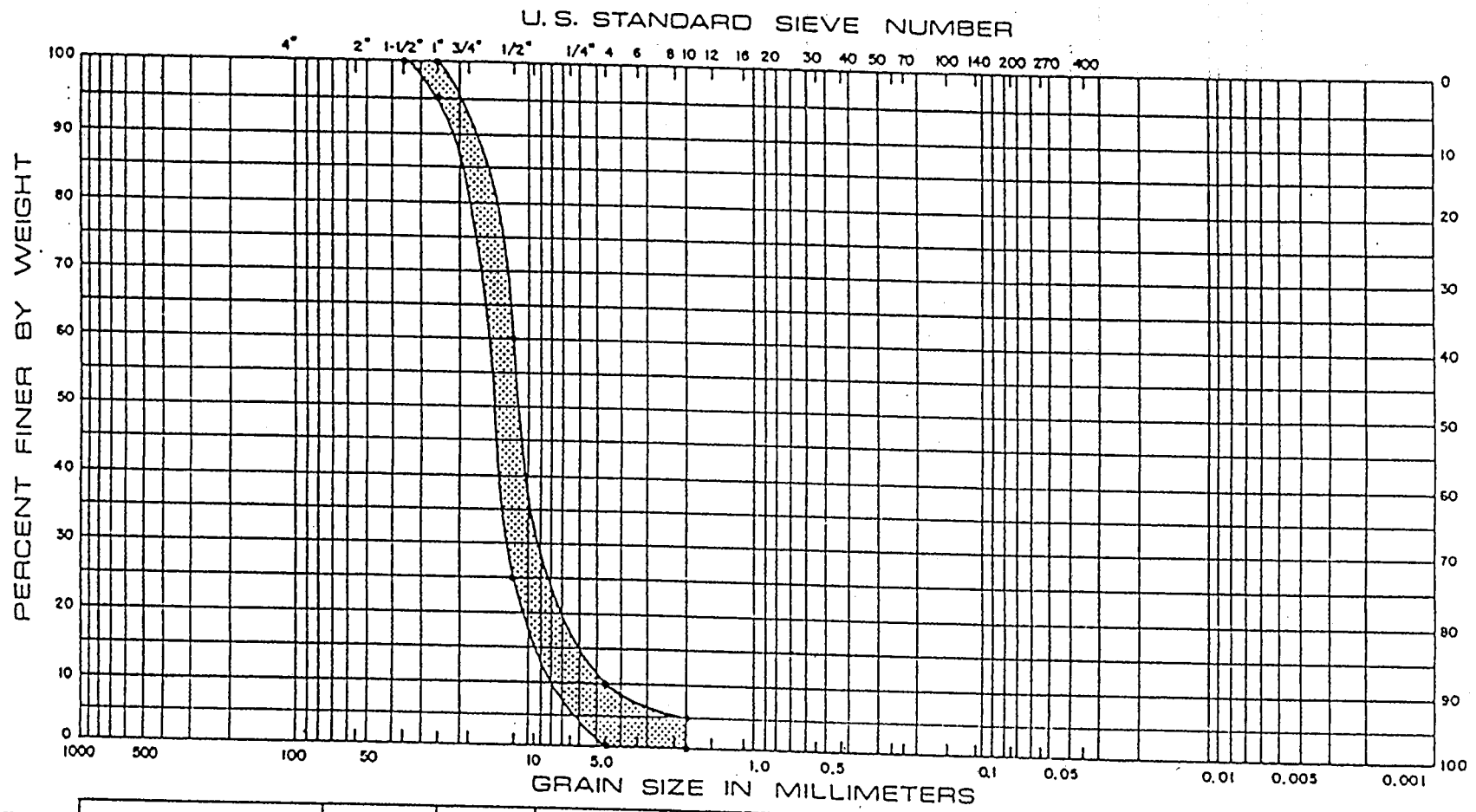
FRENCH & PARRELLO
ASSOCIATES, P.A.

