



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
DNR70162

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
**BUYER 32
 304-558-0492**

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

**DIVISION OF NATURAL RESOURCES
 WILDLIFE RESOURCES SECTION
 JOBSITE
 SEE SPECIFICATIONS**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
05/24/2006				

BID OPENING DATE: **06/07/2006** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		968-30		
ADDENDUM NO. 1 CHANGES TO THE SPECIFICATIONS AS PER THE ATTACHED SPRING RUN FISH HATCHERY						
***** THIS IS THE END OF RFQ DNR70162 ***** TOTAL:						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required registration fee. (Effective June 8, 2006, the fee will change from \$45.00 to \$125.00 pursuant to House Bill 4031.)
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this contract is automatically null and void, and is terminated without further order.
14. **HIPAA Business Associate Addendum** - The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in cases of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **DUPLICATE BIDS:** All quotations must be delivered by the bidder to the respective offices listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

ORIGINAL SIGNED BID TO:

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

DUPLICATE BID TO:

State Auditor's Office
Bid Observer
Building 1 Room W114
1900 Kanawha Boulevard, East
Charleston, WV 25305-0230

NOTICE: Beginning June 8, 2006, there is no need to submit a duplicate bid to the State Auditor's Office pursuant to House Bill 4031.

**West Virginia Division of Natural Resources
Wildlife Resources Section
Spring Run Fish Hatchery Improvements
Dorcas, West Virginia**

ADDENDUM NO. 1

May 22, 2006

A. REQUEST FOR QUOTATION

1. EXHIBIT 5 - WAGE RATES – Page 3:

- A. Delete reference to U.S. Department of Labor Minimum Wage Rates for Grant County. This project will require compliance with only State of West Virginia Department of Labor Minimum Wage Rates for Grant County.

B. SPECIFICATIONS

1. Section 11325 – Sludge Transfer Pumps, page 12 – 13, Spare Parts Kits:

Provide the stated spare parts for only one pump, not each pump as stated, since the pumps are identical.

C. DRAWINGS

1. Drawing Nos. C3A, C3B, and C8 regarding new electrical service to wastewater treatment system:

Owner will bear the cost of any charges associated with new electrical service and relocation of existing light pole. Contractor to coordinate his work with the electrical company. New electrical service drop pole will be supplied by the electric company.

D. GENERAL

1. The Owner has stated that the value of fish if lost or damaged due to the Contractor's work will be approximately \$2.50 per pound.
2. Geotechnical Engineering Report prepared by Novel Geo-Environmental, PLLC, dated May 2006, is included herewith for information only, and is not to be considered as part of the contract documents. Bidder/Contractor may not rely upon or make any claim against Owner, Engineer, or any of Engineer's Consultants with respect to any Bidder/Contractor interpretation of or conclusion drawn from this information.

- 3. Pre-Bid Attendance roster is included herewith.
- 4. Bidders are hereby notified to acknowledge receipt of this addendum in the space provided on the Form of Proposal.



CHAPMAN TECHNICAL GROUP

A handwritten signature in black ink that reads "Robert G. Belcher".

Robert G. Belcher, P.E.
Vice President, Engineering

RGB/ktc
h:/projects/04053/addendum/addend no-1.doc

SPRING RUN FISH HATCHERY IMPROVEMENTS
 West Virginia Division of Natural Resources - Wildlife Resources Section

MANDATORY PRE-BID CONFERENCE ATTENDANCE LIST
 May 16, 2006 @ 1:00 P.M.

Name	Company	Phone No.	Fax No.
JOHN H. PERSUN, JR. GRIFFIN M & CABE	✓ ORDERS CONST CO., INC. P.O. BOX 1478 ST. ALBANS, WV	(304) 722-4237	(304) 201-2405
Matt Evans ✓	Grand Breakers, Inc	304-622-2400	304-622-2410
Valerie Laub ✓	Bryco Bore + Pipe Inc.	(304) 257-9681	(304) 257-1099
Mike Schmidt	Dutchland, Inc. 160 Rt. 41 P.O. BOX 549 GAP, PA 17527	717 442-8282	717 442-9330



**GEOTECHNICAL INVESTIGATION
PROPOSED MODIFICATIONS
SPRING RUN FISH HATCHERY
GRANT COUNTY, WEST VIRGINIA**

Novel Geo-Environmental, PLLC

Pittsburgh,
Pennsylvania

Charleston,
West Virginia

**GEOTECHNICAL INVESTIGATION
PROPOSED MODIFICATIONS
SPRING RUN FISH HATCHERY
GRANT COUNTY, WEST VIRGINIA**

NOVEL GEO-ENVIRONMENTAL PROJECT NO. W06035

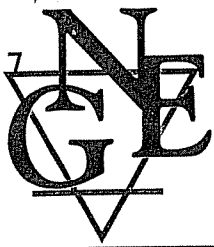
SUBMITTED TO:

