MACTEC

engineering and constructing a better tomorrow

November 11, 2009

Mr. Ken Clough
Project Manager
Bechtel Power Corporation
5275 Westview Drive
Frederick, Maryland 21703-8306

Subject: **Final Data Report Transmittal, Revision 1**
Geotechnical Exploration and Testing
Exelon Texas COL Project
Supplemental Investigation, Including UHS
Victoria County, Texas
MACTEC Project No. 6468-07-1777

Dear Mr. Clough:

MACTEC Engineering and Consulting, Inc., is submitting this Final Data Report, Revision 1, for geotechnical exploration and laboratory testing associated with the Supplemental Investigation, including UHS, of the Exelon Texas COL Project located in Victoria County, Texas. This revision is intended to address comments provided by Bechtel, and specifically applies to the affected pages as indicated by the attached REVISON SUMMARY.

To complete this revision, the pages listed in the attachment should be removed and replaced for the current revision (Revision 0) in the Final Data Report document. It should be noted that all other pages of the report will continue to be designated as Revision 0.

Please do not hesitate to contact us if you have any questions or if we may be of further service.

Sincerely,

MACTEC Engineering and Consulting, Inc.

Richard S. Auger
Project Manager

Kathryn A. White, PE
Project Principal Engineer
Texas Registration 81590

Attachment: REVISON SUMMARY (2 pages)

Exelon Texas COL Project, Victoria County, Texas
Final Data Report, Revision 1
Geotechnical Exploration and Testing
Supplemental Investigation, Including UHS

REVISION SUMMARY

Revision Notes: The pages listed below should be removed and replaced for the current document revision (Revision 0). All other pages of the report will continue to be designated as Revision 0. It should also be noted that this list of affected pages (REVISON SUMMARY) will be added to the report as indicated below.

Report Section	Affected Pages	Description
Volume 1	1	Transmittal Letter
Volume 1	1a & 1b (insert)	REVISION SUMMARY (insert)
Volume 1	2	Cover Sheet
Volume 1	2a & 2b (insert)	REVISION SUMMARY (insert)
Volume 1	8-19	Report text revised for comments
Volume 1, Tables	21	Table 1.1
Volume 1, Tables	22-23	Table 2.1A
Volume 1, Tables	25	Table 2.1C
Volume 1, Tables	26-31	Table 4.1
Volume 1, Tables	33	Table 4.3
Volume 1, Tables	34	Table 4.4
Volume 1, Tables	36	Table 4.6
Volume 1, Tables	37	Table 4.7
Volume 1, Tables	38	Table 4.8
Volume 1, Appendix B, Geotechnical Boring Logs	72-77	Boring Log B-3101UD
Volume 1, Appendix B, Geotechnical Boring Logs	85-90	Boring Log B-3104
Volume 1, Appendix B, Geotechnical Boring Logs	91-96	Boring Log B-3105
Volume 1, Appendix B, Geotechnical Boring Logs	109-116	Boring Log B-3123
Volume 1, Appendix B, Geotechnical Boring Logs	123-128	Boring Log B-3125
Volume 1, Appendix B, Geotechnical Boring Logs	141-148	Boring Log B-3128
Volume 1, Appendix B, Geotechnical Boring Logs	149-151	Boring Log B-3129
Volume 1, Appendix B, Geotechnical Boring Logs	179-186	Boring Log B-3134
Volume 1, Appendix B, Geotechnical Boring Logs	209-212	Boring Log B-3172
Volume 1, Appendix B, Geotechnical Boring Logs	213-216	Boring Log B-3173
Volume 1, Appendix B, Geotechnical Boring Logs	242	Boring Log B-3179
Volume 1, Appendix B, Geotechnical Boring Logs	248-251	Boring Log B-3180
Volume 1, Appendix B, Geotechnical Boring Logs	279-281	Boring Log B-3187
Volume 1, Appendix B, Geotechnical Boring Logs	296-298	Boring Log B-3203
Volume 1, Appendix B, Geotechnical Boring Logs	315-318	Boring Log B-3221
Volume 1, Appendix B, Geotechnical Boring Logs	323-330	Boring Log B-3223
Volume 1, Appendix B, Geotechnical Boring Logs	337-342	Boring Log B-3225
Volume 1, Appendix B, Geotechnical Boring Logs	343-346	Boring Log B-3226
Volume 1, Appendix B, Geotechnical Boring Logs	363-365	Boring Log B-3229
Volume 1, Appendix B, Geotechnical Boring Logs	393-400	Boring Log B-3234
Volume 1, Appendix B, Geotechnical Boring Logs	401-408	Boring Log B-3234UD
Volume 1, Appendix B, Geotechnical Boring Logs	413-416	Boring Log B-3251
Volume 1, Appendix B, Geotechnical Boring Logs	417-420	Boring Log B-3252
Volume 1, Appendix B, Geotechnical Boring Logs	427-430	Boring Log B-3271
Volume 1, Appendix B, Geotechnical Boring Logs	435-438	Boring Log B-3273

Exelon Texas COL Project, Victoria County, Texas
Final Data Report, Revision 1
Geotechnical Exploration and Testing
Supplemental Investigation, Including UHS

REVISION SUMMARY

Revision Notes: The pages listed below should be removed and replaced for the current document revision (Revision 0). All other pages of the report will continue to be designated as Revision 0. It should also be noted that this list of affected pages will be added to the report as indicated below.

Volume 1, Appendix B, Geotechnical Boring Logs	445-448	Boring Log B-3275
Volume 1, Appendix B, Geotechnical Boring Logs	459-462	Boring Log B-3278
Volume 1, Appendix B, Geotechnical Boring Logs	470-473	Boring Log B-3281
Volume 1, Appendix B, Geotechnical Boring Logs	488-491	Boring Log B-3286
Volume 1, Appendix B, Geotechnical Boring Logs	495-497	Boring Log B-3288
Volume 1, Appendix B, Geotechnical Boring Logs	510-513	Boring Log B-3292
Volume 1, Appendix B, SPT Energy Reports	556-557	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports	580-581	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports	605	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports	661-662	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports		
Volume 1, Appendix B, SPT Energy Reports	683-699	SPT Energy Calibration Report for MACTEC Atlanta CME 550 X ATV
Volume 1, Appendix B, Geotechnical Boring Logs	707-710	Added note at bottom for form revision
	733-751	SPT Energy Calibration Report for Miller CME 550 ATV

COVER SHEET

FINAL DATA REPORT
Revision 1

This revision of the Final Data Report is intended to cover the affected pages of the document listed in the attached REVISON SUMMARY (2 sheets). It should be noted that all other pages of the report will continue to be designated as Revision 0.

GEOTECHNICAL EXPLORATION AND TESTING

EXELON TEXAS COL PROJECT
VICTORIA COUNTY, TEXAS
SUPPLEMENTAL INVESTIGATION INCLUDING UHS

NOVEMBER 11, 2009

Prepared By:

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

MACTEC PROJECT No. 6468-07-1777

Prepared For:
Bechtel Power Corporation
Subcontract No. 25352-102-HC4-CY00-00001

Exelon Texas COL Project, Victoria County, Texas
Final Data Report, Revision 1
Geotechnical Exploration and Testing
Supplemental Investigation, Including UHS

REVISION SUMMARY

Revision Notes: The pages listed below should be removed and replaced for the current document revision (Revision 0). All other pages of the report will continue to be designated as Revision 0. It should also be noted that this list of affected pages (REVISON SUMMARY) will be added to the report as indicated below.

Report Section	Affected Pages	Description
Volume 1	1	Transmittal Letter
Volume 1	1a & 1b (insert)	REVISION SUMMARY (insert)
Volume 1	2	Cover Sheet
Volume 1	2a & 2b (insert)	REVISION SUMMARY (insert)
Volume 1	8-19	Report text revised for comments
Volume 1, Tables	21	Table 1.1
Volume 1, Tables	22-23	Table 2.1A
Volume 1, Tables	25	Table 2.1C
Volume 1, Tables	26-31	Table 4.1
Volume 1, Tables	33	Table 4.3
Volume 1, Tables	34	Table 4.4
Volume 1, Tables	36	Table 4.6
Volume 1, Tables	37	Table 4.7
Volume 1, Tables	38	Table 4.8
Volume 1, Appendix B, Geotechnical Boring Logs	72-77	Boring Log B-3101UD
Volume 1, Appendix B, Geotechnical Boring Logs	85-90	Boring Log B-3104
Volume 1, Appendix B, Geotechnical Boring Logs	91-96	Boring Log B-3105
Volume 1, Appendix B, Geotechnical Boring Logs	109-116	Boring Log B-3123
Volume 1, Appendix B, Geotechnical Boring Logs	123-128	Boring Log B-3125
Volume 1, Appendix B, Geotechnical Boring Logs	141-148	Boring Log B-3128
Volume 1, Appendix B, Geotechnical Boring Logs	149-151	Boring Log B-3129
Volume 1, Appendix B, Geotechnical Boring Logs	179-186	Boring Log B-3134
Volume 1, Appendix B, Geotechnical Boring Logs	209-212	Boring Log B-3172
Volume 1, Appendix B, Geotechnical Boring Logs	213-216	Boring Log B-3173
Volume 1, Appendix B, Geotechnical Boring Logs	242	Boring Log B-3179
Volume 1, Appendix B, Geotechnical Boring Logs	248-251	Boring Log B-3180
Volume 1, Appendix B, Geotechnical Boring Logs	279-281	Boring Log B-3187
Volume 1, Appendix B, Geotechnical Boring Logs	296-298	Boring Log B-3203
Volume 1, Appendix B, Geotechnical Boring Logs	315-318	Boring Log B-3221
Volume 1, Appendix B, Geotechnical Boring Logs	323-330	Boring Log B-3223
Volume 1, Appendix B, Geotechnical Boring Logs	337-342	Boring Log B-3225
Volume 1, Appendix B, Geotechnical Boring Logs	343-346	Boring Log B-3226
Volume 1, Appendix B, Geotechnical Boring Logs	363-365	Boring Log B-3229
Volume 1, Appendix B, Geotechnical Boring Logs	393-400	Boring Log B-3234
Volume 1, Appendix B, Geotechnical Boring Logs	401-408	Boring Log B-3234UD
Volume 1, Appendix B, Geotechnical Boring Logs	413-416	Boring Log B-3251
Volume 1, Appendix B, Geotechnical Boring Logs	417-420	Boring Log B-3252
Volume 1, Appendix B, Geotechnical Boring Logs	427-430	Boring Log B-3271
Volume 1, Appendix B, Geotechnical Boring Logs	435-438	Boring Log B-3273

REVISION SUMMARY

Revision Notes: The pages listed below should be removed and replaced for the current document revision (Revision 0). All other pages of the report will continue to be designated as Revision 0. It should also be noted that this list of affected pages will be added to the report as indicated below.

