

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PEOPLE OF THE STATE OF ILLINOIS,)

)

Complainant,

v.

MAINTENANCE CORPORATION, an
Illinois corporation, IRONHUSTLER
EXCAVATING, INC., an Illinois
corporation, and RON BRIGHT, dlb/a
Quarter Construction,

)

)

Respondents.)

NOTICE OF ELECTRONIC FILING

To: See Attached Service List

PLEASE TAKE NOTICE that on December 30, 2011, I electronically filed with the Office of the Clerk of the Pollution Control Board an Answer and Cross-Complaint on behalf of Respondent INTRA-PLANT MAINTENANCE CORPORATION, a copy of which is herewith served upon you.

CHARLES M. ROCK

CHARLES M. ROCK
HASSELBERG ROCK BELL & KUPPLER LLP
Suite 200 Associated Bank Building
4600 North Brandywine Drive
Peoria, Illinois 61614
Telephone: (309) 688-9400
Fax: (309) 688-9430
c.rock@hrbklaw.com

CERTIFICATE OF SERVICE

The undersigned attorney hereby certifies that a copy of the foregoing Notice of Electronic Filing and Answer and Cross-Complaint has been served upon the following persons by placing the same in a sealed envelope, addressed as stated, with First Class postage fully prepaid and by depositing the same in the United States mail at Springfield, Illinois this 30th day of December, 2011:

Thomas J. Inzzael, Esq.
Feldman Wasser Draper & Cox
P.O. Box 2418
1307 South Seventh Street
Springfield, Illinois 62705

Eleni Kouimelis, Esq.
Winston & Strawn LLP
35 W. Wacker Drive
Chicago, IL 60601

Raymond Callery, AAG Environmental
Office of the Illinois Attorney General 500
South Second Street
Springfield, IL 62706

Carol Webb, Hearing Officer
Illinois Pollution Control Board
1021 North Grand Avenue East
P.O. Box 19274
Springfield, Illinois 62794-9274

And electronically filed with the Clerk of the Pollution Control Board on the same date.



Charles M. Rock

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PEOPLE OF THE STATE OF ILLINOIS,

Complainant,

v.

ALTIVITY PACKAGING, LLC, a Delaware)	PCB No. 12-21
limited liability company, INTRA-PLANT)	(Enforcement - Land)
MAINTENANCE CORPORATION, an		
Illinois corporation, IRONHUSTLER		
EXCAVATING, INC., an Illinois)	
corporation, and RON BRIGHT, d/b/a)	
Quarter Construction,)	
)	
Respondents.)	

ANSWER AND CROSS-COMPLAINT
BY INTRA-PLANT MAINTENANCE CORPORATION

Respondent, Intra-Plant Maintenance Corporation ("IPM"), by its attorneys, Hasselberg, Rock, Bell & Kuppler LLP, states in answer to the Complaint filed by the People of the State of Illinois as follows:

Count I: Altivity Packaging, L.L.C.

Count I asserts a cause of action against Altivity Packaging, L.L.C. ("Altivity"), and accordingly IPM submits no answer or response.

Count II: Ron Bright *dlb/a* Quarter Construction

Count II asserts a cause of action against Ron Bright *dlb/a* Quarter Construction ("**Bright**") and accordingly IPM submits no answer or response.

Count III: Intra-Plant Maintenance Corporation

1. IPM admits the allegations contained in Paragraph 1 of Count I as incorporated into Count III.

2. IPM admits the allegations contained in Paragraph 2 of Count I as incorporated into Count III.
3. IPM admits the allegations contained in Paragraph 3 of Count I as incorporated into Count III.
4. IPM admits the allegations contained in Paragraph 4 of Count I as incorporated into Count III.
5. IPM admits the allegations contained in Paragraph 5 of Count I as incorporated into Count III.
6. IPM admits construction of a facility generated miscellaneous material (the "**Material**") but has no direct knowledge as to the composition of the material and therefore does not admit or deny the allegations contained in Paragraph 6 of Count I as incorporated into Count III but demands strict proof thereof.
7. IPM admits the allegations contained in Paragraph 7 of Count I as incorporated into Count III.
8. IPM admits the allegations contained in Paragraph 8 of Count I as incorporated into Count III.
9. IPM admits the allegations contained in Paragraph 9 of Count I as incorporated into Count III.
10. IPM admits the allegations contained in Paragraph 10 of Count I as incorporated into Count III.
11. IPM has no direct knowledge as to the date of the alleged inspection, and therefore does not admit nor deny the allegations contained in Paragraph 11 of Count I as incorporated into Count III and demands strict proof thereof.

12. IPM has no direct knowledge pertaining to the transportation of the Material, and therefore does not admit nor deny the allegations of Paragraph 12 of Count I as incorporated into Count III and demands strict proof thereof.
13. IPM has no direct knowledge pertaining to soil samples collected by the Illinois Environmental Protection Agency, and therefore does not admit nor deny the allegations of Paragraph 13 of Count I as incorporated into Count III and demands strict proof thereof.
14. IPM has no direct knowledge pertaining to any analytical results, and therefore does not admit nor deny the allegations of Paragraph 14 of Count I as incorporated into Count III and demands strict proof thereof.
15. IPM has no direct knowledge as to the acts of the Illinois Environmental Protection Agency, and therefore does not admit nor deny the allegations of Paragraph 15 of Count I as incorporated into Count III and demands strict proof thereof.
16. IPM has no direct knowledge as to the results of any alleged tests, and therefore does not admit nor deny the allegations of Paragraph 16 of Count I as incorporated into Count III and demands strict proof thereof.
17. IPM *has no* direct knowledge as to the results of any alleged tests, and therefore does not admit nor deny the allegations of Paragraph 17 of Count I as incorporated into Count III and demands strict proof thereof.
18. IPM has no direct knowledge as to the acts of the Illinois Environmental Protection Agency, and therefore does not admit nor deny the allegations of Paragraph 18 of Count I as incorporated into Count III and demands strict proof thereof.

19. IPM has no direct knowledge as to the results of alleged tests, and therefore does not admit nor deny the allegations of Paragraph 19 of Count I as incorporated into Count III and demands strict proof thereof.
20. IPM denies the allegations contained in Paragraph 20 of Count I as incorporated into Count *HI*.
21. IPM *has no* direct knowledge as to the acts of the Illinois Environmental Protection Agency and therefore does not admit nor deny the allegations of Paragraph 21 of Count I as incorporated into Count III and demands strict proof thereof.
22. IPM admits the allegations contained in Paragraph 22 of Count III.
23. IPM denies the allegations contained in Paragraph 23 of Count III.
24. IPM denies the allegations contained in Paragraph 24 of Count III.
25. IPM denies the allegations contained in Paragraph 25 of Count III.

WHEREFORE, *IPM* asks the Board to dismiss this cause of action with prejudice and award *IPM* its costs.

Count IV: Ironhustler Excavating, Inc.

Count IV asserts a cause of action against Ironhustler Excavating, Inc. ("**Ironhustler**") and accordingly, *IPM* submits no answer or response.

CROSS-COMPLAINT
IPM V. IRONHUSTLER EXCAVATING, INC.

IPM states in support of this Cross-Complaint against Ironhustler as follows:

1. On or about January 21, 2008, *IPM* and Ironhustler entered into a certain agreement (the "**Agreement**").
2. A full and complete copy of the Agreement is attached as Exhibit A.

3. As part of the scope of work detailed in the Agreement, Ironhustler was to excavate and

remove the Material from property located in Pekin, Illinois (the "**Pekin Site**").