**CHAPMAN TECHNICAL GROUP
GRANT COUNTY, WEST VIRGINIA**

SUBMITTED BY:

**NOVEL GEO-ENVIRONMENTAL, PLLC
ST. ALBANS, WEST VIRGINIA**

MAY 2006



Novel Geo-Environmental, PLLC

806 B Street • St. Albans, WV 25177
304-201-5180 • Fax 304-201-5182

May 16, 2006

Mr. Jeffery D. Ekstrom, P.E.
Chapman Technical Group
200 Sixth Avenue
St. Albans, WV 25177

Subject: **GEOTECHNICAL INVESTIGATION**
Proposed Spring Run Fish Hatchery Modifications
Grant County, West Virginia
Novel Geo-Environmental Project No. W06035

Dear Mr. Ekstrom:

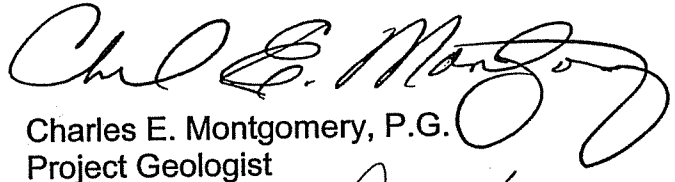
In accordance with your request, we have performed a geotechnical investigation for the subject site in Grant County, West Virginia. Authorization to proceed with this project was provided by execution of Novel Proposal No. PW06522.

This report presents the results of the field and laboratory investigation performed to determine the subsurface conditions, as well as our conclusions and recommendations concerning the geotechnical considerations for the site.

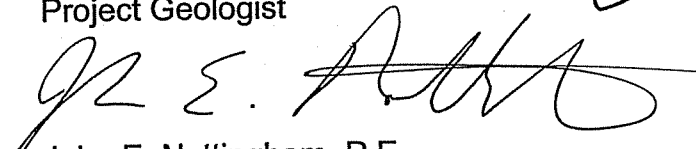
We appreciate the opportunity to assist you on this project and trust this report satisfies your needs at this time. Please feel free to contact us if you have any questions concerning this report, or if we can provide any further assistance.

Sincerely,

NOVEL GEO-ENVIRONMENTAL, PLLC



Charles E. Montgomery, P.G.
Project Geologist



John E. Nottingham, P.E.
Principal Engineer

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FIGURES

1.0 PROJECT DESCRIPTION

The subsurface investigation was performed for proposed modifications to the existing Spring Run Fish Hatchery in Grant County, West Virginia. The purpose of the investigation was to determine subsurface conditions and provide geotechnical recommendations. According to information provided by the client, the modifications will consist of the following:

- Three new raceways in the area of the existing rearing ponds. The raceways will consist of cast-in-place concrete structures approximately 3.3 ft. deep and 170 ft. long.
- A new sludge holding tank, approximately 20 ft. in diameter and 14 ft. deep. The tank will be a below-grade concrete structure.
- A new clarifier, also a below-grade concrete structure. The clarifier will be approximately 25 ft. in diameter and extend 19.6 ft. below the ground surface.

2.0 DRILLING AND SAMPLING PROCEDURES

A total of four test borings (Borings B-1 through B-4) were drilled to determine subsurface conditions at the proposed fish hatchery modifications. The test borings were drilled using a truck mounted rotary drilling rig equipped with 3-1/4 inch I.D. hollow stem augers. Standard penetration testing and sampling was performed at 2.5 ft. intervals from the ground surface to the boring termination depth or refusal on bedrock in each of the borings. The standard penetration testing and sampling was performed in accordance with ASTM D-1586. In addition, rock coring was performed in Borings B-1 and B-2 following auger refusal on bedrock.

Standard penetration testing is performed by driving a 2.0 inch O.D. split-barrel sampler into the soil with a 140-lb. hammer dropping a distance of 30 inches. The sampler is driven a distance of 18 inches in three 6-inch increments, and the number of blows required to produce the last two 6-inch increments of penetration is termed the

Standard Penetration Number or "N" value. These values provide an indication of the consistency or relative density of the soils.

A 1-3/8 inch diameter soil sample was obtained from the boring in conjunction with each penetration test. All standard penetration samples were placed in air-tight glass jars. Two inch diameter core samples of the bedrock were placed in partitioned wooden boxes. Upon completion of drilling, all samples were delivered to our laboratory where they were examined by a geotechnical engineer. Soil and bedrock descriptions, standard penetration numbers, and other pertinent subsurface information are provided on the boring logs (Figure Nos. 2 through 5) in the back of this report.