Volume 1, Appendix B, Geotechnical Boring Logs	445-448	Boring Log B-3275
Volume 1, Appendix B, Geotechnical Boring Logs	459-462	Boring Log B-3278
Volume 1, Appendix B, Geotechnical Boring Logs	470-473	Boring Log B-3281
Volume 1, Appendix B, Geotechnical Boring Logs	488-491	Boring Log B-3286
Volume 1, Appendix B, Geotechnical Boring Logs	495-497	Boring Log B-3288
Volume 1, Appendix B, Geotechnical Boring Logs	510-513	Boring Log B-3292
Volume 1, Appendix B, SPT Energy Reports	556-557	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports	580-581	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports	605	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports	661-662	Added note at bottom for form revision
Volume 1, Appendix B, SPT Energy Reports		
Volume 1, Appendix B, SPT Energy Reports	683-699	SPT Energy Calibration Report for MACTEC Atlanta CME 550 X ATV
Volume 1, Appendix B, Geotechnical Boring Logs	707-710	Added note at bottom for form revision
	733-751	SPT Energy Calibration Report for Miller CME 550 ATV

FINAL DATA REPORT REVISION 0
GEOTECHNICAL EXPLORATION AND TESTING

EXELON TEXAS COL PROJECT
VICTORIA COUNTY, TEXAS
SUPPLEMENTAL INVESTIGATION INCLUDING UHS

August 11, 2009

VOLUME 1

Prepared By:

MACTEC Engineering and Consulting, Inc.
Raleigh, North Carolina

MACTEC Project No. 6468-07-1777

Prepared For:

Bechtel Power Corporation
Subcontract No. 25352-102-HC4-CY00-00001

Contents

FINAL DATA REPORT
GEOTECHNICAL EXPLORATION AND TESTING
EXELON TEXAS COL PROJECT – SUPPLEMENTAL INVESTIGATION, INCLUDING UHS
VICTORIA COUNTY
TABLE OF CONTENTS

VOLUME 1

Report Text

VOLUME 1, cont'd.

Tables

VOLUME 1, cont'd.

VOLUME 3

Appendices

E	Laboratory Test Data
F	RCTS Data (Not Used)

VOLUME 4

Appendices

G	Ground Water Data (Not Used)

SECTION 1
OVERVIEW

1.1 Introduction

MACTEC Engineering and Consulting, Inc. (MACTEC) was retained by Bechtel Power Corporation (Bechtel) to conduct the subsurface investigation and laboratory-testing program to obtain information on subsurface materials and conditions for use in the preparation of the Combined Operating License (COL) Application for the Exelon Victoria County Site. The COL application, to be prepared by others, will be submitted to the U.S. Nuclear Regulatory Commission (NRC) for approval to locate a future nuclear electric power generation facility at the existing Victoria County Site. This report covers activities associated with the supplemental investigation of the Power Block including the Ultimate Heat Sink (UHS) area. This report follows the same outline as our report that covered activities associated with the Power Block area (Final Report of Geotechnical Exploration and Testing, dated July 9, 2008). However, please note that some testing conducted for that project was not conducted for this phase of work. A site location map for this phase of the project is included as Figure 1.

MACTEC executed its services in accordance with Bechtel Subcontract No. 25352-102-HC4-CY00-00001. The field work commenced on January 4, 2009 and was completed on March 13, 2009.

The Scope of Work was defined in Exhibit "D" of the Bechtel Subcontract and the technical requirements were defined in Bechtel Specification 25352-102-3PS-CY00-00001, Revision 006, dated December 24, 2008. The scope of work is briefly described below:

- Preparing and submitting a Quality Assurance Project Document, Work Plan, and Health and Safety Plan.
- Obtaining permits necessary for performing the work.
- Furnishing all the supervision, labor, equipment, tools, supplies, and materials necessary to perform the specified work at the locations specified by Bechtel.
- Providing geotechnical engineers and/or geologists in the field under the direction of qualified geotechnical engineers and/or geologists with experience in geotechnical investigations to oversee and log the investigation work.
- Providing a site superintendent responsible for oversight of all required field activities.
- Providing Quality Assurance (QA) observation of the field and laboratory work activities and submitting QA records.
- Locating work items by survey methods.
- Performing utility-location survey prior to starting work.
- Providing water to work areas for drilling and testing.
- Performing Standard Penetration Tests (SPT) and obtaining samples using a split spoon sampler.
- Performing SPT energy measurements.
- Obtaining undisturbed samples using a thin-walled sampler or Pitcher Barrel sampler.
- Collecting, labeling and transporting soil samples to a designated sample-storage area.
- Transporting designated samples to appropriate laboratories for testing purposes.
- Backfilling drilled holes with cement/bentonite grout using the tremie method.
- Performing electrical Cone Penetrometer Tests (CPT) at selected locations.

- Conducting down-hole geophysical logging.
- Performing suspension P-S logging.
- Restoring the work areas.
- Performing laboratory testing on soil samples.
- Preparing a Data Report that contains the data generated by the subsurface investigation and laboratory-testing activities.
- Performing all work under MACTEC's approved Safety Program.

Sampling and testing related to the geotechnical exploration are considered to be tasks that could affect design, construction or operation of safety-related systems, structures and components. This work was performed under a Quality Assurance program that meets the requirements of 10 CFR Part 50 Appendix B and 10 CFR 21 (Reporting of Defects and Noncompliance)

This Data Report generally describes the field and laboratory-testing methods and presents the laboratory-testing results in the Power Block and UHS areas.

1.2 Personnel

MACTEC completed field work for this project under the direction of Bechtel's Site Coordinator, Mr. Allen Shaw. Bechtel was contracted by Exelon to provide technical and general oversight support to Exelon.

Primary MACTEC personnel and their responsibilities were as follows:

Stephen J. Criscenzo	Chief Engineer
Kathryn A. White, P.E.	Project Principal Engineer
Scott Auger	Project Manager
John Martin	Quality Assurance Representative
Doug Whitaker	Quality Assurance
Daniel Atkinson	Site Superintendent, Report Preparation
Kyla Rudd	Site Coordinator
Daniel Haug, P.G.	Lead Geologist, Report Preparation
Lise Bisson	Rig Geologist
Adamson Mwembeshi	Rig Geologist
William Mabie	Rig Geologist
Steve Woodham	Rig Geologist
Will Galloway	Rig Geologist
Johnny Liles	Rig Geologist
Jeff Moore	Rig Geologist
Tim Quigley	Rig Geologist
Dylan Elk	Rig Geologist
Alex Taylor	Rig Geologist
Anne Harrington	Rig Geologist
Bennett Ford	Rig Geologist
Robert Harwell	Rig Geologist
Gautham Pillappa	Rig Geologist
Kimberly Charles-Smith	Project Scientist
Joseph Franklin	Site Utility Survey Chief
Mitch Connor	Laboratory Services Manager - Raleigh

Jianren Wang	Laboratory Services Manager - Atlanta
Mike Hamlett	Laboratory Services Manager - Charlotte
Shane Johnson	Report Preparation
Mike Lear	Report Preparation
Steven Copley	Report Preparation
Bill Deobald	Report Preparation
Shafiq Rahman	Report Preparation
Rick Kolb	Report Preparation

The organizations that conducted on-site work or laboratory testing of samples as part of this effort are listed in Table 1.1.

1.3 Organization of Report

The organization of this report consists of a transmittal letter, table of contents, narrative text, tables, figures and appendices. The documents in the appendices contain project data submittals and are further organized as follows:

Appendix A – Survey Data

Appendix B – Geotechnical Field Data
- Boring Logs
- SPT Energy Measurement Reports

Appendix C – Cone Penetrometer Test Results

Appendix D – Geophysical Test Data

Appendix E – Laboratory Test Data
- Index Test Data
- Strength Test Data
- Consolidation Test Data
- Chemical Test Data

Appendix F – RCTS
Not Used

Appendix G – Groundwater Data
Not Used

1.4 Quality Assurance

Quality-related activities conducted by MACTEC and its subcontractors during the work presented in this report were in accordance with the MACTEC Quality Assurance Manual and the MACTEC Quality Assurance Project Document. The MACTEC QA program complies with NQA-1 Subpart 2.2 and the requirements of 10 CFR 50 Appendix B.

SECTION 2
TEST METHODS

2.1 Surveying

The surveying in the Power Block and UHS areas was conducted in two phases. Initially, MACTEC conducted the first phase, marking test locations by referencing initial coordinates provided by Bechtel, listed on Drawing No. 000-CY-0010-00004 Rev. 4 issued for use on February 24, 2009. MACTEC identified test locations in the field with mapping-grade Trimble GEOXT GPS equipment. Wooden stakes tied with flagging and marked with the test-location designator were used to mark the surveyed locations. After the initial seven borings were located, RODS Surveying, Inc. (RODS) of Spring, Texas was contracted to complete the layout to ensure the borings were within the three-foot tolerance specified by Bechtel. Prior to the start of testing, some test locations were relocated due to site conditions (e.g., utilities, trees, topography) with concurrence of Bechtel personnel. Other borings were located at offsets from the staked location to accommodate additional testing/sampling, such as collecting undisturbed samples and/or geophysical testing. RODS conducted the second phase of surveying. RODS captured as-built locations and ground-surface elevations of actual test locations after completion of testing using Real Time Kinematic-Global Positioning Satellite (RTK-GPS) techniques.

RODS used a Trimble TSC2 GPS data collector and a Trimble R8 GNSS dual frequency GPS Receiver to collect field data and observations. At the project start, RODS established two control points at the site to serve as reference for the surveys. To achieve project-accuracy requirements, the GPS equipment was verified by checking existing observations wells previously located by SURVCON, Inc. at the beginning and end of each day. The independent observations captured at each test location were subsequently processed through the Trimble Geomatics Software package to determine final coordinate and elevation values. The survey data were compiled by Darrell Babcock, Land Surveyor, Texas License No. 5466.