4. The Agreement provides, in part, that "[All unsuitable material shall be hauled off site [the

Pekin site] and disposed of legally."

5. The People of the State of Illinois have alleged the Material removed from the Pekin Site was not disposed of legally.

WHEREFORE, in the event the Board determines that the Material removed from the Pekin Site was not disposed of legally, or that such disposal violated any term or provision of the Illinois Environmental Protection Act, IPM asks that the Board enter an order whereby Ironhustler shall indemnify and hold IPM harmless from any and all damages resulting from this cause of action including, without limitation, penalties, fines, costs, and costs incurred for the proper removal, relocation and disposal of the Materials.



CHARLES M. ROCK

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Fax: (309) 688-9430



SUBCONTRACT AGREEMENT

Contract No. 07231-6

Project Name: Treatment Building

Owner: Altivity Packaging

IPM Corp. Job #: 07-231

Subcontractor: IronHustler Excavating 1-f1G
 P.O. Box 120026 Peoria, IL. 61614
 309-691-9894 Fax 309-691-2690

DOCUMENTS TO BE INCORPORATED INTO THIS AGREEMENT:

1. Soils Report as Produced By TSC Dated January 4, 2008
2. Attachment "C" - Contractor's Insurance Requirements

SCOPE OF WORK:

IronHustler shall provide all labor, material and equipment to excavate the building area approximately 50' wide x 100 'long and 11' deep. The excavation shall be backfilled and compacted as per the soils engineer's requirements for materials and compaction. All unsuitable material shall be hauled off site and disposed of legally. . . + v,r. .1- Pn ;: c a m I f F x z b r i e . a i - 7 - c j (S . ' % i , : A7 Ac:6ie,t')

Any obstructions encountered or utilities uncovered will be removed and repaired by 1PM if required. The resulting downtime will be handled on a time and material basis with our on site supervision.

This agreement is made this 21 day of January, 2008, by and between (PM Corp. (hereafter called Contractor) and Ironhustler Excavating (hereafter called Subcontractor) to perform the work identified above under Scope of Work, in accordance with the Documents listed above. This is a tax exempt project the owner's tax exempt number is 2494-0658. We will bill Altivity as soon as your work is complete the turnaround time on their purchase orders is usually 30 days. Please reference our job number on all invoicing.

Contract Amount: \$ 53,805.00 (Fifty Three Thousand Eight Hundred Five Dollars and xx1100)

In witness whereof, the parties have executed this Agreement under Seal, the day and year first written above.

Contractor:
IPM Corp.

By: Peter D. Wintersteen

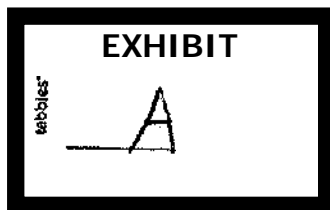
Signed: 

Title: T o m c G s ~ ~ O _____

Subcontractor:

IronHustler Excavating (B)(1))c/d21813...ir tee' /

Subcontractor's Fed. ID #: 320 ' 91



Attachment "C" SUBCONTRACTOR'S INSURANCE AND INDEMNITY REQUIREMENTS

The Subcontractor agrees to furnish the Contractor a Certificate of Insurance and Additional Insured Endorsement on Form CG 2010 and CG 2037 (or an acceptable alternative) naming the Contractor, Engineer or Architect, and the Owner as Additional Insured's there under. Coverage is on a primary basis. Waiver of subrogation is provided in favor of Certificate Holder, Owner, Architect and for Engineer for General Liability, Workers Compensation and Auto Liability

- (A) Such insurance shall include, but not be limited to:
 - a. Worker's Compensation and Employer's Liability
 - b. Auto Liability
 - c. Commercial General Liability, including Product Liability & Completed Operation
- (B) The subcontractor agrees that he will, at his expense, purchase and keep in force at all times for the duration of all work agreed to be done hereunder such insurance policies as will protect 1PM Corp., its subsidiaries, officers, directors, and employees from and against all claims, suits, judgments, demands and expenses, including attorney's fees whatsoever as provided hereinafter, with minimum limits as required under this Attachment.
- (C) Worker's Compensation and Employer's Liability
 - a. The subcontractor further agrees that he and all his subcontractors will comply with all statutes and laws with regard to Worker's Compensation/Occupational Disease applying to all employees or their beneficiaries. Limits shall be:
 - i. Worker's Compensation -- Statutory Limits
 - ii. Employer's Liability -- Bodily Injury by Accident - \$500,000 each accident
 - iii. Employer's Liability Bodily Injury by Disease - \$500,000 each employee
 - iv. Employer's Liability - Bodily Injury by Disease - \$500,000 policy limit
 - b. The insurance shall contain provision waiving underwriter's right of subrogation against the Contractor, Owner, and any of their subsidiaries, officers, directors, and employees.
- (D) Comprehensive Automobile Liability
 - a. Combined Single Limit - each Accident - \$1,000,000
- (E) Commercial General Liability
 - a. Limits shall not be less than:
 - i. Bodily Injury and Property - \$1,000,000 each occurrence
 - ii. General Aggregate - \$2,000,000
 - iii. Products - Completed Operations Aggregate - \$2,000,000
 - b. Coverage must provide:
 - i. General Aggregate Limit must apply per project
 - ii. Premises and Operations
 - iii. Products Liability / Complete Operation
 - iv. Contractual Liability for the indemnity/hold harmless agreements set forth in the Indemnification paragraph, Attachment "A" -- General Conditions.
 - c. The Contractor and Owner (and any others if specified in Attachment "B" - Special Conditions or the Prime Contract) are to be named as an Additional Insured CG 2010 11/85 form on a primary basis.
 - d. The insurance shall contain provision waiving underwriter's right of subrogation against the Contractor, Owner, and any of their subsidiaries, officers, directors, and employees.
- (F) Other General Requirements
 - a. All policies shall be written on an occurrence basis form. Claims Made policies are not acceptable.
 - b. Certificates must reference the Project Name
 - c. Certificates must have a 30 day written notice of cancellation.
 - d. Higher limits or additional coverage, as may be required, shall be elsewhere specified.

Electronic Filing - Received, Clerk's Office, 12/30/2011

ACORD CERTIFICATE OF LIABILITY INSURANCE

CSR HB
IRONH-1

DATE (MM/DD/YYYY)
04/29/08

PRODUCER

Miller, Dredge Ins - Peoria
 7150 N. University
 Peoria IL 61614
 Phone: 309-683-1100 Fax: 309-683-1104

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

Iron Rustler Excavating, Inc.
 Dave Schiela
 P.O. Box 120026 Peoria IL 61614

INSURERS AFFORDING COVERAGE	NPJC #
INSURER A: Allied Group	00035
INSURER B: Hartford Insurance Group	38288
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

IN H-4 UU TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	DESCRIPTION	LIMIT
<input checked="" type="checkbox"/> GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS MADE <input checked="" type="checkbox"/> OGCUF	ACPMCT071	06/29/07	05/29/08	EACH OCCURRENCE UAMR11 O-TIVE PREMISES (EA occur en) MED EXP (Any ons Person) PERSONAL & ADV INJURY AL AGGREGATE PRODUCTS - COMP/OP EGG	8100000 8100000 \$ 5000 \$1000000 \$ 2000000 82000000
GEN'L AGGREGATE LIMIT APPLIES PER: PRO - POLICY (X) OBJECT - LOC					
<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS x HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	ACPBAPC7160313767	06/29/07	06/29/08 (EE t iderJ)	COMBINED SINGLE LIMIT BODILY INJURY (Par pG.rsol) BODILY INJURY (Per acciaant1) PROP EF'N DAMAGE (Pe' accider5)	\$ 1 000,000 IS
<input type="checkbox"/> GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY EA ACCIDENT B OTHER THAN EA ACC \$ AUTO ONLY: AGE \$	
<input checked="" type="checkbox"/> EXCESS/UMBRELLA LIABILITY <input checked="" type="checkbox"/> OCCUR CLAIMS MADE	ACPCAA/160313767	06/29/07	06/29/08	EACH OCCURRENCE GATE	\$ 6000000 \$6000000
<input checked="" type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$ 0					