3.0 SUBSURFACE CONDITIONS

Test boring logs providing detailed information at each exploration point are provided in the back of this report (Figure Nos. 2 through 5). A summary of the subsurface conditions encountered in the test borings is as follows:

3.1 SOIL AND BEDROCK CONDITIONS

Soil overburden at the site consisted primarily of natural silty to sandy clay with varying degrees of rock fragments. The clayey soil was encountered immediately below topsoil in Borings B-1 and B-2 and beneath a surface layer of crushed stone aggregate in Borings B-3 and B-4. Standard penetration N-values within the natural clay were between 6 and 21 blows per foot of penetration, indicating a medium stiff to very stiff cohesive soil condition. A higher penetration value of 50 blows per foot was obtained in Boring B-4 at a depth of five feet due to the presence of large cobbles and/or boulders within the soil.

Natural moisture content values with the clay soil varied between approximately 13 and 28 percent. Atterberg limits testing of two samples indicates the material is of medium to high plasticity. A representative sample from Boring B-2 exhibited a plasticity index (PI) of 25 percent. A sample from Boring B-4 yielded a PI of 13 percent.

The natural clay extended to the top of bedrock in Borings B-1, B-2, and B-4, and to the boring termination depth in Boring B-3.

Bedrock was encountered below the clay in Borings B-1, B-2, and B-4 at depths ranging from 7.5 to 10.3 ft. below the existing ground surface. Bedrock consisted of medium hard siltstone that exhibited a moderate to high degree of fracturing and contained occasional calcite laminations.

3.2 GROUNDWATER CONDITIONS

Groundwater was noted at a depth of approximately 10.0 ft. during drilling operations in Borings B-1. The remainder of the borings were noted to be dry during standard penetration sampling. Borings B-1, B-3, and B-4 were left open overnight following completion. The following morning, water was noted in Boring B-1 at a depth of 8.0 ft. In Borings B-3 and B-4, water was measured at 8.5 and 1.8 ft., respectively. It should be noted that the boreholes had partially collapsed in these three borings after the augers were removed. Additionally, groundwater levels typically fluctuate and are generally dependent upon climatic conditions. Groundwater conditions at the time of construction may differ from those observed during our investigation. The test borings were backfilled with auger cuttings prior to departing the site.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 SITE PREPARATION RECOMMENDATIONS

All topsoil and vegetation should be removed before beginning construction activities. All existing structures and underground utilities should be removed or relocated. Any voids created by removal of structures, utilities, or other underground items should be properly backfilled in accordance with Section 4.2 of this report.

4.2 FILL AND BACKFILL RECOMMENDATIONS

All fill or backfill should be placed in maximum 9-inch loose lifts and compacted to 95% of the maximum dry density as determined by the standard Proctor laboratory test (ASTM D-698). Each layer of fill or backfill should be tested by a qualified geotechnical engineering firm to determine that adequate compaction has been achieved prior to placement of additional fill lifts. Fill or backfill should consist of non-organic soil/rock material with a maximum particle size of 4 inches in any direction. Cohesive soil material to be used as structural fill should have a plasticity index not greater than 16 percent. Due to its high plasticity, we recommend the clay soil in the area of Boring B-2 not be used as fill or backfill around the below grade structures. The moisture content of all fill material should be within three percent of the optimum moisture content as determined by a standard Proctor test.

4.3 EXCAVATION CONSIDERATIONS

Any excavation in which workers are required to enter must be properly shored or sloped in accordance with OSHA regulations to provide for worker safety. Based on proposed bearing depths, excavations extending into bedrock will be required for the sludge holding tank and clarifier structures. These excavations will likely require the use of hard rock excavation techniques such as jack-hammering or blasting. Contractors should be aware of the presence of bedrock and be instructed to perform their own investigation/assessment as to the methods necessary for excavation.

4.4 RACEWAY CONSTRUCTION

The base of the new raceways will be constructed approximately 3.3 ft. below existing grade. It is assumed that the existing concrete rearing ponds will be demolished and removed prior to beginning raceway construction. We anticipate the raceway bottom will bear on natural clay soil and possibly backfill soil placed after removal of the rearing ponds. We recommend backfill soil placed in this area be of similar composition as the natural soil to facilitate uniform bearing conditions for the raceway structures. Prior to placing concrete, the base of the raceway excavations

should be compacted with a moderately sized roller. If any soft zones are discovered during rolling of the excavation bottom, these areas should be undercut to a firm level and backfilled in accordance with Section 4.2 of this report. Following compaction of the soil subgrade, we recommend a minimum of 4 inches of crushed base stone be placed to provide uniform support and a leveling surface for concrete slab construction. We recommend using a modulus of subgrade reaction (K_s) of 150 pci for concrete slab design. Concrete should be placed as soon as possible after completion of the excavation work to reduce softening of the bearing surface due to precipitation. Any water which enters the excavation should be promptly removed by pumping from a sump pit in the base of the excavation.

4.5 CLARIFIER AND SLUDGE HOLDING TANK

The excavations for these structures will extend through the existing natural clay soil and into the underlying siltstone bedrock. The siltstone bedrock will provide adequate support for the new clarifier and sludge holding tank. We recommend a maximum allowable bearing pressure of 10,000 psf be used for design. Total and differential settlement of the clarifier and sludge holding tank bearing on bedrock should be negligible.