The as-built survey locations were provided to Bechtel for their use in creating an as-built drawing of the exploration. The as-built survey locations were also used as input to final boring logs and other tables that report locations. A complete copy of the surveyor's report is in Appendix A. This report includes as-built survey data for test locations in the Supplemental Power Block (including UHS) and Cooling Basin.

2.2 Utility Location

Joseph Franklin of MACTEC used preliminary survey locations and physical features to mark the locations planned for borings and CPT probes. These preliminary locations were provided to Bechtel for utility clearance.

MACTEC personnel conducted an inductive sweep using a Metrotech 810 and conducted a 60-kilohertz passive search using a Subsite Pipe and Cable Locator within a 20-foot radius surrounding each boring location and/or boring offset. The intent was to locate any metallic underground utilities or energized lines that would pose a risk to drilling personnel. In addition to the electromagnetic (EM) survey, Texas One Call was notified at least one week in advance of drilling activities. Bechtel identified several large underground oil and gas transmissions lines in the Cooling Basin area as shown on drawing number 000-CY-0010-00002 Revision 0 through Revision 3, and as noted in our July 2008 report. Bechtel also identified a buried telephone line

which runs from the southwestern corner of the site along the main north-south road to the ranch houses on the northeastern side of the site.

2.3 Drilling Equipment/Methods

MACTEC mobilized the following drilling equipment to the site:

Hammer Serial Number	Driller	Drill Rig	Carrier Type	Owner	Auto Hammer	Rig Use
MEC 21	T. Hahn	CME 55	Track	MACTEC	Yes	SPT
MEC 12	D. Rhodes	CME 45 C	Track	MACTEC	Yes	SPT,
NA	A. Polacios	Failing 1500	Truck	Best	No	Geophysical
MEC 02	D. White	CME 55 LC	Track	MACTEC	Yes	SPT, UD
ME 05	M. Casteel	CME 550	ATV	MACTEC	Yes	SPT
CME-08	L. Carter	CME 550	ATV	MACTEC	Yes	SPT
MEC 20	P. Pitts	CME 55 D	Truck	MACTEC	Yes	SPT
NA	A. Fonseca	Fugro CPT	Track	MACTEC	No	CPT
MEC 22	R. Landeros	CME 550 X	ATV	MACTEC	Yes	SPT
353	R. White	CME 550	ATV	Miller	Yes	SPT
07	G. Bilbrey	CME 750	ATV	Miller	Yes	SPT, UD
100	J. Cook	CME 75	Truck	Miller	Yes	SPT

Each rig also had at least one support truck used to haul materials. In addition, one rubber-tired, highway-type, water-tanker truck and an ATV water buggy were utilized to haul water from a water-storage tank staged at the site. Site water was obtained from a water-production well located adjacent to the command and support trailers.

A John Deere low-ground-pressure bulldozer and a John Deere Skid Steer were used as needed to support drilling activities. The bulldozer was also used to restore drill sites to near pre-drilling conditions (i.e., to smooth ruts and tailing piles).

Borings were advanced in soil using mud-rotary wash-drilling techniques to a predetermined termination depth. Due to the use of wash-drilling techniques which resulted in the development of a natural or enhanced (bentonite) mud cake on the sidewalls of the borings, water levels during drilling could not be determined. All rigs utilized on this project for the collection of Standard Penetration Testing (SPT) soil samples used automatic hammers. SPT soil samples from the geotechnical borings were obtained at 2.5-foot, 5-foot, and 10-foot intervals as described in Section 2.5. A summary of boring information is presented in Table 2.1A. Geotechnical Field Data including boring logs are included in Appendix B.

In borings where SPT measurements were collected, only side-discharge-type bits were used. Bit size varied depending on rod diameter, sampling type and depth. Flush-jointed A-rods (AW and AWJ) were used for any SPT boring that was advanced to less than 200 feet below ground surface (bgs). Flush-jointed N-rods (NW, NWJ and Mayhew Junior) were used for any SPT boring that was advanced deeper than 200 feet bgs.

Cone penetration testing (CPT) was conducted by Fugro Consultants, Inc., a subcontractor to MACTEC. Fugro used a 20-ton capacity, ATV track-mounted, cone penetration unit to complete the work. Each probe was advanced to the assigned termination depth or to cone refusal, which was the limit of the pushing capacity of the rig. At the assigned locations testing was prematurely terminated due to cone refusal only if the Bechtel Site Supervisor concurred. The CPT results are summarized on Table 2.1C and included in Appendix C. Seismic and pore-pressure dissipation testing were not conducted during this phase of drilling.

The borings and the CPT probe locations were filled using a cement-bentonite grout prior to demobilizing from the site. The borings were grouted from the bottom of the boring by pumping the grout through a tremie pipe. A grout mixture was used to backfill the borings per Specification Section 5.12. A stake or other marker was placed at each completed boring location for later survey use.

2.4 SPT Energy Measurements

SPT energy measurements were conducted for each of the drill rigs performing SPT soil sampling. Energy measurements were recorded during SPT sampling at the depth intervals shown in Appendix B. The length of the drill rod string, including the instrumented drill rod insert for each sample, was generally four feet longer than the depth of the sample being collected.

The energy measurements were performed with a Pile Driving Analyzer (PDA) Model PAK and calibrated accelerometers and strain gauges. A section of drill rod, two feet long and of the same diameter as the drill rod used to advance the boring and instrumented with dedicated strain gauges, was inserted at the top of the drill rod string immediately below the SPT automatic hammer. The inserted rod was also instrumented with two piezoresistive accelerometers that were bolted to the outside of the rod.

The work was conducted in general accordance with ASTM D 4633-05. The strain and acceleration signals were converted to force and velocity by the PDA, and the data were interpreted by the PDA according to the Case Method equation. The EFV method of energy calculation is recommended in ASTM D 4633-05. The maximum energy transmitted to the drill rod string (as measured at the location of the strain gauges and accelerometers) was calculated by the PDA using the following EFV method equation:

$$EFV = \int F(t) * V(t) * dt$$

Where: EFV = Transferred energy (EFV equation), or Energy of FV
F(t) = Calculated force at time t
V(t) = Calculated velocity at time t
dt = time differential (integral taken with respect to time)

The EFV equation, integrated over the complete wave event, measures the total energy content of the event using both force and velocity measurements. The EFV values associated with each blow analyzed were tabulated and averaged to obtain the average measured energy at each depth tested. The ratio of the average measured energy to the theoretical potential energy of the SPT system (140 lb. weight with the specified 30-inch fall) is the energy transfer ratio (ETR).

The average ETR measured for each rig ranged from 70.6% to 88.3% of the theoretical potential energy. These ETR values are within the range of typical values for automatic hammers. The ETR values (as a percent of the theoretical value) are shown in Appendix B.

During the drilling of boring B-3131, a repair of the automatic hammer was made. SPT energy measurements were made prior to and after the repair. The energy measurements made after the repair were found to be low and are outlined in NCR EXEV 33. The test results were found to be low due to the speed of the hydraulic motor driving the chain hammer. Appropriate adjustments were made by the drill crew to the hydraulic system to slow the motor. Both the fall length and SPT energy were then checked on two samples to verify they were in specification. The Bechtel Site Supervisor and Project Manager were informed of the situation and the results, and approved the rig to continue work.

2.5 Sampling in Geotechnical Borings

2.5.1 Standard Penetration Test Sampling

SPT sampling in the geotechnical borings was generally conducted on 2.5-foot centers from the ground surface to a depth of 15 feet. The SPT sampling interval below 15 feet was 5 feet to a depth of 100 feet. The SPT sampling interval from 100 feet to boring termination depth was 10 feet. The equipment and methods are described in ASTM D 1586-08a. The split-barrel sampler was typically driven 18 inches in soil with blows recorded for each six-inch interval of penetration. The weight of the hammers used at the site ranged from 138.4 to 140.8 pounds, meeting ASTM requirements. In very hard soils, driving was terminated after 50 blows were recorded for an interval of six-inches or less, and the actual penetration was recorded, (e.g., 50 blows/0.3 feet). At selected locations where low penetration was encountered, the sampler was over-driven to collect additional sample.

The split-barrel sampler was opened at the drill site and the recovered materials were visually described, classified, and photographed by MACTEC's rig geologist or engineer. A selected portion of the sample (typically the lower portion of the sample) was placed in a glass sample jar with a moisture-proof lid. Sample jars were labeled, placed in cardboard boxes, and transported to the on-site secure storage trailer at the end of each work day.

2.5.2 Undisturbed Soil Sampling

Undisturbed soil samples were obtained at the locations directed by Bechtel using a 3-inch, thin-walled, Shelby tube sampler in accordance with ASTM D 1587-08 or Pitcher Barrel sampler (USACE EM 1110-1-1804). Undisturbed soil samples were collected in the Power Block area from borings B-3101UD and B-3234UD.

A Pitcher Barrel sampler was used to collect undisturbed soil samples at depth intervals selected by Bechtel or when subsurface material was anticipated to be too dense or hard to allow satisfactory samples to be recovered by pushing the Shelby tube sampler. The Pitcher Barrel sampler is a rotary sampler that drills a 3-inch tube into the subsurface material.

Disturbed and undisturbed soil samples were transported to the climate-controlled, on-site, storage trailer in accordance with ASTM D 4220-95 (Reapproved 2007).

2.6 Boring Logs

The soil descriptions on the boring logs in Appendix B.1 are based on the field descriptions (ASTM D 2488-06) by the rig geologist or engineer, modified according to ASTM D 2487-06e1 where lab test results are available. Note that the strata may have been modified on logs for test locations where more than one boring was performed. For example, field observations and laboratory test results for soil samples from a geotechnical boring and an adjacent undisturbed sample may have been shared for the purpose of utilizing all available information and to make the strata similar on both logs. The boring logs were prepared using Version 8 of gINT® software.

2.7 Sampling in Geotechnical Test Pits

No test pits were conducted during this phase of the project.