OTHER

Equipment Floater 83MS LFF4835 06/29/07 06/29/08 300000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT 1 SPECIAL PROVISIONS

Project: Treatment Building, Pekin, IL

Intra Plant Maintenance Corp. and Altivity Packaging are named as additional insured with respect to the general liability on a primary basis. Waiver of Subrogation applies in favor of Intra Plant Maintenance and

CERTIFICATE HOLDER _____ **CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS BEFORE NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

Intra Plant Maintenance Corp
 PO Box 2548
 East Peoria IL 61611





TESTING SERVICE CORPORATION

Corporate Office

360 S. Main Place, Carol Stream, IL 60188-2404
630.462.2600 • Fax 630.653.2988

Local Offices:

1701 W. Market Street, Suite B, Bloomington, IL 61701-2641
309.8210430 • Fax 309.821.1242

457 E. Gundersen Drive, Carol Stream, IL 60188-2492
630.653.3920 • Fax 630.653.2726

209 Cleveland Street, Suite C, Cary, IL 60013-2978
847.516.0505 • Fax 847.516.0527

650 Peace Road, Suite D, DeKalb, IL 60115
815.744.2100 • Fax 815.748.2110

401 Riverside Drive, Suite 24, Gurnee, IL 60031-5906
847.249.6040 • Fax 847.249.6042

203 Earl Road, Suite A, Shorewood, IL 60431-9408
815.744.1510 • Fax 815.744.1728

8201 W. 183RD Street, Suite C, Tinley Park, IL 60477-9249
708.429.2080 • Fax 708.429.2144

Geotechnical & Environmental Engineering

Construction Materials Engineering & Testing

Laboratory Testing of Soils, Concrete & Asphalt

Geo-Environmental Drilling & Sampling

Report of Soils Exploration

**Treatment Building
Activity Packaging
Pekin, Illinois**

Intra-Plant Maintenance

GEOTECHNICAL GROUP
.BLOOMINGTON

REPORT OF SOILS EXPLORATION
TREATMENT BUILDING
ACTIVITY PACKAGING
PEKIN, ILLINOIS

PREPARED FOR
INTRA-PLANT MAINTENANCE
3116 NORTH MAIN STREET
EAST PEORIA, ILLINOIS 61611

PREPARED BY
TESTING SERVICE CORPORATION
1701 WEST MARKET STREET
BLOOMINGTON, ILLINOIS 61701

REPORT OF SOILS EXPLORATION
TREATMENT BUILDING
ACTIVITY PACKAGING
PEKIN, ILLINOIS

INTRODUCTION

This report presents results of our site exploration which was performed to determine subsurface soil and groundwater conditions for the proposed treatment building to be located at Activity Packaging in Pekin, Illinois. The geotechnical services were performed at the request of Mr. Pete Wintersteen of Intra-Plant Maintenance in accordance with the scope of services outlined in TSC Proposal No. 39,772, dated November 19, 2007, and the attached General Conditions which are incorporated herein by reference. Results of field and laboratory work and recommendations based upon that work are included in the following sections of this report.

SITE/PROJECT DESCRIPTION

The existing Activity Packaging facility is located at 1525 South Second Street in Pekin, Illinois. The new treatment building is planned on the south central portion of the facility directly west of the existing boiler house. At the time our field exploration was completed, preliminary site work including installation of new underground utility lines was in progress. Based upon ground surface elevations at the boring locations, the site was fairly level with a change in grade of less than one-half foot within the limits of our exploration. Ground surface elevations at each of the borings are shown on the Boring Location Plan included in the Appendix of this report.

January 4, 2008 –

We understand that the new treatment building will be a pre-engineered metal building. It will be a single story, slab on grade structure with overall plan dimensions of 40' x 90'. We have assumed that minimal changes to the existing grades will be required to complete the planned construction. The proposed new site features are shown on the Boring Location Plan.

FIELD EXPLORATION

A total of three (3) soil test borings were completed on the project site near opposite corners and the center of the planned building. Two (2) of these borings were extended to a depth of 15 feet below the existing ground surface. The remaining boring was drilled to a depth of 20 feet in order to provide subsurface information below relatively loose deposits which were encountered in the upper zones. The boring locations are shown on the Boring Location Plan.

The borings were drilled and sampled according to currently recommended American Society for Testing and Materials (ASTM) specifications. Outlines of these procedures are included in the Appendix. Soil sampling was performed at 2-1/2 foot intervals to a depth of 15 feet and at 5 foot intervals thereafter to the termination depth of each boring. Samples were obtained in conjunction with the Standard Penetration Test, for which the driving resistance of a 2 inch diameter split-spoon sampler provides an indication of the relative density of granular materials and consistency of cohesive soils. Water level readings were taken during and following completion of the drilling operations.

LABORATORY TESTING

Soil samples were examined in the laboratory to verify field descriptions and to determine classifications in accordance with the Unified Classification System. Laboratory testing included moisture content determinations on all cohesive soil types. Measurements of unconfined compressive strengths on natural cohesive soil samples were made. A calibrated penetrometer was also utilized to provide estimates of the unconfined compressive strength.

All phases of the laboratory testing program were conducted in general accordance with applicable ASTM standards. The results of these tests are shown on the Boring Logs included in the Appendix.

January 4, 2008

SUBSURFACE CONDITIONS

Deposits of miscellaneous fill materials were noted at the ground surface at each of the boring locations. The fill included deposits of silt, sand and gravel along with notable amounts of cinders and brick fragments. In the upper 3 to 7 feet, this fill is firm in relative density with N values in excess of 10 blows per foot. At greater depths, these deposits are loose in relative density with N values of 2 to 4 blows per foot. The fill appears to extend to depths ranging from approximately 7 to 11 feet below the ground surface.

The underlying native soils consist predominately of sand with some silt. These soils are also loose in relative density with N values between 2 and 6 blows per foot. These soils were sampled to the bottom of Borings B-1 and B-3 which were terminated at a depth of 15 feet. At Boring B-2, drilled in the approximate center of the planned building, the loose native soils were noted to a depth of approximately 16 feet. The underlying deposits consist of very tough silty clay which has an unconfined compressive strength of 3.0 tons per square foot (tsf). The clay soils were noted to a depth of slightly more than 19 feet where loose sand and gravel was noted to the termination depth of 20 feet.

Each of the bore holes were dry while drilling and upon completion and removal of the augers indicating that groundwater was in excess of 20 feet below grade at the time our field exploration was completed.

RECOMMENDATIONS

Foundation Recommendations

As previously noted, the near surface soils consist of previously placed fill which is generally very loose at and below conventional bearing depths typically associated with a shallow spread footing foundation system. Furthermore, the underlying native soils consist of loose silt and/or sand to a depth of approximately 15 feet with low strength clays to a depth of approximately 16 feet. Significant settlement of foundations bearing on or above these deposits is expected. To minimize the potential for excessive settlement, removal and replacement of the loose fill or construction of a deeper foundation extending below the fill to allow for bearing on the higher strength native clay soils found at a depth of about 16 feet at Boring B-2 will be required.