4.6 LATERAL EARTH PRESSURE RECOMMENDATIONS

The walls of below grade structures will be subjected to lateral earth pressure from the backfill soil and natural ground. We recommend that below grade walls be designed and constructed as non-yielding retaining structures using the "at-rest" earth pressure coefficient (K_0). As previously discussed, high plasticity clay soils (cohesive soil with a plasticity index greater than 16 percent) should not be used as backfill around below grade walls. Assuming that low plasticity clayey soil will be used as wall backfill materials, we recommend the parameters provided in the following table be used for wall design:

Below Grade Wall Design Parameters

<i>PARAMETER</i>	<i>RECOMMENDED VALUE</i>
At Rest Earth Pressure Coefficient	0.60
Soil Unit Weight	130 pcf

Below grade walls should also be designed considering potential additional surcharge loads exerted nearby such as adjacent structures, traffic loading, etc. Any surcharge loads anticipated at the surface should be multiplied by 0.5 and superimposed as a uniform horizontal pressure in addition to the recommended at-rest lateral earth pressure. In addition to surcharge loads, below grade walls should be designed to resist hydrostatic pressures resulting from high groundwater that could develop during flood conditions.

4.7 BUOYANT FORCES

Below grade structures may be subjected to uplifting buoyant forces from groundwater. The designer of these structures should consider potential groundwater conditions approximately equal to the water level from the design flood. If the dead and live weight of any structure is not sufficient to resist potential buoyant forces, we recommend a system of concrete deadmen or tie-down anchors be used.

4.8 ENGINEERING INSPECTIONS AND QUALITY ASSURANCE

Fill placement and compaction should be monitored by a qualified geotechnical engineering firm to verify the suitability of the fill and that compaction requirements are met. Foundation construction should be inspected by our geotechnical engineer to verify the adequacy of the bearing materials.

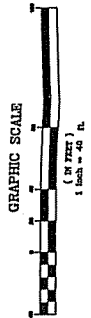
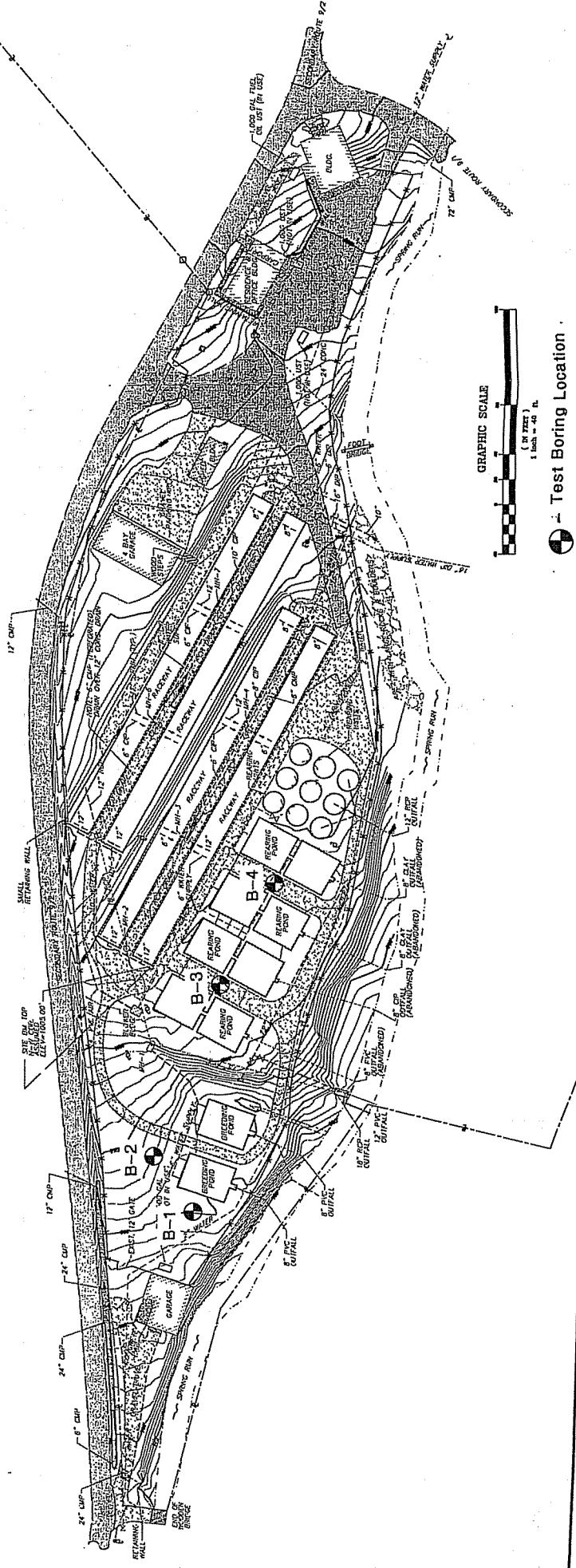
5.0 LIMITATIONS