2.8 Cone Penetrometer Tests

Twelve Cone Penetrometer Test (CPT) locations were shown on Drawing No. 000-CY-0010-00004 Rev. 4, issued for use on February 24, 2009. CPT's were included in the original scope of work for this project. The locations were designated as C-3101, which was advanced to a depth of 74.9 ft bgs, C-3102 (95.1 bgs), C-3110 (77.1 bgs), C-3201 (109.3 bgs), C-3204 (87.1 bgs), C-3205 (95.7 bgs), C-3206 (62.3 bgs), C-3207 (77.3 bgs), C-3208 (90.8 bgs), C-3209 (85.4 bgs) , C-3211 (85.4 bgs) and C-3212 (90.9 bgs). Specified probe depths were 150 feet bgs or to refusal. RODS personnel located and staked the probes at the specified locations; however, at the direction of Bechtel, some of the probes were relocated. The test locations were designated/approved by Bechtel and cleared by MACTEC utility-clearance personnel prior to pushing. Results for all CPT testing are included in Appendix C.

All testing was done in accordance with the Technical Scope of Work and ASTM D 5778-07. The CPT tests were conducted using 15 cm^2 peizocones with the piezo transducer mounted in the U2 position (between the tip and sleeve). Comments regarding termination of the testing have been noted in Appendix C.

2.9 Geophysical Down-hole Testing

Geophysical down-hole testing and logging were performed in four borings in the UHS area: B-3170A Offset, B-3185A Offset, B-3270A Offset, and B-3285A Offset. A complete suite of the tests listed in the following sections was performed in each boring. GEOVision, a MACTEC subcontractor, conducted the geophysical testing in accordance with ASTM D 5753-05, ASTM D-6167-97 (Reapproved 2004), and ASTM D 6274-98 (Reapproved 2004). GEOVision also conducted a Direction Survey under GEOVision Procedure HiRAT Field Procedure Rev. 1.0 and GEOVision Procedure for OYO P-S Suspension Seismic Velocity Logging (Rev. 1.31). The test results are in the GEOVision report that is included in Appendix D. This report consists of 1) a text and graphical volume, and 2) an electronic set of data and charts presented only on CD. The down-hole geophysical logs performed in the selected borings are described below.

2.9.1 Natural Gamma

Gamma logs record the amount of natural gamma radiation emitted by the soil and rocks surrounding the boring.

2.9.2 Long- and Short-Normal Resistivity/Spontaneous Potential

Normal-resistivity logs record the electrical resistivity of the borehole environment and surrounding soil and water as measured by variably spaced potential electrodes on the logging probe. Typical spacing for potential electrodes is 16 inches for short-normal resistivity and 64 inches for long-normal resistivity. Normal resistivity logs are affected by bed thickness, borehole diameter and borehole fluid, and can be collected only in water- or mud-filled open holes.

2.9.3 Three-Arm Caliper

Caliper logs record borehole diameter. Changes in borehole diameter are related to boring construction, such as casing or drilling bit size, and to fracturing or caving along the borehole wall. Because borehole diameter commonly affects log response, the caliper log may be useful in the analysis of other geophysical logs.

2.9.4 Borehole Acoustic Televiewer Logging

No Borehole Acoustic Televiewer Logging was used during this phase of the project.

2.9.5 Suspension P-S Velocity Logging

Suspension P-S velocity logging was conducted in accordance with GEOVision procedures as contained in the MACTEC Work Plan. Measurements of compression- (P) and shear- (S) wave velocities were made at 1.6-foot intervals.

SECTION 3
SAMPLE STORAGE

Consistent with MACTEC's QAPD Requirements, an on-site, sample-storage facility was established. This facility was a lockable, climate-controlled, sample-storage trailer. The trailer was a ground-mounted, 40-foot long by 8-foot wide, Mobile-Mini Open Bay Security Office with high-security door system and security bars over each exterior window. Racks were assembled to provide secure storage of undisturbed samples.

Samples were transported daily from the field to the warehouse by the rig geologists/engineers. The samples were transported in accordance with ASTM D 4220-95 (Reapproved 2007). SPT samples were transported in compartmentalized cardboard boxes, each labeled to show the contents therein. The bulk test pit samples were sealed in 5-gallon plastic buckets. The UD samples were sealed and placed upright in the UD sample racks.

A chain-of-custody form was completed for samples removed from the facility.

SECTION 4
LABORATORY TESTING – GEOTECHNICAL

Laboratory testing was conducted on 238 disturbed (split-barrel) and 20 undisturbed (tube) soil samples obtained during the subsurface investigation. The testing was performed in accordance with the current ASTM standards or other standards where applicable. The samples to be tested and the tests to be performed were selected by Bechtel engineers. Bechtel provided the following Geotechnical Laboratory Test Assignment Sheets for soil samples from the Cooling Basin:

- Assignment 17 – January 16, 2009
- Assignment 18 – January 30, 2009
- Assignment 19 – February 23, 2009
- Assignment 20 – February 24, 2009
- Assignment 21 – March 9, 2009

The soil testing was conducted in MACTEC's laboratories in Raleigh and Charlotte, North Carolina or Atlanta, Georgia.

Assignment 17 consisted of index testing of SPT jar samples from two borings (B-3129 and B-3229). The testing was performed in MACTEC's Raleigh laboratory.

Assignment 18 consisted of index testing on SPT jar samples from two borings (B-3123 and B-3223). The testing was performed in MACTEC's Raleigh laboratory.

Assignment 19 and 20 addressed index and strength testing (triaxial, unit weight, direct shear and consolidation) on undisturbed (tube) samples. Assignment 19 included B-3234UD and Assignment 20 included B-3101UD. The testing of the tube samples was performed in MACTEC's Atlanta laboratory. Specified samples for direct shear tests and their accompanying index and unit weight testing were performed in MACTEC's Charlotte laboratory. Chemical testing was performed by TestAmerica, Inc.

Assignment 21 consisted of index testing of SPT jar samples from two borings (B-3170A and B-3270A). The testing was performed in MACTEC's Raleigh laboratory.

Occasionally, an assigned sample was damaged during collection, or the quantity of material was insufficient to perform the assigned testing. These occurrences were brought to the attention of Bechtel, and either a replacement sample was assigned or the testing was cancelled.

The tests that were assigned and performed, identified by their ASTM standard, are shown in the following sections.

4.1 Identification Tests

- Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass - ASTM D 2216-05
- Specific Gravity of Soil Solids by Water Pycnometer - ASTM D 854-06
- Particle-Size Analysis of Soils - ASTM D 422-63 (2007)e1 (for analysis including hydrometer)

- Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis - ASTM D 6913-04e1 (for analysis not including hydrometer)
- Liquid Limit, Plastic Limit, and Plasticity Index of Soils - ASTM D 4318-05
- Moisture, Ash, and Organic Matter of Peat and Other Organic Soils - ASTM D 2974-07a
- Unit Weight (sections 5.7-5.9, 8.1 and 11.3.2 of ASTM D 5084-03)
- Classification of Soils for Engineering Purposes (Unified Soil Classification System) – ASTM D 2487-06e1
- Description and Identification of Soils (Visual-Manual Procedure) – ASTM D 2488-06
- Laboratory Compaction Characteristics of Soil Using Modified Effort – ASTM D 1557-02el

4.2 Shear Strength Tests

- Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils - ASTM D 2850-03a (2007)
- Direct Shear Tests of Soils Under Consolidated Drained Conditions – ASTM D 3080-04

4.3 Consolidation Tests

- One-Dimensional Consolidation Properties of Soils using Incremental Loading - ASTM D 2435-04

4.4 Modulus and Damping Tests

- No Modulus or Damping tests were conducted during this phase of the project.

4.5 Chemical Tests

- pH - EPA SW-846 9045D
- Chloride (mg/kg) - SW-846 9056/EPA Method 300.00A (EPA-600/4-79-020)
- Sulfate (mg/kg) - SW-846 9056/EPA Method 300.00A (EPA-600/4-79-020)

4.6 Reporting

The laboratory test reports, consisting of individual test data and results sheets as required by the testing standard, are included in Appendix E. Summaries of the test results are shown in Tables 4.1 through 4.7.

SECTION 5
WATER SAMPLING, FIELD AND LABORATORY TESTING

5.1 Well Installation

No wells were installed during this phase of the project.

5.2 Water-Level Measurements

No wells were installed during this phase of the project.

5.3 Well Development

No wells were installed during this phase of the project.

5.4 Well Purging and Sampling

No wells were installed during this phase of the project.

5.5 Laboratory Testing

No laboratory testing was conducted on water samples during this phase of the project.

5.6 In-Situ Hydraulic Conductivity Testing

No in-situ hydraulic conductivity testing was performed during this phase of the project.

5.7 Aquifer Pump Tests

No pump tests were performed during this phase of the project.

5.8 Borehole Permeameter Tests

No borehole permeameter tests were performed during this phase of the project.

FINAL DATA REPORT REVISION 0
GEOTECHNICAL EXPLORATION AND TESTING

EXELON TEXAS COL PROJECT
VICTORIA COUNTY, TEXAS
SUPPLEMENTAL INVESTIGATION INCLUDING UHS

August 11, 2009

VOLUME 1
Tables

Prepared By:

MACTEC Engineering and Consulting, Inc.
Raleigh, North Carolina

MACTEC Project No. 6468-07-1777

Prepared For:

Bechtel Power Corporation
Subcontract No. 25352-102-HC4-CY00-00001

TABLE 1.1
ORGANIZATIONS PERFORMING WORK AT THE SITE OR IN THE LABORATORY

Organization	Function
MACTEC Engineering and Consulting, Inc.	• Underground Utility Clearance • Geotechnical soil borings with SPT tests • Undisturbed Sampling • Boring Abandonment • Geotechnical Laboratory Testing for Soil samples • SPT Energy Measurement on Drill Rig • Logging of Soil Borings • Site Coordination
Fugro Consultants, Inc.	• CPT Tests
Best Drilling, Inc.	• Drilling for Geophysical Tests
STL Laboratories (Test America)	• Laboratory Chemical Testing for Soil Samples
Miller Drilling, Inc.	• Geotechnical soil borings with SPT tests • Undisturbed Sampling
GEOVision	• Downhole geophysical logging • Resistivity testing • P-S suspension logging
RODS Surveying, Inc.	• Surveying of borings, CPT locations, and geophysical test locations

Prepared By RAR 11/10/09
Checked By GSA 11/11/09

TABLE 2.1 A
TESTING SUMMARY - SOIL BORINGS
Exelon Texas COL Project - Supplemental Investigation, Including UHS
MACTEC Project No. 6468-07-1777
Unit 1 and Ultimate Heat Sink