January 4, 2008

In order to remove the existing fill, it appears that an excavation extending to a depth of approximately 11 feet below the existing ground surface will be required. In view of the miscellaneous debris within the fill, we do not recommend re-use of this material. After the existing fill is removed, we recommend that the exposed sand be densified in place with vibratory compaction equipment prior to placing new fill. The replacement fill may consist of clean crushed aggregate or sand and gravel. An aggregate gradation conforming to Illinois Department of Transportation (IDOT) criteria for CA-1, CA-3, CA-5 and CA-7 generally has a maximum size of 3 inches and a minimum size of 1/4 inch and contains no fines. This material type is not as sensitive to moisture conditions at the time of placement and generally required less compactive effort to obtain the required stability. If this type of material is used, it should be placed in 12 inch lifts and each lift should be compacted with vibratory compaction equipment to provide densification.

Sand and gravel with up to 15 percent fine material passing the #200 sieve may also be used as replacement fill. This material type does require a greater level of moisture control and more compactive effort to achieve the required stability. It is recommended that compaction be to a minimum of 95 percent of maximum dry unit weight as determined by the Modified Proctor Test (ASTM D 1557). The fill should also be placed in approximate 9-inch lifts loose measure, with each lift compacted to the specified dry unit weight prior to placement of additional fill. It is recommended the moisture content of the new fill be within 3 percent of the optimum moisture as established by the Modified Proctor Test. If the fill is compacted too dry, it will have an apparent stability which will be lost if it later becomes saturated. If the fill is too wet, the Contractor will not be able to achieve proper compaction.

Conventional spread footings bearing on the new fill may be designed using a net allowable bearing pressure of 3,000 pounds per square foot (psf). For frost considerations, all exterior footings should be constructed at least 3-1/2 feet below the exterior finished grade and 4 feet below grade for foundations located outside of heated building limits. Interior footings may be constructed at higher elevations as long as they are protected against frost heave in the event of winter construction.

An alternate to removal and replacement of the existing loose fill materials is to support the structure on a drilled pier foundation system. Based upon the subsurface conditions at Boring B-2, it appears that drilled piers extending to a depth of 16 feet will be required to provide support below the loose deposits. Should this foundation system be selected, a net allowable bearing pressure of 5,000 psf is recommended for design.

January 4, 2008

In view of the presence of the loose fill and sand deposits above the recommended bearing depth, it is recommended that temporary steel casing be used to support the walls of the shaft. These loose overlying deposits will also make construction of belled caissons impractical. The use of casing will also reduce the inflow of water during drilling and cleaning operations should groundwater be encountered. Pumps may also be required to remove water that does seep into the shaft to allow placement of concrete under dry conditions,

Care should be exercised in the installation of the casing to make sure that it is sealed into a clay layer that will maintain a water-tight seal when the soil is removed from inside the casing. The last few feet of clay drilling and the removal of a portion of the clay from inside the casing should be delayed until concrete is on the job. When the drilling operations and inspections are complete, concrete should be placed inside the casing immediately. During simultaneous concrete placing and casing removal operations, sufficient concrete should be maintained inside the casing to offset the hydrostatic head of the groundwater outside the casing and prevent the intrusion of soil and groundwater in the pier concrete.

Drilled pier shafts must be clean and free of all loose material prior to the placement of concrete. A qualified representative of the soils engineer should document that the drilled piers are bearing on competent bearing materials and that the installation procedures meet specifications.

It should be noted that there is some risk of settlement resulting in cracking of the floor slab if it is supported on or above the existing loose fill. If a drilled pier foundation system is selected and the existing fill is not removed, design and construction of a structural slab supported on this foundation is suggested to minimize the potential of settlement and cracking.

Groundwater Control

Based upon measurements made during completion of the soil borings, minimal amounts of groundwater seepage are anticipated during site excavating and/or foundation construction. We anticipate that conventional sump and pump arrangements will be capable of removing groundwater seepage or surface runoff during periods of wet weather.

January 4, 2008


CLOSURE

It is recommended that full time site observations and testing be provided by Testing Service Corporation personnel during foundation construction to document that soils capable of achieving the recommended bearing capacity have been encountered at the planned bearing elevation. In addition, monitoring of building materials and fill placement and compaction should be completed to document compliance with the recommended procedures and specifications.

The analysis and recommendations submitted in this report are based upon the data obtained from the three (3) soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings, the nature and extent of which may not become evident until during the course of construction. If variations are then identified, the recommendations contained in this report should be reevaluated after performing on-site observations.

We are available to review this report with you at your convenience.

A handwritten signature in black ink, appearing to read 'D. P. Rams', with a large, stylized flourish extending from the end of the signature.

Douglas P. Rams 

Registered Professional Engineer

Illinois No. 062-040905

TESTING SERVICE CORPORATION

1. **PARTIES AND SCOPE OF WORK:** If Client is ordering the services on behalf of another, Client represents and warrants that Client is the duly authorized agent of said party for the purpose of ordering and directing said services, and in such case the term "Client" shall also include the principal for whom the services are being performed. Prices quoted and charged by TSC for its services are predicated on the conditions and the allocations of risks and obligations expressed in these General Conditions. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the services ordered by Client are adequate and sufficient for Client's intended purpose. Unless otherwise expressly assumed in writing, TSC's services are provided exclusively for client. TSC shall have no duty or obligation other than those duties and obligations expressly set forth in this Agreement. TSC shall have no duty to any third party. Client shall communicate these General Conditions to each and every party to whom the Client transmits any report prepared by TSC. Ordering services from TSC shall constitute acceptance of TSC's proposal and these General Conditions.

2. **SCHEDULING OF SERVICES:** The services set forth in this Agreement will be accomplished in a timely and workmanlike manner. If TSC is required to delay any part of its services to accommodate the requests or requirements of Client, regulatory agencies, or third parties, or due to any cause beyond its reasonable control, Client agrees to pay such additional charges, if any, as may be applicable.

3. **ACCESS TO SITE:** TSC shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as a result of its services or the use of its equipment; however, TSC has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires TSC to restore the site to its former condition, TSC will, upon written request, perform such additional work as is necessary to do so and Client agrees to pay to TSC the cost thereof plus TSC's normal markup for overhead and profit.

4. **CLIENT'S DUTY TO NOTIFY ENGINEER:** Client represents and warrants that Client has advised TSC of any known or suspected hazardous materials, utility lines and underground structures at any site at which TSC is to perform services under this agreement.

5. **DISCOVERY OF POLLUTANTS:** TSC's services shall not include investigation for hazardous materials as defined by the Resource Conservation Recovery Act, 42 U.S.C. § 6901, et seq., as amended ("RCRA") or by any state or Federal statute or regulation. In the event that hazardous materials are discovered and identified by TSC, TSC's sole duty shall be to notify Client.

6. **MONITORING:** If this Agreement includes testing construction materials or observing any aspect of construction of improvements, Client's construction personnel will verify that the pad is properly located and sized to meet Client's projected building loads. Client shall cause all tests and inspections of the site, materials and work to be timely and properly performed in accordance with the plans, specifications, contract documents, and TSC's recommendations. No claims for loss, damage or injury shall be brought against TSC unless all tests and inspections have been so performed and unless TSC's recommendations have been followed.

TSC's services shall not include determining or implementing the means, methods, techniques or procedures of work done by the contractor(s) being monitored or whose work is being tested. TSC's services shall not include the authority to accept or reject work or to in any manner supervise the work of any contractor. TSC's services or failure to

perform same shall not in any way operate or excuse any contractor from the performance of its work in accordance with its contract. "Contractor" as used herein shall include subcontractors, suppliers, architects, engineers and construction managers.