1. This work has been prepared for the exclusive use of Chapman Technical Group for use in planning and design of the proposed modifications to the Spring Run Fish Hatchery located in Grant County, West Virginia. The work has been performed in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made.
2. In the event that changes in the nature, design or location of the proposed structures is planned, the conclusions and recommendations presented in this report should not be considered valid unless we have reviewed the changes and modified or verified our conclusions and recommendations.
3. The conclusions and recommendations contained in this report are based in part on the data obtained from the test borings and our field observations. The nature and extent of the variations between borings and observation locations may not be evident until construction. If variations become evident during construction, we should be contacted in order that actual conditions can be reviewed and applicable conclusions and recommendations can be re-evaluated.

GENERAL NOTES

- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED, GRADED TO DRAIN, AND SEDED & MULCHED AS PER SPECIFICATIONS. ALL AREAS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL CONDITIONS AS PER SPECIFICATIONS, AT THE CONTRACTOR'S EXPENSE.
- THE INFORMATION SHOWN ON THE DRAWINGS CONCERNING TYPE, SIZE, AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE TYPE, SIZE, AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID COLLISION OR UNDERMINING UTILITIES AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT.
- THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS, THE SIZE AND LOCATION OF ALL UTILITIES, AND THE LOCATION OF ALL UTILITIES BEFORE PROCEEDING WITH ADJUSTMENTS NECESSARY FOR THE WORK.
- WHERE NEW WORK JOINS EXISTING WORK AND WHERE ADJUSTMENTS TO EXISTING BUILDINGS CAUSE DAMAGE TO THE REMAINING EXISTING WORK, THE CONTRACTOR SHALL RESTORE SAID PLACE AND AREAS TO FINISHED CONDITION, CONSISTENT WITH NEW WORK USING IDENTICAL MATERIALS FOR PATCHING, PAINTING, REPAIRING, ETC.
- EXCEPT WHERE NOTED OTHERWISE IN ORDER TO PREVENT AND TO PROVIDE FOR ABUTMENT AND CONNECTION OF ALL UTILITIES TO EXISTING UTILITIES, THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS, AND STANDARDS, AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, AS WELL AS SECURE REQUIREMENTS AND CONDITIONS OF ANY NECESSARY PERMITS FOR CONSTRUCTION OBTAINED BY THE OWNER.

LEGEND	
	EDGE OF PAVEMENT
	ASPHALT AREA
	EXISTING CONCRETE PAVEMENT
	PROPOSED CONCRETE PAVEMENT
	BUILDING
	TANK OR STRUCTURE
	CREAK / FLOW LINE
	CHAIN LINK FENCE
	PROPERTY OWNER (ROUNDED)
	RIGHT OF WAY LINE OR EASEMENT
	CONCRETE MINOR
	CONCRETE MAJOR
	GATE VALVE UNLESS OTHERWISE NOTED
	MANHOLE
	FIRE HYDRANT
	UTILITY TREE



Test Boring Location

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">JOB NUMBER</td> <td>04553</td> </tr> <tr> <td style="font-size: 8px;">SCALE</td> <td>1"=40'</td> </tr> <tr> <td style="font-size: 8px;">DATE</td> <td>FEBRUARY 2008</td> </tr> <tr> <td style="font-size: 8px;">DRAWN BY</td> <td>JL</td> </tr> <tr> <td style="font-size: 8px;">CHECKED BY</td> <td>JL</td> </tr> <tr> <td style="font-size: 8px;">DATE</td> <td></td> </tr> <tr> <td style="font-size: 8px;">PROJECT</td> <td></td> </tr> <tr> <td style="font-size: 8px;">SHEET NO.</td> <td>01</td> </tr> </table>	JOB NUMBER	04553	SCALE	1"=40'	DATE	FEBRUARY 2008	DRAWN BY	JL	CHECKED BY	JL	DATE		PROJECT		SHEET NO.	01	<p>Figure No.</p> <p style="font-size: 24px; font-weight: bold;">1</p>	<p style="font-size: 24px; font-weight: bold;">Boring Location Plan</p>	<p style="font-size: 10px; text-align: center;">PROJECT INFORMATION</p> <p style="text-align: center;">West Virginia Division of Natural Resources Spring Run Fish Hatchery Grant County, West Virginia Contract No. 1</p>
JOB NUMBER	04553																		
SCALE	1"=40'																		
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SHEET NO.	01																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">REVISIONS</th> <th style="width: 50%;">BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS	BY							<p style="font-size: 12px; text-align: center;">Chapman Technical Group ENGINEERS & ARCHITECTS • INTERIOR DESIGNER • LANDSCAPE ARCHITECT 1111 17th Street, S.W., Raleigh, NC 27601 • Phone: 919.876.1000 • Fax: 919.876.1001</p>									
REVISIONS	BY																		