Boring Number	Boring Type			Equipment		Depth (ft)		As-Built Coordinates/Elevations			In-Situ Testing					
	SPT	UD Tubes	Geophysical	Drill Rig	Hammer ID	Proposed	Actual	Northing (US ft)	Easting (US ft)	Ground Surface Elevation (ft)	P-S Suspension	Deviation	Natural Gamma	Resistivity	Caliper	Spontaneous Potential
B-3101	X			CME 55 LC TRACK	MEC 02	300.0	300.5	13,412,433.30	2,599,834.66	79.78						
B-3101UD		X		CME 55 LC TRACK	NA	300.0	291.5	13,412,439.45	2,599,827.43	79.78						
B-3102	X			CME 550	CME-08	200.0	200.0	13,412,513.20	2,599,902.00	79.86						
B-3103	X			CME 45 C TRACK	MEC 12	150.0	150.0	13,412,938.79	2,599,652.69	80.02						
B-3104	X			CME 550 X	ME 05	300.0	300.1	13,412,202.33	2,599,516.82	80.64						
B-3105	X			CME 550 X	ME 05	300.0	300.3	13,412,124.15	2,599,612.05	80.50						
B-3120	X			CME 550	CME-08	200.0	200.0	13,412,271.47	2,599,685.23	79.96						
B-3121	X			CME 75 TRUCK	100	200.0	200.0	13,412,285.94	2,599,732.88	80.10						
B-3122	X			CME 550	CME-08	200.0	200.0	13,412,236.14	2,599,763.21	79.98						
B-3123	X			CME 750	07	400.0	404.0	13,412,303.63	2,599,850.58	80.09						
B-3124	X			CME 55 TRACK	MEC 21	300.0	299.8	13,412,384.10	2,599,937.33	79.58						
B-3125	X			CME 550 X	ME 05	300.0	299.9	13,412,466.08	2,599,991.90	78.10						
B-3126	X			CME 45 C TRACK	MEC 12	200.0	200.1	13,412,174.89	2,599,783.81	79.94						
B-3127	X			CME 550	353	400.0	402.3	13,412,252.85	2,599,968.07	79.71						
B-3128	X			CME 550	353	400.0	402.4	13,412,354.30	2,600,018.94	79.35						
B-3129	X			CME 550	CME-08	150.0	150.0	13,411,995.23	2,599,817.41	79.80						
B-3130	X			CME 75 TRUCK	100	150.0	150.3	13,412,171.36	2,599,965.05	79.71						
B-3131	X			CME 75 TRUCK	100	400.0	406.8	13,412,262.16	2,600,044.89	78.91						
B-3132	X			CME 550	353	400.0	401.6	13,412,156.19	2,600,019.76	79.32						
B-3133	X			CME 75 TRUCK	100	400.0	400.0	13,412,232.17	2,600,080.73	78.41						
B-3134	X			CME 750	07	400.0	401.5	13,412,307.93	2,600,144.95	79.67						
B-3150	X			CME 550	CME-08	200.0	200.0	13,412,363.96	2,599,708.26	80.09						
B-3151	X			CME 550	CME-08	200.0	200.0	13,412,601.54	2,599,907.98	78.55						
B-3152	X			CME 550	CME-08	200.0	200.0	13,412,666.93	2,599,964.39	79.66						
B-3170A	X			CME 55 LC TRACK	MEC 02	300.0	300.5	13,411,920.22	2,599,278.60	80.20						
B-3170A OFFSET			X	Failing 1500	NA	300.0	315.0	13,411,915.24	2,599,287.68	80.12	X	X	X	X	X	X
B-3171	X			CME 45 C TRACK	MEC 12	175.0	175.0	13,411,943.98	2,599,565.10	79.94						
B-3172	X			CME 550 X	MEC 22	175.0	175.0	13,411,885.94	2,599,615.55	79.89						
B-3173	X			CME 550 X	MEC 22	175.0	175.0	13,411,880.20	2,599,376.72	80.23						
B-3174	X			CME 55 TRACK	MEC 21	300.0	300.0	13,411,986.60	2,599,453.62	80.39						
B-3175	X			CME 55 D TRUCK	MEC 20	250.0	249.8	13,411,911.53	2,599,430.38	80.27						
B-3176	X			CME 550	CME-08	175.0	175.0	13,412,070.79	2,599,439.29	80.46						
B-3177	X			CME 55 D TRUCK	MEC 20	300.0	300.0	13,411,787.89	2,599,435.89	80.19						
B-3178	X			CME 550	CME-08	175.0	175.0	13,412,145.80	2,599,455.30	80.34						
B-3179	X			CME 550	CME-08	250.0	20.0	13,412,080.02	2,599,530.84	80.10						
B-3179B	X			CME 75 TRUCK	100	250.0	250.2	13,412,088.18	2,599,525.43	80.19						
B-3180	X			CME 550 X	MEC 22	175.0	175.0	13,411,994.56	2,599,329.41	80.42						
B-3181	X			CME 45 C TRACK	MEC 12	175.0	175.0	13,412,057.76	2,599,554.50	80.01						
B-3182	X			CME 550	CME-08	175.0	175.0	13,411,777.24	2,599,588.12	79.75						
B-3183	X			CME 550	CME-08	175.0	173.8	13,411,924.45	2,599,713.35	79.90						
B-3184	X			CME 550	CME-08	300.0	300.0	13,411,652.94	2,599,602.59	80.17						
B-3185A	X			CME 550	CME-08	250.0	250.0	13,411,833.03	2,599,722.22	79.77						
B-3185A OFFSET			X	Failing 1500	NA	250.0	265.0	13,411,826.65	2,599,726.94	79.58	X	X	X	X	X	X
B-3186	X			CME 45 C TRACK	MEC 12	175.0	175.0	13,411,693.36	2,599,689.25	79.64						
B-3187	X			CME 550 X	MEC 22	150.0	151.0	13,412,013.89	2,599,728.28	79.95						
B-3194	X			CME 550	CME-08	175.0	173.7	13,411,840.05	2,599,813.20	79.48						

TABLE 2.1 A
TESTING SUMMARY - SOIL BORINGS
Exelon Texas COL Project - Supplemental Investigation, Including UHS
MACTEC Project No. 6468-07-1777
Unit 2 and Ultimate Heat Sink

Boring Number	Boring Type			Equipment		Depth (ft)		As-Built Coordinates/Elevations			In-Situ Testing					
	SPT	UD Tubes	Geophysical	Drill Rig	Hammer ID	Proposed	Actual	Northing (US ft)	Easting (US ft)	Ground Surface Elevation (ft)	P-S Suspension	Deviation	Natural Gamma	Resistivity	Caliper	Spontaneous Potential
B-3201	X			CME 55 LC TRACK	MEC 02	300.0	301.5	13,413,199.23	2,600,478.73	80.51						
B-3202	X			CME 45 C TRACK	MEC 12	200.0	200.0	13,413,278.38	2,600,546.43	80.05						
B-3203	X			CME 550 X	MEC 22	150.0	151.5	13,413,704.80	2,600,295.99	80.75						
B-3204	X			CME 55 LC TRACK	MEC 02	300.0	300.5	13,412,969.79	2,600,159.57	80.32						
B-3205	X			CME 55 TRACK	MEC 21	300.0	299.6	13,412,890.30	2,600,253.76	80.12						
B-3220	X			CME 55 TRACK	MEC 21	200.0	201.4	13,413,038.65	2,600,329.99	80.34						
B-3221	X			CME 550 X	MEC 22	200.0	200.1	13,413,050.44	2,600,375.52	80.01						
B-3222	X			CME 45 C TRACK	MEC 12	200.0	199.8	13,413,000.60	2,600,409.71	79.96						
B-3223	X			CME 55 D TRUCK	MEC 20	400.0	400.0	13,413,068.13	2,600,491.68	80.33						
B-3224	X			CME 55 D TRUCK	MEC 20	300.0	300.0	13,413,149.85	2,600,580.51	80.00						
B-3225	X			CME 55 LC TRACK	MEC 02	300.0	300.0	13,413,231.70	2,600,635.22	79.87						
B-3226	X			CME 550 X	MEC 22	200.0	199.8	13,412,942.00	2,600,423.84	80.40						
B-3227	X			CME 55 TRACK	MEC 21	400.0	401.0	13,413,022.23	2,600,606.30	80.10						
B-3228	X			CME 55 TRACK	MEC 21	400.0	400.0	13,413,109.76	2,600,679.85	80.32						
B-3229	X			CME 550	CME-08	150.0	148.9	13,412,764.61	2,600,458.23	80.11						
B-3230	X			CME 45 C TRACK	MEC 12	150.0	149.9	13,412,942.18	2,600,604.56	80.28						
B-3231	X			CME 55 D TRUCK	MEC 20	400.0	400.0	13,413,029.48	2,600,686.21	80.19						
B-3232	X			CME 55 D TRUCK	MEC 20	400.0	400.0	13,412,922.28	2,600,661.21	80.51						
B-3233	X			CME 550	353	400.0	400.5	13,412,996.09	2,600,724.96	80.10						
B-3234	X			CME 750	07	400.0	404.0	13,413,073.73	2,600,787.16	80.56						
B-3234UD		X		CME 750	NA	400.0	394.8	13,413,081.49	2,600,780.76	80.57						
B-3250	X			CME 45 C TRACK	MEC 12	200.0	200.2	13,413,129.73	2,600,351.61	80.07						
B-3251	X			CME 550 X	MEC 22	200.0	200.9	13,413,367.88	2,600,552.94	80.26						
B-3252	X			CME 550 X	MEC 22	200.0	199.8	13,413,433.44	2,600,606.15	80.28						
B-3270A	X			CME 550	353	300.0	300.8	13,413,806.35	2,600,963.12	80.63						
B-3270A OFFSET			X	Failing 1500	NA	300.0	315.0	13,413,799.21	2,600,956.76	80.15	X	X	X	X	X	X
B-3271	X			CME 550 X	MEC 22	175.0	175.0	13,413,662.26	2,601,056.45	80.22						
B-3272	X			CME 45 C TRACK	MEC 12	175.0	180.0	13,413,580.96	2,600,954.08	80.26						
B-3273	X			CME 550 X	MEC 22	175.0	176.0	13,413,726.75	2,601,028.78	80.34						
B-3274	X			CME 550	CME-08	300.0	300.0	13,413,659.47	2,600,812.95	80.10						
B-3275	X			CME 550 X	MEC 22	175.0	175.0	13,413,717.05	2,600,944.49	80.69						
B-3276	X			CME 45 C TRACK	MEC 12	175.0	175.0	13,413,655.40	2,600,721.81	80.50						
B-3277	X			CME 75 TRUCK	100	300.0	300.7	13,413,665.44	2,601,131.40	80.17						
B-3278	X			CME 550 X	MEC 22	175.0	175.0	13,413,658.66	2,600,844.38	80.18						
B-3279	X			CME 550	CME-08	150.0	150.0	13,413,517.67	2,600,996.95	79.73						
B-3280	X			CME 45 C TRACK	MEC 12	175.0	175.0	16,413,800.24	2,600,844.41	80.49						
B-3281	X			CME 550 X	MEC 22	175.0	175.0	13,413,568.70	2,600,821.85	79.96						
B-3282	X			CME 55 LC TRACK	MEC 02	250.0	249.9	13,413,584.99	2,601,102.66	80.24						
B-3283	X			CME 45 C TRACK	MEC 12	175.0	175.0	13,413,436.23	2,600,979.48	80.27						
B-3285A	X			CME 55 D TRUCK	MEC 20	250.0	250.1	13,413,442.17	2,601,072.10	80.14						
B-3285A OFFSET			X	Failing 1500	NA	250.0	265.0	13,413,451.41	2,601,067.99	80.14	X	X	X	X	X	X
B-3286	X			CME 550 X	MEC 22	175.0	174.5	13,413,498.60	2,601,204.05	80.08						
B-3287	X			CME 45 C TRACK	MEC 12	150.0	150.0	13,413,394.33	2,600,911.93	80.34						
B-3288	X			CME 550 X	MEC 22	150.0	151.0	13,413,285.93	2,601,038.97	80.19						
B-3289	X			CME 45 C TRACK	MEC 12	150.0	150.0	13,413,160.23	2,600,933.39	80.44						
B-3290	X			CME 550 X	CME-08	300.0	300.0	13,413,566.86	2,601,255.83	80.52						
B-3291	X			CME 55 TRACK	MEC 21	150.0	150.1	13,412,951.38	2,600,555.75	80.21						
B-3292	X			CME 550 X	MEC 22	175.0	174.9	13,413,352.05	2,601,079.59	80.52						