Information obtained from borings, observations and analyses of sample materials shall be reported in formats considered appropriate by TSC unless directed otherwise by Client. Such information is considered evidence, but any inference or conclusion based thereon is, necessarily, an opinion also based on engineering judgment and shall not be construed as a representation of fact. Subsurface conditions may not be uniform throughout an entire site and ground water levels may fluctuate due to climatic and other variations. Construction materials may vary from the samples taken. Unless otherwise agreed in writing, the procedures employed by TSC are not designed to detect intentional concealment or misrepresentation of facts by others.

7. **SAMPLE DISPOSAL:** Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of TSC's report.

8. **TERMINATION:** This Agreement may be terminated by either party upon seven days prior written notice. In the event of termination, TSC shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses.

9. **PAYMENT:** Client shall be invoiced periodically for services performed. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to in writing for valid cause within sixty (60) days at the rate of twelve (12%) per annum (or the maximum interest rate permitted by applicable law, whichever is the lesser) until paid and TSC's costs of collection of such accounts, including court costs and reasonable attorney's fees.

10. **WARRANTY:** TSC's professional services will be performed, its findings obtained and its reports prepared in accordance with these General Conditions and with generally accepted principles and practices. In performing its professional services, TSC will use that degree of care and skill ordinarily exercised under similar circumstances by members of its profession. In performing physical work in pursuit of its professional services, TSC will use that degree of care and skill ordinarily used under similar circumstances. This warranty is in lieu of all other warranties or representations, either express or implied. Statements made in TSC reports are opinions based upon engineering judgment and are not to be construed as representations of fact.

Should TSC or any of its employees be found to have been negligent in performing professional services or to have made and breached any express or implied warranty, representation or contract, Client, all parties claiming through Client and all parties claiming to have in any way relied upon TSC's services or work agree that the maximum aggregate amount of damages for which TSC, its officers, employees and agents shall be liable is limited to \$50,000 or the total amount of the fee paid to TSC for its services performed with respect to the project, whichever amount is greater.

In the event Client is unwilling or unable to limit the damages for which TSC may be liable in accordance with the provisions set forth in the preceding paragraph, upon written request of Client received within five days of Client's acceptance of TSC's proposal together with payment of an additional fee in the amount of 5% of TSC's estimated cost for its services (to be adjusted to 5% of the amount actually billed by TSC

for its services on the project at time of completion), the limit on damages shall be increased to \$500,000 or the amount of TSC's fee, whichever is the greater. This charge is not to be construed as being a charge for insurance of any type, but is increased consideration for the exposure to an award of greater damages.

11. **INDEMNITY:** Subject to the provisions set forth herein, TSC and Client hereby agree to indemnify and hold harmless each other and their respective shareholders, directors, officers, partners, employees, agents, subsidiaries and division (and each of their heirs, successors, and assigns) from any and all claims, demands, liabilities, suits, causes of action, judgments, costs and expenses, including reasonable attorneys' fees, arising, or allegedly arising, from personal injury, including death, property damage, including loss of use thereof, due in any manner to the negligence of either of them or their agents or employees or independent contractors. In the event both TSC and Client are found to be negligent or at fault, then any liability shall be apportioned between them pursuant to their pro rata share of negligence or fault. TSC and Client further agree that their liability to any third party shall, to the extent permitted by law, be several and not joint. The liability of TSC under this provision shall not exceed the policy limits of insurance carried by TSC. Neither TSC nor Client shall be bound under this indemnity agreement to liability determined in a proceeding in which it did not participate represented by its own independent counsel. The indemnities provided hereunder shall not terminate upon the termination or expiration of this Agreement, but may be modified to the extent of any waiver of subrogation agreed to by TSC and paid for by Client.

12. **SUBPOENAS:** TSC's employees shall not be retained as expert witnesses except by separate, written agreement. Client agrees to pay TSC pursuant to TSC's then current fee schedule for any TSC employee(s) subpoenaed by any party as an occurrence witness as a result of TSC's services.

13. **OTHER AGREEMENTS:** TSC shall not be bound by any provision or agreement (i) requiring or providing for arbitration of disputes or controversies arising out of this Agreement or its performance, (ii) wherein TSC waives any rights to a mechanics lien or surety bond claim; (iii) that conditions TSC's right to receive payment for its services upon payment to Client by any third party or (iv) that requires TSC to indemnify any party beyond its own negligence. These General Conditions are notice, where required, that TSC shall file a lien whenever necessary to collect past due amounts. This Agreement contains the entire understanding between the parties. Unless expressly accepted by TSC in writing prior to delivery of TSC's services, Client shall not add any conditions or impose conditions which are in conflict with those contained herein, and no such additional or conflicting terms shall be binding upon TSC. The unenforceability or invalidity of any provision or provisions shall not render any other provision or provisions unenforceable or invalid. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. In the event of a dispute arising out of or relating to the performance of this Agreement, the breach thereof or TSC's services, the parties agree to try in good faith to settle the dispute by mediation under the Construction Industry Mediation Rules of the American Arbitration Association as a condition precedent to filing any demand for arbitration, or any petition or complaint with any court. Should litigation be necessary, the parties consent to jurisdiction and venue in an appropriate Illinois State Court in and for the County of DuPage, Wheaton, Illinois or the Federal District Court for the Northern District of Illinois. Paragraph headings are for convenience only and shall not be construed as limiting the meaning of the provisions contained in these

Important Information About Your

Geotechnical Engineering

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except *you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one—not even you—should apply the report for any purpose or project except the one originally contemplated.

Read the NU report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report is Based on a Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was: © not prepared for you,

- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect: the function of the proposed structure, as when

it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

an elevation, configuration, location, orientation, or weight of the proposed structure,

a composition of the design team, or

- project ownership.

As a general rule, always inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Role in Geotechnical Engineering is Not

Do not overrely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions

revealed during construction. The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.

A Geotechnical Engineering Report Is Not Moot

T Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photo-graphic or electronic reproduction is acceptable, but recognize that separating logs from the report, can elevate risk.

Give Contractors Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the

report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure* contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations", many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their *own* responsibilities and risks. *Read these provisions* closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geotechnical Engineering Reports Are Not

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated *environmental* problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an *environmental* report prepared for someone else.

Rely on Your Geotechnical Engineer for A

Statement of Work

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE

8811 Colesville Road Suite G106 Silver Spring, MD 20910

Telephone: 301-565-2933 Facsimile: 301-589-2017

email: info@asfe.org www.asfe.org

APPENDIX

PROCEDURES FOLLOWED IN FIELD
INVESTIGATION AND LABORATORY TESTING
UNIFIED CLASSIFICATION CHART

LEGEND FOR BORING LOGS

BORING LOGS

BORING LOCATION PLAN

PROCEDURES FOLLOWED IN

FIELD INVESTIGATION AND LABORATORY TESTING

These borings were made using a truck-mounted drill rig with the bore holes being advanced by continuous **auger flight methods**. Sample were taken according to currently recommended ASTM procedures for Split Spoon Sampling of Soils.. A copy of the procedure which is entitle "Standard Method of PENETRATION TEST AND SPLIT-BARREL SAMPLING OF SOILS, ASTM Designation: 1584-84" is included in the Appendix. The Split-Spoon sampler had an outside diameter of 2 inches, an inside diameter of 1-318 inches and a length of 2 feet. This sampler was advanced by driving with a 140-pound weight falling freely from a height of 30 inches. The penetration resistance of the "N" value is a measure of the softness or the toughness of a clay soil *and is, in general, related to the bearing capacity of the materials. Other factors are usually taken into consideration in arriving at a design bearing capacity value and these include the type of soil, the type of loading, the dimensions and depths of footing below the ground surface and proximity of the ground water table to the base of footings.* Representative portions of the Split-Spoon samples were placed in placed in glass containers with screw-type lids and taken to the laboratory for further examination and testing. Laboratory work consisted of the water. content determinations for most of the samples with unconfined compression strength tests being performed for representative samples. Also, approximate measurements of the unconfined compression strengths *were made for some of the samples using a calibrated pocket penetrometer. The pocket penetrometer is an indirect method for evaluating the compression strength of a clay soil. Usually, the unconfined compression strength of a clay soil is considered to represent the bearing capacity which may be used* Geotech purposes
a! Engineer with
placed on clay. All samples were examined by a qualified a field classifications being verified.