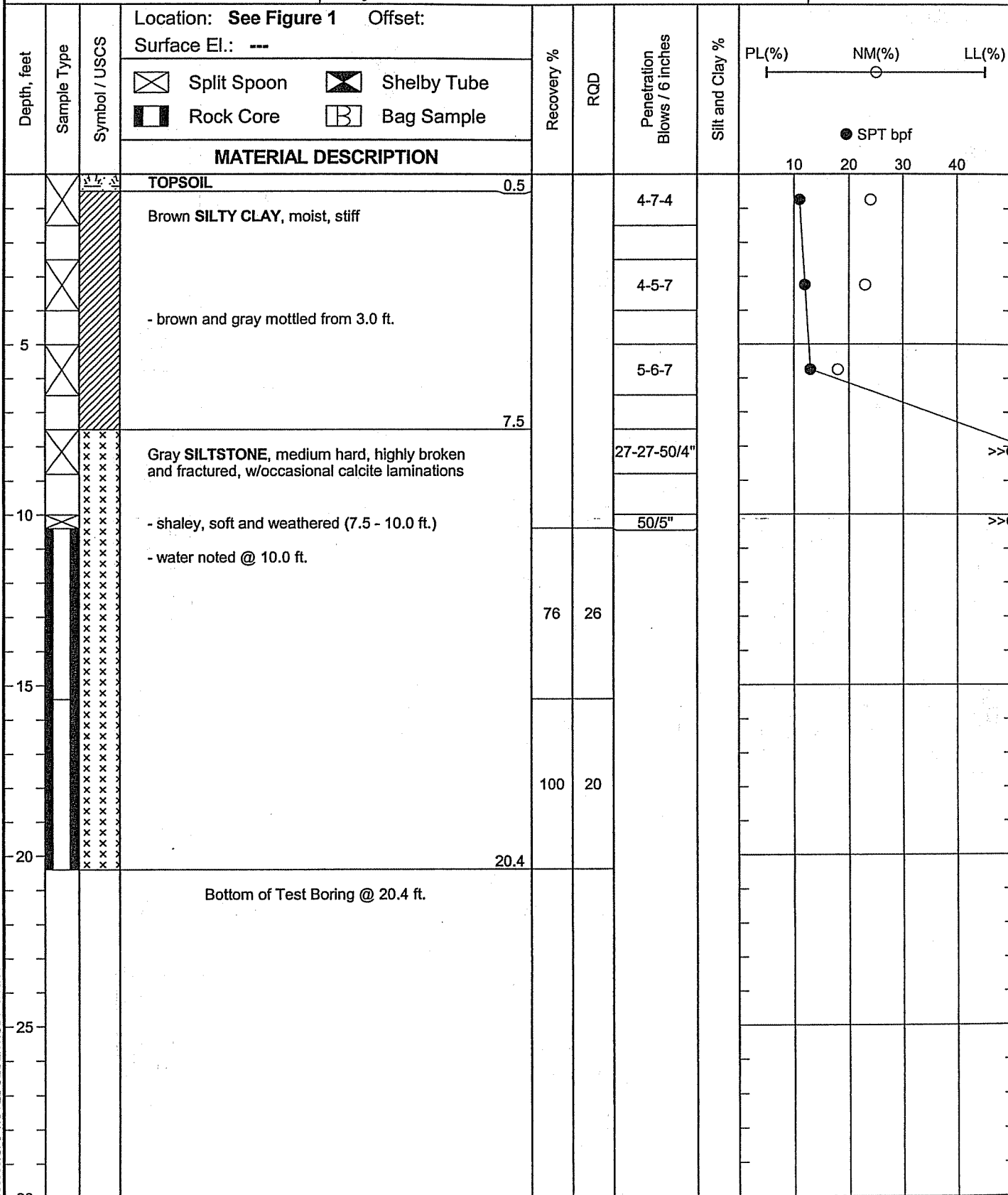
**Novel
Geo-Environmental**

Project Name: **Spring Run Fish Hatchery
Grant County, West Virginia**

BORING No.

Project Number: **W06035**

B-1



LOG OF BORING W06035.GPJ NOVEL GEOENV.GDT 5/16/06

Completion Depth: **20.4 ft.**
 Date Boring Started: **5/3/06**
 Date Boring Completed: **5/3/06**
 Engineer/Geologist: **JEN/CEM**
 Driller: **NOVEL**

Remarks: **Groundwater was first noted at a depth of 10.0 ft. during drilling operations.**

Depth to Water @ 24 hrs.: **---**



**Novel
Geo-Environmental**

Project Name: **Spring Run Fish Hatchery
Grant County, West Virginia**

BORING No.