Table 2.1B Testing Summary – Test Pits (Table Not Used)

TABLE 2.1 C
TESTING SUMMARY - CPT
Exelon Texas COL Project - Supplemental Investigation, Including UHS
MACTEC Project No. 6468-07-1777

Unit 1 and Ultimate Heat Sink

CPT Number	Depth		Testing	Coordinates			Comments
	Proposed (ft)	Actual (ft)	Cone Penetration	Northing (US ft)	Easting (US ft)	Ground Surface Elevation (ft)	
C-3101	150	74.9	X	13,411,985.89	2,599,505.85	79.87	Refusal
C-3102	150	95.1	X	13,412,109.22	2,599,642.04	80.03	Refusal
C-3110	150	77.1	X	13,411,774.14	2,599,769.00	79.19	Refusal

Unit 2 and Ultimate Heat Sink

CPT Number	Depth		Testing	Coordinates			Comments
	Proposed (ft)	Actual (ft)	Cone Penetration	Northing (US ft)	Easting (US ft)	Ground Surface Elevation (ft)	
C-3201	150	109.3	X	13,413,646.69	2,600,904.17	79.87	Refusal
C-3204	150	87.1	X	13,413,340.70	2,600,979.03	79.99	Refusal
C-3205	150	95.7	X	13,413,222.51	2,600,985.88	80.12	Refusal
C-3206	150	62.3	X	13,413,096.81	2,600,879.63	80.31	Refusal
C-3207	150	77.3	X	13,412,840.47	2,600,672.65	79.99	Refusal
C-3208	150	90.8	X	13,412,902.67	2,600,610.62	80.08	Refusal
C-3209	150	85.4	X	13,413,406.91	2,601,142.50	80.26	Refusal
C-3211	150	85.4	X	13,413,000.85	2,600,359.97	79.98	Refusal
C-3212	150	90.9	X	13,412,998.23	2,600,496.82	80.22	Refusal

Prepared By: [illegible] Date: 11/10/09
Checked By: [illegible] Date: 11/11/09

TABLE 4.1
SUMMARY OF SOIL INDEX TEST RESULTS FOR SPLIT-BARREL SAMPLES
Exelon Texas COL Project-Supplemental Investigation, Including UHS
MACTEC PROJECT NO. 6468-07-1777

Boring Number	Sample Number	Depth Sample (ft)	USCS Symbol	Gravel (%)	Sand (%)	Fines (%)	Silt (%)	0.005 mm Clay (%)	Natural Moisture (%)	LL (%)	PL (%)	PI (%)	G_s	Organic Content (%)
B-3123	SS-1	0.0-1.5	CH[1]						9.0	55	20	35		
B-3123	SS-2	3.5-5.0							22.0					
B-3123	SS-3	6.0-7.5	CH[1]						16.6	58	22	36		
B-3123	SS-4	8.5-10.0							17.0					
B-3123	SS-5	11.0-12.5	CH[1]						19.7	53	20	33		
B-3123	SS-6	13.5-15.0							19.6					
B-3123	SS-7	17.5-19.0	CH[1]						23.5	53	18	35		
B-3123	SS-8	22.5-24.0							22.5					
B-3123	SS-9	27.5-29.0	CH[1]						25.9	53	26	27		
B-3123	SS-10	32.5-34.0							27.4					4.3
B-3123	SS-11	37.5-39.0	CH[1]						18.3	55	22	33		
B-3123	SS-12	42.5-44.0							18.1					
B-3123	SS-13	47.5-49.0	CH[1]						17.7	50	26	24		
B-3123	SS-14	52.5-54.0							18.9					
B-3123	SS-15	57.5-59.0	SM[1]	2.4	81.9	15.7	11.0	4.7						
B-3123	SS-16	62.5-64.0	CL[1]						25.5	49	16	33		1.4
B-3123	SS-17	67.5-69.0							27.5					
B-3123	SS-18	72.5-74.0	CL[1]						19.0	29	12	17		
B-3123	SS-19	77.5-79.0	SM[1]	5.1	48.4	46.5	19.4	27.1						
B-3123	SS-21	87.5-88.75	SC	0.1	51.4	48.5	19.5	29.0	12.3	25	14	11		
B-3123	SS-22A	92.5-93.4							8.8					
B-3123	SS-22B	93.4-94.0	SM[1]	0	86	14								
B-3123	SS-23	97.5-98.0	SP-SM[1]	0	89	11			15.3					11.7
B-3123	SS-24	102.5-104.0	SM[1]	1.1	86.1	12.8	7.3	5.5						
B-3123	SS-25	112.5-114.0	CH[1]						26.5	58	17	41		
B-3123	SS-26	122.5-124.0							21.1					
B-3123	SS-27	132.5-134.0	SM[1]	0.2	86.2	13.6	6.2	7.4						
B-3123	SS-28	142.5-144.0	SC	0.0	51.4	48.6	35.9	12.7	21.0	32	16	16		
B-3123	SS-29	152.5-154.0	SP-SM[1]	0	88	12								
B-3123	SS-30	162.5-164.0	SP-SM[1]	0.3	92.6	7.1	2.6	4.5						
B-3123	SS-31	172.5-174.0	SP-SM[1]	0.0	88.0	12.0	6.0	6.0						
B-3123	SS-32B	182.75-183.5	SM[1]	0	85	15								
B-3123	SS-33	192.5-194.0	SM[1]	0.1	87.2	12.7	6.4	6.3						
B-3123	SS-34	202.5-204.0	SC[1]						21.6	21	11	10		
B-3123	SS-35	212.5-214.0	CH[1]						28.1	74	29	45		
B-3123	SS-36	222.5-224.0	SC[1]						18.1	22	13	9		
B-3123	SS-37	232.5-234.0							24.6					
B-3123	SS-38	242.5-244.0	CH[1]						27.0	80	31	49		
B-3123	SS-39	252.5-254.0							20.9					
B-3123	SS-40	262.5-264.0	SM[1]	0.0	80.7	19.3	11.7	7.6						
B-3123	SS-41A	272.5-273.2	SM[1]	0	79	21								
B-3123	SS-41B	273.2-274.0							16.5					
B-3123	SS-42	282.5-284.0	CH[1]						24.9	69	19	50		
B-3123	SS-43	292.5-294.0							22.5					
B-3123	SS-44	302.5-304.0	CH[1]						21.6	65	15	50		

Prepared By: DAA Date: 11/10/09
Checked By: CSA Date: 11/11/09

TABLE 4.1
SUMMARY OF SOIL INDEX TEST RESULTS FOR SPLIT-BARREL SAMPLES
Exelon Texas COL Project-Supplemental Investigation, Including UHS
MACTEC PROJECT NO. 6468-07-1777