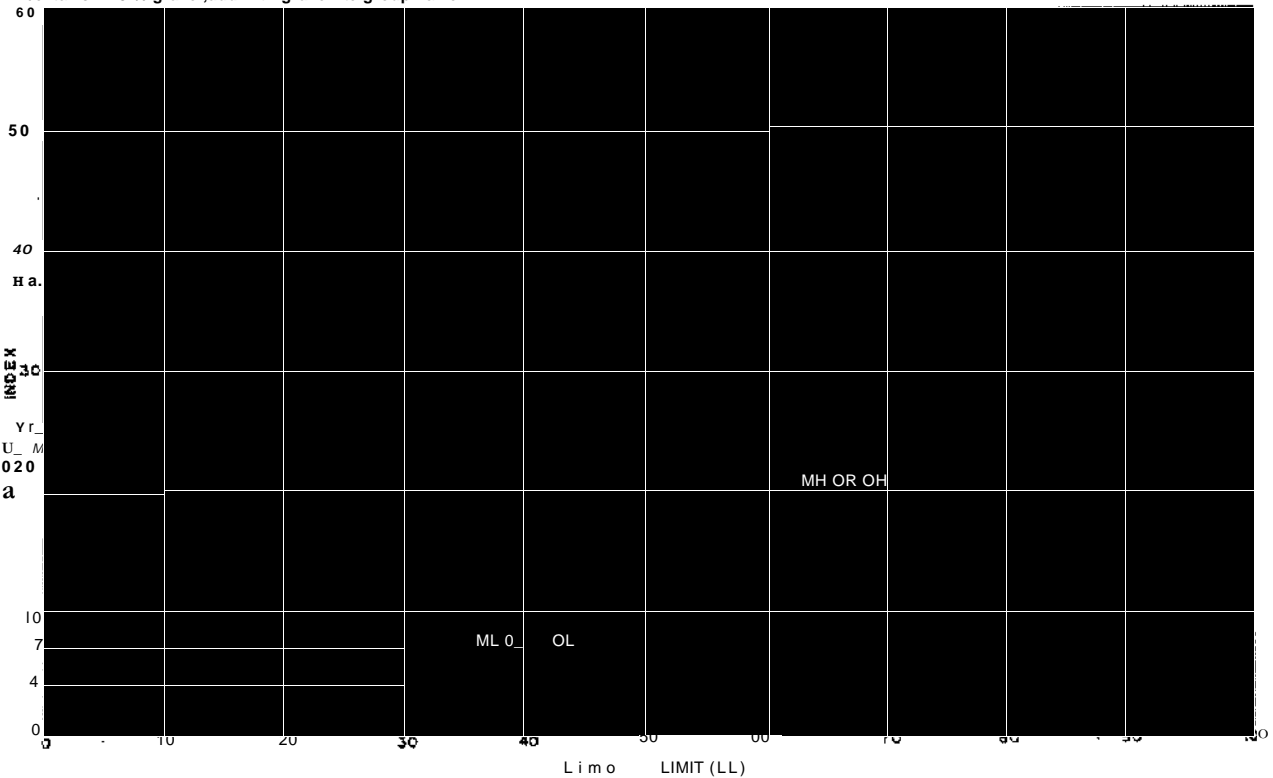
	CRITERIA		FOR ASSIGNING GROUP SYMBOLS AND		SOIL CLASSIFICATION	
	GROUP NAMES USING	LABORATORY TESTS ^a			000 111 SYMSOL	GROUP NAME ^b
O or d w Z on p c a - x ~ y 0 a o ~ 0 1 r - i A	GRAVELS More than 50% of coarse fraction retained on No.4 sieve	CLEAN GRAVELS Less than 5% fines ^e	4 and 1 < 0 c < 3 e		GW	Well graded gravel ^f
			Co < 4 and/or 1 > Cc > 3 e		GP	Poorly graded gravel ^f
		GRAVELS WITH FINES More than linesnes	Fines classify as ML or MH		GM	Silty gravel ^{f,g,h}
			Fines classify as CL or CH		GC	Clayey gravel ^{f,g,h}
	SANDS 50% or more of coarse fraction passes No 4 sieve	CLEAN SANDS Less than 5% fines ^d	Cu 6 and 1 C0 3 e		SW	Well-graded sand ⁱ
			Cot 6 and/or 1 ~ Ce 7r 3e		SP	Poorly graded sand ⁱ
		SANDS WITH FINES More than 12% fines ^d	Fines classify as ML or MH		SM	Silty sand ^{g,h,f}
			Fines classify as CL or CH		SC	Clayey sand ^{g,h,t}
0 or nr z less than 50% w ov OE of ow - " SILTS & CLAYS Liquid limit 50% or more ui 0 - Highly organic sa ^o s	SILTS & CLAYS Liquid limit less than 50%	Inorganic	P ₁ ? 4 and plots on or above "A" line		CL	Lean clay ^{k,€m}
			P ₁ ? 4 or plots below "A" line		ML	Silt ^{k,l,m}
		Organic	Liquid limit - oven dried		OH	Organic silt ^{k,l,m,q}
			Liquid limit - not dried 0.75			
	SILTS & CLAYS Liquid limit 50% or more	Inorganic	P ₁ ? 4 and plots on or above "A" line		CH	Clayey silt ^{k,l,m}
			P ₁ ? 4 or plots below "A" line		CI	Silty clay ^{k,l,m}
		Organic	Liquid limit - oven dried 0.75		OH	Organic silt ^{k,l,m,q}
			Liquid limit - not dried			
Highly organic sa ^o s		Primarily organic matter, dark color, and organic odor			PT	Peat

- a. Based on the material passing the 3-in (75-mm) sieve...
- b. If field sample contained cobbles and/or boulders, add with cobbles and/or boulders to group name.
- c. Gravels with 5 to 12% fines require dual symbols
GW - GM well graded gravel with silt
GP - GM poorly graded gravel with silt
GW - GC well graded gravel with clay
GP - GC poorly graded gravel with clay
- d. Sands with 5% to 12% a/o fines require dual symbols
SW - SM well graded sand with silt
SP - SM well graded sand with clay
SP - SM poorly graded sand with silt
SP - SC poorly graded sand with clay

- y. If Atterberg Limits plot in hatched area, soil is a CL - ML, silty clay.
- k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel whichever is predominant."
- l. If soil contains 30% plus No. 200, predominantly sand, add "sandy" to group name.
- m. If soil contains 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
- n. P₁ ? 4 and plots on or above "A" line.
- P₁ ? 4 or plots below "A" line.
- P. P₁ plots on or above "A" line.
- G. P₁ plots below "A" line.

e. $Cu = \frac{D_{60}}{D_{10}} - 1$
 $Cc = \frac{D_{10}^2}{D_{30} D_{60}}$

- l. If soil contains 15% sand, add "with sand" to group name.
- g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
- h. If fines are organic, add "with organic fines" to group name. If soil contains 15% gravel, add "with gravel" to group name.