Project Number: **W06035**

B-2 18

Location: **See Figure 1** Offset:

Surface El.: ---

- Split Spoon Shelby Tube
- Rock Core Bag Sample

MATERIAL DESCRIPTION

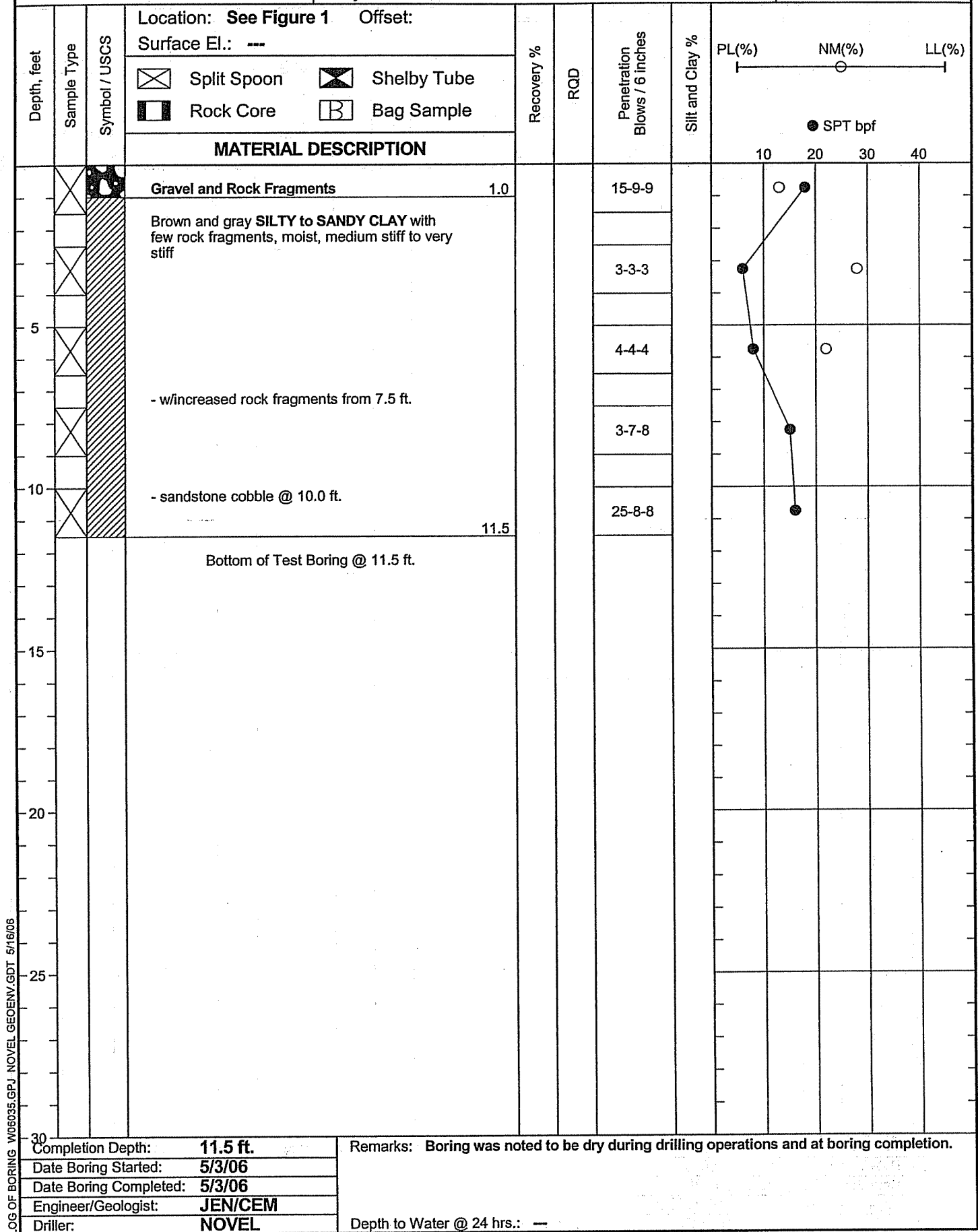
Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %	PL(%) NM(%) LL(%)
0.0			TOPSOIL					
0.3			Brown and gray SILTY CLAY , moist, medium stiff to very stiff			4-4-5		
5.0			- w/rock fragments and boulders from 6.0 ft.			5-4-6		
8.5						5-6-15		
10.0			Gray SILTSTONE , medium hard, w/occasional calcite laminations			11-13-43		
15.0			- broken and fractured (10.0 -12.0 ft.)	100	48			
15.0			Bottom of Test Boring @ 15.0 ft.					