Number	Sample Number	Depth Sample (ft)	USCS Symbol	Gravel (%)	Sand (%)	Fines (%)	Silt (%)	0.005 mm Clay (%)	Natural Moisture (%)	LL (%)	PL (%)	PI (%)	G_s	Organic Content (%)
B-3123	SS-45	312.5-314.0							22.6					
B-3123	SS-46	322.5-324.0	SM[1]	0.0	81.0	19.0	7.8	11.2						
B-3123	SS-47	332.5-333.5	SM[1]	0	81	19								
B-3123	SS-48	342.5-344.0							18.5					
B-3123	SS-49	352.5-354.0	SC	0.0	63.9	36.1	18.9	17.2	20.6	22	14	8		
B-3123	SS-50	362.5-364.0							21.3					
B-3123	SS-51	372.5-374.0	CH[1]						27.7	86	20	66		
B-3123	SS-52	382.5-384.0							33.7					
B-3123	SS-53	392.5-394.0	CH[1]						26.4	70	18	52		
B-3123	SS-54	402.5-404.0							25.9					
B-3129	SS-1	0.0-1.5	CL[1]						20.3	40	13	27		
B-3129	SS-2	3.5-5.0							28.7					
B-3129	SS-3	6.0-7.5	CH[1]						20.2	56	14	42		
B-3129	SS-4	8.5-10.0							13.2					
B-3129	SS-5	11.0-12.5	CL[1]						14.0	39	15	24		
B-3129	SS-6	13.5-15.0							18.8					
B-3129	SS-7	18.5-20.0	CH[1]						21.5	56	14	42		
B-3129	SS-8	23.5-25.0							27.3					
B-3129	SS-9	28.5-30.0	CH[1]						26.8	60	23	37		
B-3129	SS-10	33.5-35.0							23.4					11.0
B-3129	SS-11	38.5-40.0	CH[1]						30.9	60	23	37		
B-3129	SS-12	43.5-45.0							25.3					
B-3129	SS-13	48.5-50.0	CH[1]						19.1	57	14	43		
B-3129	SS-14	53.5-55.0							20.6					
B-3129	SS-15	58.5-60.0	CH[1]						20.9	78	17	61		
B-3129	SS-16	63.5-65.0							18.1					4.0
B-3129	SS-17	68.5-70.0	SM[1]	0	80	20								
B-3129	SS-18	73.5-75.0	SM[1]	0.0	82.9	17.1	10.4	6.7						
B-3129	SS-19	78.5-80.0	CL[1]						13.7	28	13	15		
B-3129	SS-20B	83.9-85.0	SM[1]	1.1	70.0	28.9	18.5	10.4						
B-3129	SS-21	88.5-90.0	CH[1]						22.9	58	15	43		
B-3129	SS-22	93.5-95.0	SM[1]	0.0	73.8	26.2	15.3	10.9						
B-3129	SS-23	98.5-99.4	SP-SM[1]	0	90	10								5.2
B-3129	SS-24	108.5-110.0							32.1					
B-3129	SS-25	118.5-120.0	CL[1]						17.9	46	17	29		
B-3129	SS-26	128.5-130.0	SM[1]	0.0	85.5	14.5	8.0	6.5						
B-3129	SS-27	138.5-140.0	SP-SM[1]	0	94	6								
B-3129	SS-28	148.5-150.0	SP-SM[1]	0.0	88.3	11.7	6.4	5.3						
B-3170A	SS-1	0.0-1.5							18.3					1.6
B-3170A	SS-2	3.5-5.0	CH	1.1	26.9	72.0	14.7	57.3	8.6	56	25	31		1.9
B-3170A	SS-3	6.0-7.5	CH	0.0	20.9	79.1	21.4	57.7	21.4	59	19	40		1.7
B-3170A	SS-4	8.5-10.0	CH	5.4	27.6	67.0	16.0	51.0	19.0	59	22	37		
B-3170A	SS-5	11.0-12.5	CL	0.7	34.0	65.3	22.8	42.5	0.5	38	17	21		

Prepared By: RAA Date: 11/10/09
Checked By: CSA Date: 11/11/09

TABLE 4.1
SUMMARY OF SOIL INDEX TEST RESULTS
FOR SPLIT-BARREL SAMPLES
Exelon Texas COL Project-Supplemental Investigation, Including UHS
MACTEC PROJECT NO. 6468-07-1777

Number	Sample Number	Depth Sample (ft)	USCS Symbol	Gravel (%)	Sand (%)	Fines (%)	Silt (%)	0.005 mm Clay (%)	Natural Moisture (%)	LL (%)	PL (%)	PI (%)	G_s	Organic Content (%)
B-3170A	SS-6	13.5-15.0	CH	0.0	32.7	67.3	14.4	52.9	8.6	56	25	31		
B-3170A	SS-7	19.0-20.5	CH	0.0	10.9	89.1	20.3	68.8	13.5	67	27	40		
B-3170A	SS-8	24.0-25.5	CH	0.0	4.9	95.1	21.4	73.7	7.5	73	17	56		
B-3170A	SS-9	29.0-30.5	CH	0.0	7.4	92.6	51.6	41.0	3.1	53	18	35		
B-3170A	SS-10	34.0-35.5	CH	0.0	9.0	91.0	16.2	74.8	24.1	69	26	43		
B-3170A	SS-11	39.0-40.5	CH	0.0	10.1	89.9	38.1	51.8	6.1	51	18	33		
B-3170A	SS-12	44.0-45.5	CH	0.0	4.5	95.5	17.6	77.9	14.2	75	16	59		
B-3170A	SS-13	49.0-50.5	CH	0.0	17.1	82.9	16.8	66.1	21.1	59	17	42		
B-3170A	SS-14	54.0-55.5	CL	1.5	45.4	53.1	20.1	33.0	15.9	40	20	20		
B-3170A	SS-15	59.0-60.5	CH	0.0	1.4	98.6	11.2	87.4	22.4	79	22	57		
B-3170A	SS-16	64.0-65.5	CL	0.0	25.5	74.5	33.8	40.7	21.2	37	18	19		
B-3170A	SS-17	69.0-70.5	SM	0.8	86.2	13.0	1.0	12.0	23.2	NV	NP	NP		
B-3170A	SS-18	74.0-75.5	CL	0.0	44.4	55.6	19.1	36.5	14.4	37	17	20		
B-3170A	SS-19	79.0-80.5	SC	0.0	56.9	43.1	20.7	22.4	19.1	25	16	9		
B-3170A	SS-20	84.0-85.5	SC-SM	6.6	59.2	34.2	29.6	4.6	12.3	17	10	7		
B-3170A	SS-21	89.0-90.5	CH	0.0	25.0	75.0	12.5	62.5	22.1	64	15	49		
B-3170A	SS-22	94.0-95.5	CL	0.0	16.0	84.0	35.3	48.7	14.1	48	15	33		
B-3170A	SS-24	109.0-110.5	CH	0.0	2.6	97.4	17.4	80.0	20.8	70	20	50		
B-3170A	SS-25	119.0-120.5	SP-SM	0.0	88.2	11.8	1.6	10.2	23.6	NV	NP	NP		
B-3170A	SS-26	129.0-130.4	SP-SM	0.0	90.2	9.8	3.3	6.5	22.1	18	NP	NP		
B-3170A	SS-27	139.0-140.5	CH	1.1	14.4	84.5	14.1	70.4	15.3	52	17	35		
B-3170A	SS-28	149.0-150.5	CL	0.0	45.2	54.8	24.3	30.5	13.5	22	12	10		
B-3170A	SS-29	159.0-160.5	CH	0.0	10.9	89.1	30.6	58.5	16.9	52	24	28		
B-3170A	SS-31	179.0-180.5	SM	0.3	84.4	15.3	10.6	4.7	16.3	NV	NP	NP		
B-3170A	SS-32	189.0-190.5	SP-SM	0.0	93.5	6.5	5.4	1.1	20.7	NV	NP	NP		
B-3170A	SS-33	199.0-199.5	SP-SM	1.0	89.1	9.9	5.3	4.6	15.4	NV	NP	NP		
B-3170A	SS-36	229.0-230.5	CH	0.0	8.8	91.2	21.7	69.5	25.7	64	24	40		
B-3170A	SS-40	269.0-270.5	CH	0.0	26.3	73.7	28.2	45.5	19.4	57	20	37		
B-3170A	SS-41A	279.0-279.9	CL	0.0	39.3	60.7	20.1	40.6	19.2	43	15	28		
B-3170A	SS-42	289.0-290.5	CH	0.0	12.3	87.7	23.3	64.4	19.7	51	15	36		
B-3170A	SS-43	299.0-300.5	CH	0.0	7.4	92.6	19.2	73.4	23.6	56	26	30		
B-3223	SS-1	0.0-1.5	CL[1]						9.0	33	14	19		
B-3223	SS-2	3.2-4.7							13.5					
B-3223	SS-3	5.8-7.3	CH[1]						14.4	62	25	37		
B-3223	SS-4	8.7-10.2							17.3					
B-3223	SS-5	11.8-13.3	CH[1]						20.8	61	17	44		
B-3223	SS-6	14.1-15.6							22.5					
B-3223	SS-7	18.9-20.4	CH[1]						29.8	87	26	61		
B-3223	SS-8	23.5-25.0							23.0					
B-3223	SS-9	28.4-29.9	CL[1]						16.0	35	16	19		
B-3223	SS-10	33.5-35.0	SC	0.0	62.7	37.3	20.4	16.9	15.4	21	12	9		0.3
B-3223	SS-11	38.4-39.9							13.1					
B-3223	SS-12	43.3-44.8	CL	0.0	43.2	56.8	18.5	38.3	15.0	36	16	20		
B-3223	SS-13A	48.4-49.4							12.3					

Prepared By: PAM Date: 11/10/09
Checked By: JSA Date: 11/11/09

TABLE 4.1
SUMMARY OF SOIL INDEX TEST RESULTS FOR SPLIT-BARREL SAMPLES
Exelon Texas COL Project-Supplemental Investigation, Including UHS
MACTEC PROJECT NO. 6468-07-1777