TESTING SERVICE CORPORATION

LEGEND FOR BORING LOGS



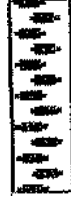
FILL



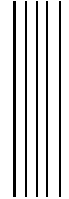
TOPSOIL



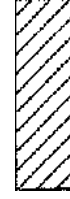
PEAT



GRAVEL SAND



SILT



CLAY DOLOMITE



SAMPLE TYPE:

- SS • Split Spoon
- ST = Thin-Walled Tube
- A • Auger

FIELD AND LABORATORY TEST DATA:

N = Standard Penetration Resistance in Blows per Foot

We Qu = In-Situ Water Content

- Unconfined Compressive Strength in Tons per Square Foot *

yD Pocket Penetrometer Measurement; Maximum Reading = 4.5 tsf =
Dry Unit Weight in Pounds per Cubic Foot

WATER LEVELS:

V

a While Drilling
End of Boring
24 Hours

SOIL DESCRIPTION:

MATERIAL

BOULDER

COBBLE

Coarse GRAVEL

Small GRAVEL

Coarse SAND

Medium SAND

Fine SAND

SILT and CLAY

PARTICLE SIZE RANGE

Over 12 inches

12 inches to 3 inches

3 inches to 3/4 inch

3/4 inch to No. 4 Sieve

No. 4 Sieve to No. 10 Sieve No.

10 Sieve to No. 40 Sieve No. 40

Sieve to No. 200 Sieve Passing

No. 200 Sieve

COHESIVE SOILS

<u>CONSISTENCY</u>	<u>Qu</u>
Very Soft	Less than 0.3
Soft	0.3 to 0.6
Stiff	0.6 to 1.0
Tough	1.0 to 2.0
Very Tough	2.0 to 4.0
Hard	4.0 and over

COHESIONLESS SOILS

<u>RELATIVE DENSITY</u>	<u>N</u>
Very Loose	0 - 4
Loose	4 - 10
Firm	10 - 30
Dense	30 - 50
Very Dense	50 and over