Allowable Gradational Envelope

AASHTO M43

Standard Sizes of Coarse Aggregate Size No. 57

U.S. Standard Sieve Size	Percent Finer by Weight
1 ½"	100
1"	95 - 100
½"	25 - 60
No. 4	0 - 10
No. 8	0 - 5



BURMISTER CLASSIFICATION	COBBLES	GRAVEL c	GRAVEL m	GRAVEL f	SAND c	SAND m	SAND f	SILT OR CLAY	
	76.2	25.4	9.52	2.0	0.59	0.25	0.074	Millimeters	
	3 in.	1 in.	3/8 in.	Nos. 10	30	60	200	Sieves	

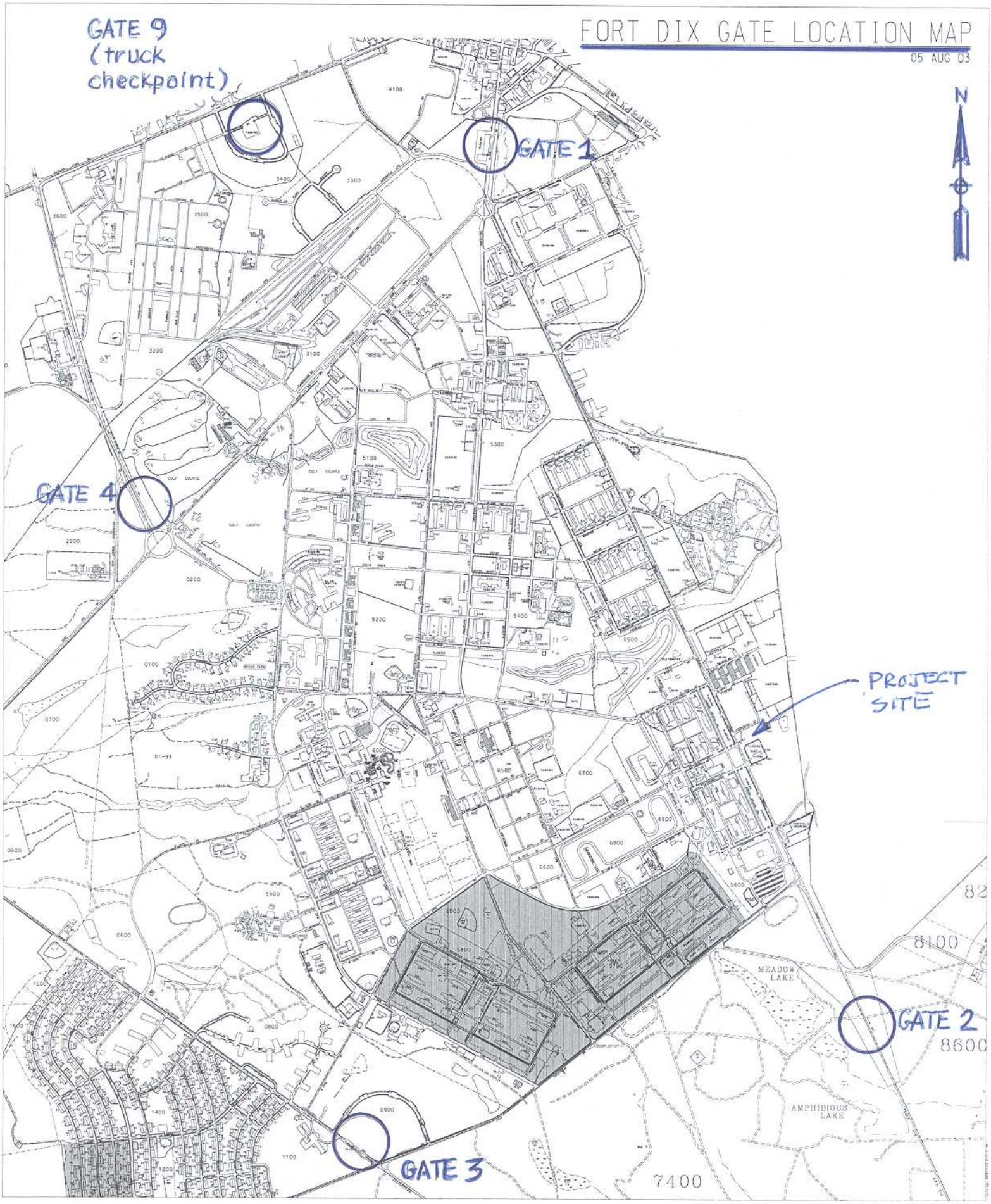
AASHTO M43

STANDARD SIZES OF COARSE AGGREGATE SIZE NO. 57

GRADATION CURVES

FPA

FRENCH & PARRELLO ASSOCIATES, P.A.


GATE 9
(truck
checkpoint)
FORT DIX GATE LOCATION MAP
05 AUG 03
N
GATE 1
GATE 4
PROJECT
SITE
GATE 2
GATE 3
MEADOW
LAKE
AMPHIBIOUS
LAKE
8100
8600
7400

PALLET BUILD-UP ON LIFT SCALE

LOADED PALLET (TYPICAL)

K-LOADER

(TYP.) ROLLERS