Number	Sample Number	Depth Sample (ft)	USCS Symbol	Gravel (%)	Sand (%)	Fines (%)	Silt (%)	0.005 mm Clay (%)	Natural Moisture (%)	LL (%)	PL (%)	PI (%)	G_s	Organic Content (%)
B-3223	SS-13B	49.4-49.9	SC[1]						17.1	19	11	8		
B-3223	SS-14	53.4-54.9	CH	0	34	66			14.8	53	26	27		
B-3223	SS-15	58.4-59.9							14.9					
B-3223	SS-16	63.5-65.0	CH[1]						19.7	54	17	37		1.7
B-3223	SS-17	68.6-70.1							33.8					
B-3223	SS-18	73.5-75.0	CH[1]						24.1	70	17	53		
B-3223	SS-19	78.5-80.0							16.8					
B-3223	SS-20	83.5-85.0	SC	1.1	74.2	24.7	10.0	14.7	21.6	23	12	11		
B-3223	SS-21	88.5-90.0	CL[1]						16.3	33	12	21		
B-3223	SS-22	93.5-95.0	SM[1]	0	64	36								
B-3223	SS-23	98.5-100.0							14.6					0.6
B-3223	SS-24	108.5-110.0	SP-SM[1]	1	87	12								
B-3223	SS-25	118.7-120.2	CH[1]						35.0	93	23	70		
B-3223	SS-26	128.5-130.0	SC[1]	0.0	69.8	30.2	16.4	13.8						
B-3223	SS-27	138.5-140.0	SM[1]	0.0	81.9	18.1	8.8	9.3						
B-3223	SS-28	148.3-149.8	CL[1]						18.7	49	15	34		
B-3223	SS-29	158.5-160.0	SC	0	56	44			19.2	32	16	16		
B-3223	SS-30A	168.5-169.2							6.6					
B-3223	SS-30B	169.2-169.5	SC[1]						24.0	23	13	10		
B-3223	SS-31	178.5-180.0	SP-SC[1]	0.0	89.2	10.8	2.8	8.0	23.8					
B-3223	SS-33B	198.7-200.0	CL[1]						19.7	43	15	28		
B-3223	SS-34A	208.5-210.0							92.4					
B-3223	SS-35	218.5-220.0	CL	0.7	31.6	67.7	43.8	23.9	29.0	30	16	14		
B-3223	SS-36	228.5-230.0							10.2					
B-3223	SS-37	238.6-240.1	CH[1]						25.6	58	22	36		
B-3223	SS-39	258.4-259.8	SC[1]	0	82	18								
B-3223	SS-40	268.5-270.0	SC	0.0	68.6	31.4	10.6	20.8	21.2	30	16	14		
B-3223	SS-41	278.5-280.0	SC[1]	0	67	33			20.1					
B-3223	SS-42	288.5-290.0	SM[1]						19.6	NV	NP	NP		
B-3223	SS-43	298.5-300.0							27.5					
B-3223	SS-44	308.5-310.0	CH[1]						23.8	57	14	43		
B-3223	SS-45	318.5-320.0							20.4					
B-3223	SS-46	328.5-330.0	CL[1]						15.0	25	12	13		
B-3223	SS-47	338.5-339.5	SM[1]	0	78	22								
B-3223	SS-48	348.3-349.8	CL[1]						20.2	39	15	24		
B-3223	SS-49	358.4-359.9							22.9					
B-3223	SS-50	368.4-369.9	SC	0.0	63.7	36.3	15.0	21.3	18.7	20	11	9		
B-3223	SS-51	378.5-380.0							30.7					
B-3223	SS-52	388.5-390.0	CH[1]						33.9	81	19	62		
B-3223	SS-53	398.5-400.0							26.3					
B-3229	SS-1	0.0-1.5	CL[1]						16.2	43	14	29		
B-3229	SS-2	3.5-5.0	CL[1]						18.6	26	11	15		
B-3229	SS-3	6.0-7.5							17.3					
B-3229	SS-4	8.5-10.0	CH[1]						19.3	51	24	27		

Prepared By: DAA Date: 11/10/09
Checked By: [illegible] Date: 11/11/09

TABLE 4.1
SUMMARY OF SOIL INDEX TEST RESULTS FOR SPLIT-BARREL SAMPLES
Exelon Texas COL Project-Supplemental Investigation, Including UHS
MACTEC PROJECT NO. 6468-07-1777

Number	Sample Number	Depth Sample (ft)	USCS Symbol	Gravel (%)	Sand (%)	Fines (%)	Silt (%)	0.005 mm Clay (%)	Natural Moisture (%)	LL (%)	PL (%)	PI (%)	G_s	Organic Content (%)
B-3229	SS-5	11.0-12.5							16.2					
B-3229	SS-6	13.5-15.0	CH[1]						21.6	65	30	35		
B-3229	SS-7	18.5-20.0							30.3					
B-3229	SS-8	23.5-25.0	CH[1]						19.4	54	26	28		4.2
B-3229	SS-9	28.5-30.0							17.8					
B-3229	SS-10	33.5-35.0	CH[1]						24.6	52	17	35		
B-3229	SS-11	38.5-40.0							17.1					
B-3229	SS-12	43.5-45.0	CH[1]						22.7	61	20	41		
B-3229	SS-13	48.5-50.0							28.8					
B-3229	SS-14	53.5-55.0	CH[1]						22.0	56	28	28		
B-3229	SS-15	58.5-60.0	CL[1]						16.7	42	21	21		
B-3229	SS-16	63.5-65.0							21.4					3.9
B-3229	SS-17	68.5-70.0	SP-SM[1]	0.0	90.9	9.1	3.6	5.5						
B-3229	SS-18	73.5-75.0	CH[1]						24.4	72	20	52		
B-3229	SS-19	78.5-80.0							17.7					
B-3229	SS-20	83.5-85.0	CH[1]						24.0	64	17	47		
B-3229	SS-21	88.5-90.0							20.4					
B-3229	SS-22A	93.5-94.6	CH[1]						18.8	54	22	32		
B-3229	SS-22B	94.6-95.0							19.9					
B-3229	SS-23	98.5-100.0	SM[1]	0.0	85.0	15.0	8.5	6.5	15.3					0.3
B-3229	SS-24	108.5-110.0	CH[1]						25.9	71	16	55		
B-3229	SS-25	118.5-120.0							22.1					
B-3229	SS-26	128.5-130.0	CL[1]						19.7	35	14	21		
B-3229	SS-27	138.5-140.0	SM[1]	0.0	76.7	23.3	13.0	10.3						
B-3229	SS-28	148.5-148.9	SM[1]	0	86	14								
B-3270A	SS-1	0.0-1.5	CL	0.0	42.4	57.6	21.1	36.5	19.9	33	15	18		2.0
B-3270A	SS-2	3.9-5.4	CL	0.0	31.9	68.1	18.5	49.6	28.0	40	20	20		1.0
B-3270A	SS-3	6.3-.7.8	CL	0.0	29.0	71.0	21.7	49.3	18.3	39	15	24		1.0
B-3270A	SS-4	9.0-10.5	CH	0.0	18.4	81.6	32.0	49.6	21.9	60	23	37		
B-3270A	SS-5	11.4-12.9	CL	0.0	13.3	86.7	46.7	40.0	19.8	28	12	16		
B-3270A	SS-6	13.8-15.3	CL	0.0	9.6	90.4	41.3	49.1	15.3	38	14	24		
B-3270A	SS-7	18.8-20.3	CL	0.0	31.8	68.2	15.6	52.6	18.3	45	17	28		
B-3270A	SS-8	23.7-25.2	CL	0.0	31.4	68.6	14.6	54.0	18.3	45	20	25		
B-3270A	SS-9	28.8-30.3	CH	0.0	7.0	93.0	46.6	46.4	25.9	71	27	44		
B-3270A	SS-10	33.7-35.2	CH	0.0	15.6	84.4	33.0	51.4	16.2	50	21	29		
B-3270A	SS-11	38.8-40.3	CH	0.0	2.5	97.5	19.7	77.8	32.2	94	36	58		
B-3270A	SS-12	43.9-45.4	CH	0.0	12.4	87.6	20.3	67.3	23.3	64	26	38		
B-3270A	SS-13	48.8-50.3	CL	0.0	36.1	63.9	28.4	35.5	17.3	34	19	15		
B-3270A	SS-14	53.8-55.3	CL	0.0	42.8	57.2	24.2	33.0	19.4	30	20	10		
B-3270A	SS-15	58.9-60.4	SC-SM	0.0	63.8	36.2	15.6	20.6	21.1	20	15	5		
B-3270A	SS-16	63.9-65.4	SC-SM	0.0	71.0	29.0	9.0	20.0	23.1	19	15	4		
B-3270A	SS-17	68.9-70.4	CH	0.0	3.8	96.2	18.1	78.1	35.8	82	23	59		
B-3270A	SS-18	73.9-75.4	CL	1.8	35.2	63.0	12.9	50.1	16.3	41	20	21		
B-3270A	SS-19	78.9-80.4	CL	0.2	43.1	56.7	18.0	38.7	18.4	41	20	21		

Prepared By: PAR Date: 11/10/09
Checked By: [illegible] Date: 11/10/09

TABLE 4.1
SUMMARY OF SOIL INDEX TEST RESULTS FOR SPLIT-BARREL SAMPLES
Exelon Texas COL Project-Supplemental Investigation, Including UHS
MACTEC PROJECT NO. 6468-07-1777

Number	Sample Number	Depth Sample (ft)	USCS Symbol	Gravel (%)	Sand (%)	Fines (%)	Silt (%)	0.005 mm Clay (%)	Natural Moisture (%)	LL (%)	PL (%)	PI (%)	G_s	Organic Content (%)
B-3270A	SS-20	84.2-85.7	SC	0.0	68.7	31.3	6.9	24.4	19.2	25	15	10		
B-3270A	SS-21	89.2-90.7	CH	5.4	27.6	67.0	16.1	50.9	19.0	59	22	37		
B-3270A	SS-22	94.3-95.8	CL	0.0	36.4	63.6	15.9	47.7	19.2	48	13	35		
B-3270A	SS-23	99.2-100.7	CH	0.0	19.7	80.3	26.0	54.3	19.0	53	19	34		
B-3270A	SS-25	119.3-120.8	CH	0.9	11.6	87.5	16.4	71.1	30.7	81	22	59		
B-3270A	SS-26	129.2-130.7	CL	0.0	25.8	74.2	46.8	27.4	17.5	25	14	11		
B-3270A	SS-28	149.3-150.8	CH	0.0	9.1	90.9	15.4	75.5	31.8	87	28	59		
B-3270A	SS-29	159.3-160.8	SM	0.0	84.6	15.4	3.0	12.4	19.3	NV	NP	NP		
B-3270A	SS-31	179.3-180.8	SM	0.0	87.9	12.1	0.0	12.1	19.7	NV	NP	NP		
B-3270A	SS-33	199.2-200.7	SM	0.2	81.3	18.5	5.5	13.0	19.9	NV	NP	NP		
B-3270A	SS-35	219.2-220.7	SC-SM	0.0	84.3	15.7	3.4	12.3	18.7	17	12	5		
B-3270A	SS-37	239.2-240.7	SC-SM	0.0	70.1	29.9	4.2	25.7	22.2	22	15	7		
B-3270A	SS-38	249.2-250.7	CH	0.0	23.6	76.4	27.0	49.4	21.2	53	21	32		
B-3270A	SS-39	259.2-260.7	SC	0.0	68.3	31.7	11.3	20.4	20.0	25	11	14		
B-3270A	SS-40	269.2-270.7	SC	0.1	76.5	23.4	4.4	19.0	20.1	23	11	12		
B-3270A	SS-41	279.3-280.8	SC	0.0	80.2	19.8	3.3	16.5	16.4	27	13	14		
B-3270A	SS-42	289.3-290.8	SC	0.3	57.0	42.7	21.2	21.5	23.0	28	11	17		
B-3270A	SS-43	299.3-300.8	CH	0.0	11.3	88.7	19.6	69.1	25.8	74	25	49		

1 Classification is based on quantitative and qualitative (visual inspection) information.

Test not assigned

LL= Liquid Limit
PL= Plastic Limit
PI = Plasticity Index
G_s = Specific Gravity

NV= No Value
NP= Non-Plastic