MODIFYING TERM

Trace
Little
Some

PERCENT BY WEIGHT

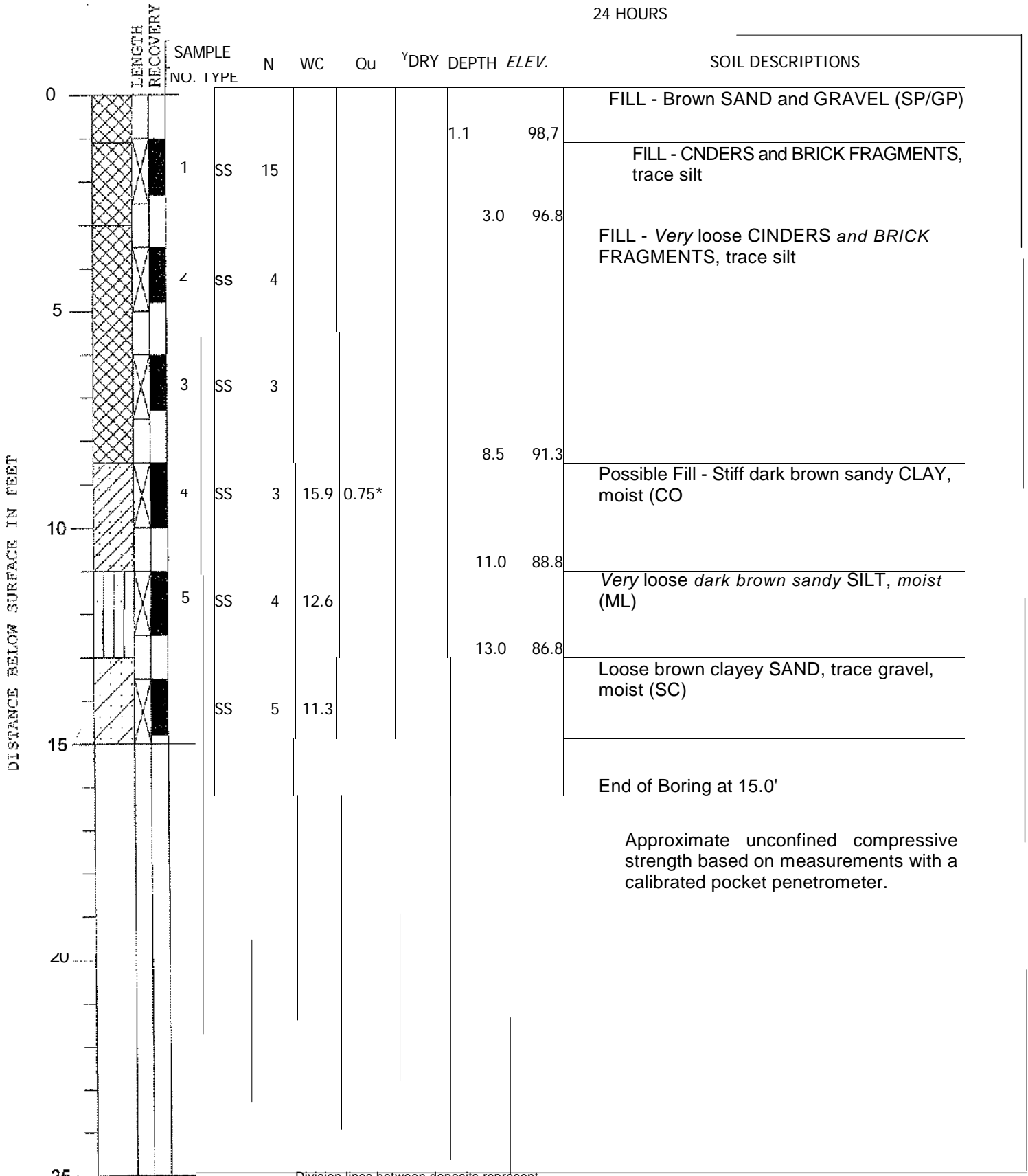
1 - 10
10 - 20
20 - 35

CLIENT Intra-Plant Maintenance, 3116 N. Main St, East Peoria, IL 61611

BORING B°1 DATE STARTED 12-21-07 DATE COMPLETED 12-21-07

WATER TABLE

ELEVATIONS
 GROUND SURFACE 99.8 ® WHILE DRILLING DRY
 END OF BORING 84.8 Q AT END OF BORING DRY
 24 HOURS



Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

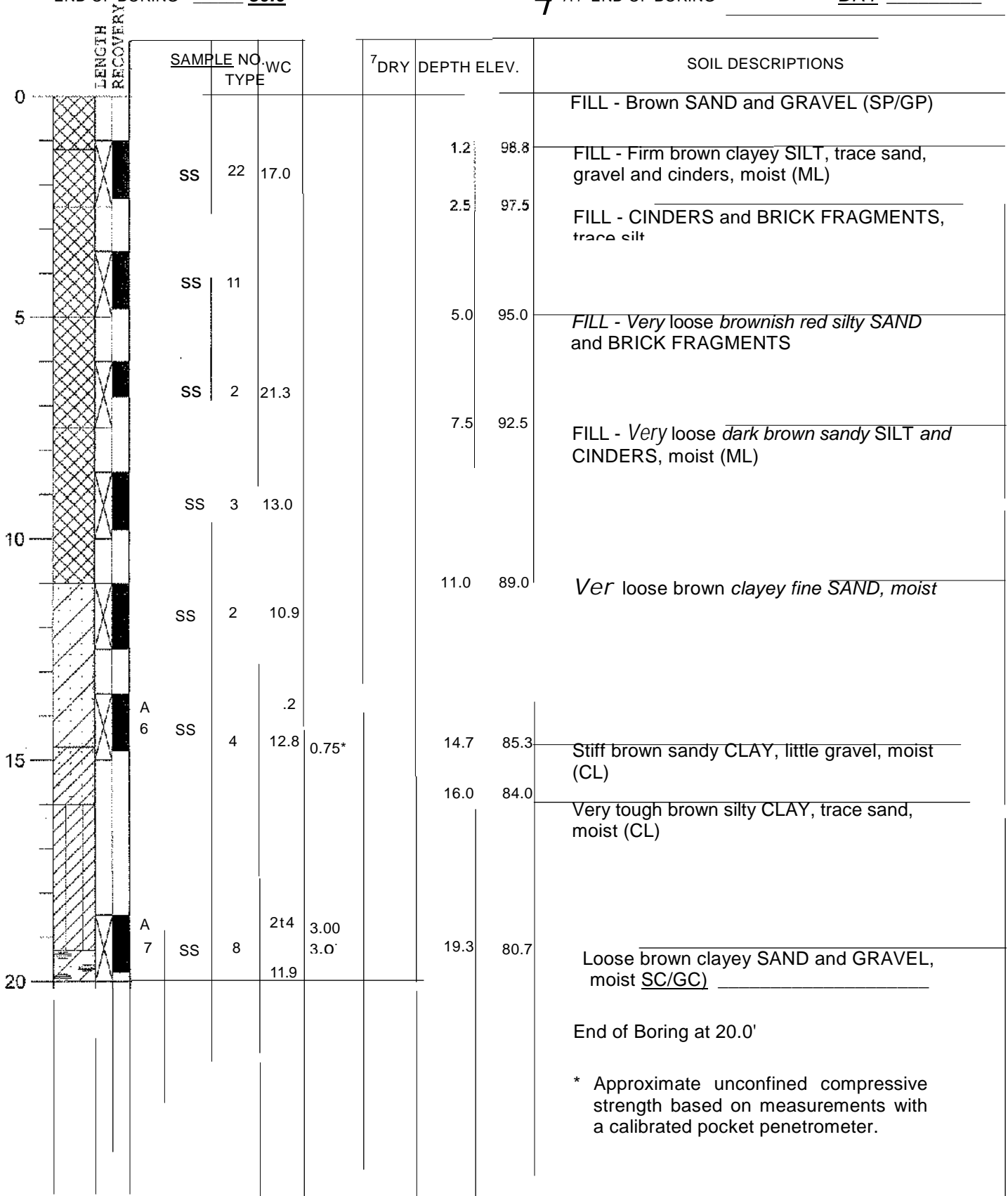
Division lines between deposits represent approximate boundaries between soil types; in-situ the transition may be gradual.



CLIENT Intra-Plant Maintenance, 3116 N. Main St., East Peoria, IL 61611

BORING B-2 DATE STARTED 12-21-07 DATE COMPLETED 12-21-07 JOB L-70.618

ELEVATIONS
 GROUND SURFACE 100.0
 DRILLING DRY
 END OF BORING 80.0 *Y* AT END OF BORING DRY
 WATER TABLE 7 WHILE



End of Boring at 20.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.



CLIENT Intra-Plant Maintenance, 3116 N. Main St., East Peoria, IL 61611

BORING **B-3**

DATE STARTED 12-21-07

DATE COMPLETED 12-21-07

JOB L-70,618

ELEVATIONS

GROUND SURFACE 99.9
 END OF BORING 85.9

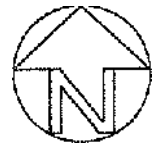
WATER TABLE

V WHILE DRILLING 7
 AT END OF BORING ' 24
 HOURS

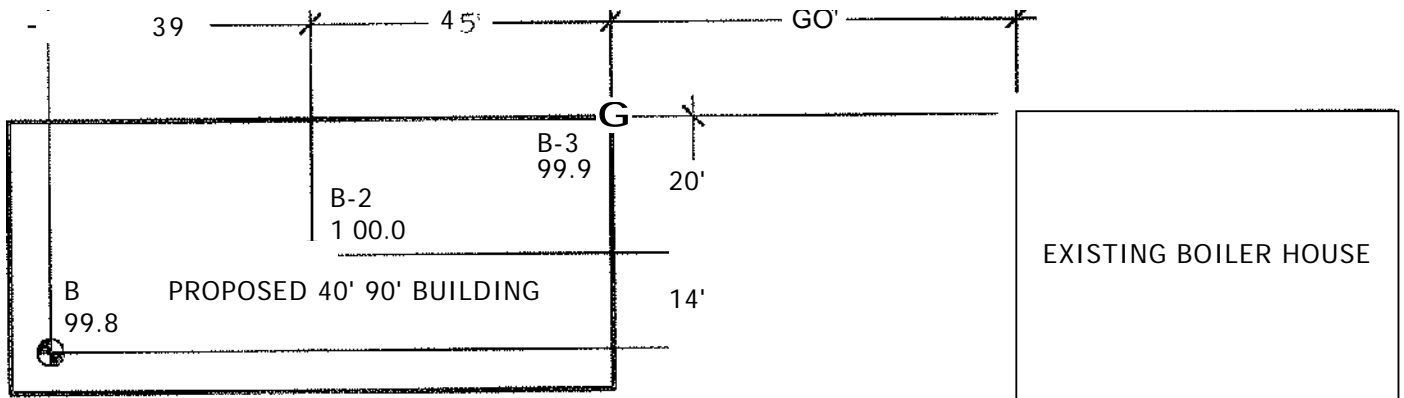
DRY
DRY

DISTANCE BELOW SURFACE IN FEET	LENGTH RECOVERY	SAMPLE NO.	TYPE	N	w C	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
0								0.5	99.4	FILL - Crushed LIMESTONE
		1	SS	25	4.1					FILL - Firm brown clayey SAND and GRAVEL, damp (SCIGC)
		2	SS	12	6.4					
5		A						5.5	94.4	FILL - Firm brown fine SAND and ASPHALT FRAGMENTS, moist (SP)
		3	SS	16	8.1					
		B			8.4					Loose to very loose brown silty fine SAND damp (SM)
		4	SS		9.5					
10		5	SS	4	8.6					
		6	SS	2	17.1					
15				50/0"						End of Boring at 14.0' - Refusal on Unknown Obstruction
20										
25										

Division lines between deposits represent approximate boundaries between soil types; in-situ the transition may be gradual



NO SCALE



PROPOSED BUILDING CORNERS STAKED BY REPRESENTATIVES OF INTRA-PLANT MAINTENANCE.

BENCHMARK IS TOP OF FINISHED FLOOR AT WEST DOOR OF BOILER HOUSE ASSUMED ELEVATION= 00.0

BORING LOCATION PLAN
GOTECHNICAL EXPLORATION
ACTIVITY PACKAGING
TREATMENT BUILDING
1525 SOUTH 2ND STREET"
PEKIN,, ILLINOIS



TESTING SERVICE CORPORATION
1701 W. MARKET STREET, SUITE B
BLOOMINGTON, ILLINOIS 61701

DRAWN BY: M KR
CHECKED BY: DPR
TSC JOB: 70,G18
DATE: 12-21-2007