LOG OF BORING W06035.GPJ NOVEL GEOENV.GDT 5/16/06

Completion Depth: **15.0 ft.**
 Date Boring Started: **5/4/06**
 Date Boring Completed: **5/4/06**
 Engineer/Geologist: **JEN/CEM**
 Driller: **NOVEL**

Remarks: **Boring was noted to be dry during soil sampling operations.**

Depth to Water @ 24 hrs.: ---



LOG OF BORING W06035.GPJ NOVEL GEOENV.GDT 5/16/06

Completion Depth: **11.5 ft.**
 Date Boring Started: **5/3/06**
 Date Boring Completed: **5/3/06**
 Engineer/Geologist: **JEN/CEM**
 Driller: **NOVEL**

Remarks: **Boring was noted to be dry during drilling operations and at boring completion.**

Depth to Water @ 24 hrs.: **---**



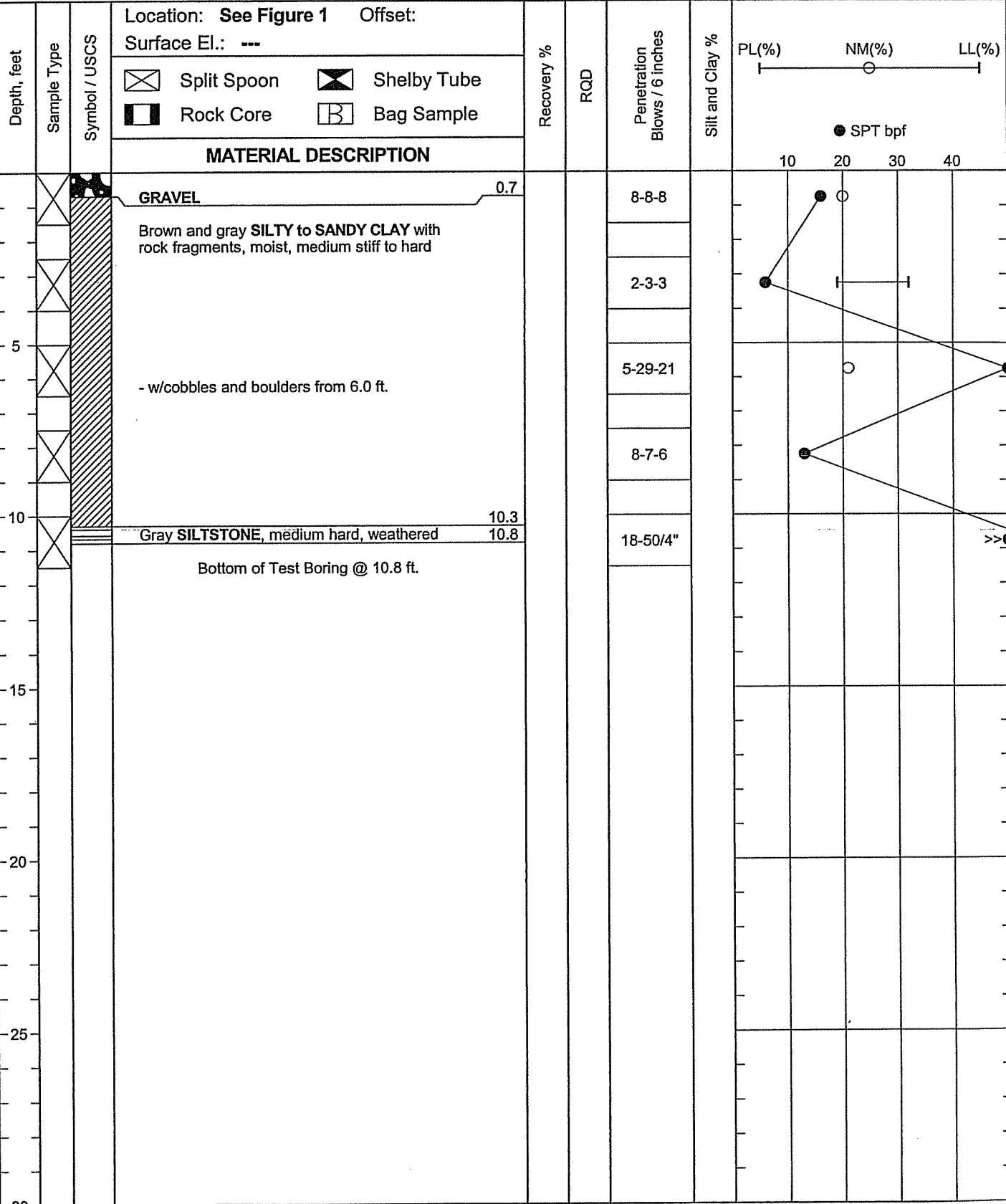
**Novel
Geo-Environmental**

Project Name: **Spring Run Fish Hatchery
Grant County, West Virginia**

BORING No.
20

Project Number: **W06035**

B-4



LOG OF BORING: W06035.GPJ, NOVEL GEOENV.GDT, 5/16/06

Completion Depth: **10.8 ft.**
 Date Boring Started: **5/3/06**
 Date Boring Completed: **5/3/06**
 Engineer/Geologist: **JEN/CEM**
 Driller: **NOVEL**

Remarks: **Boring was noted to be dry during drilling operations and boring completion.**

Depth to Water @ 24 hrs.: **—**