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	PAGE
DEFK11029	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE
304-558-2544

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
DIV ENGINEERING & FACILITIES
ARMORY BOARD SECTION

1707 COONSKIN DRIVE
CHARLESTON, WV
25311-1099 304-341-6368

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
04/04/2011				

BID OPENING DATE: 04/26/2011 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT

ADDENDUM NO. 2

1. TO INCLUDE THE GEOTECHNICAL ENGINEERING REPORT TEST BORING LOGS AND LOCATION MAP.
2. ADDENDUM ACKNOWLEDGEMENT IS ATTACHED. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID.

END OF ADDENDUM NO. 2

0001 JB 968-20
1
CONSTRUCTION OF THE MORGANTOWN READINESS CENTER

****** THIS IS THE END OF RFQ DEFK11029 ****** 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. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee.

4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, 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.

5. Payment may only be made after the delivery and acceptance of goods or services.

6. Interest may be paid for late payment in accordance with the ***West Virginia Code***.

7. Vendor preference will be granted upon written request in accordance with the ***West Virginia Code***.

8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.

10. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern the purchasing process.

11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.

12. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.

13. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at **www.state.wv.us/admin/purchase/vrc/hipaa.htm** and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

14. CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf.

15. LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

16. ANTITRUST: In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

INSTRUCTIONS TO BIDDERS

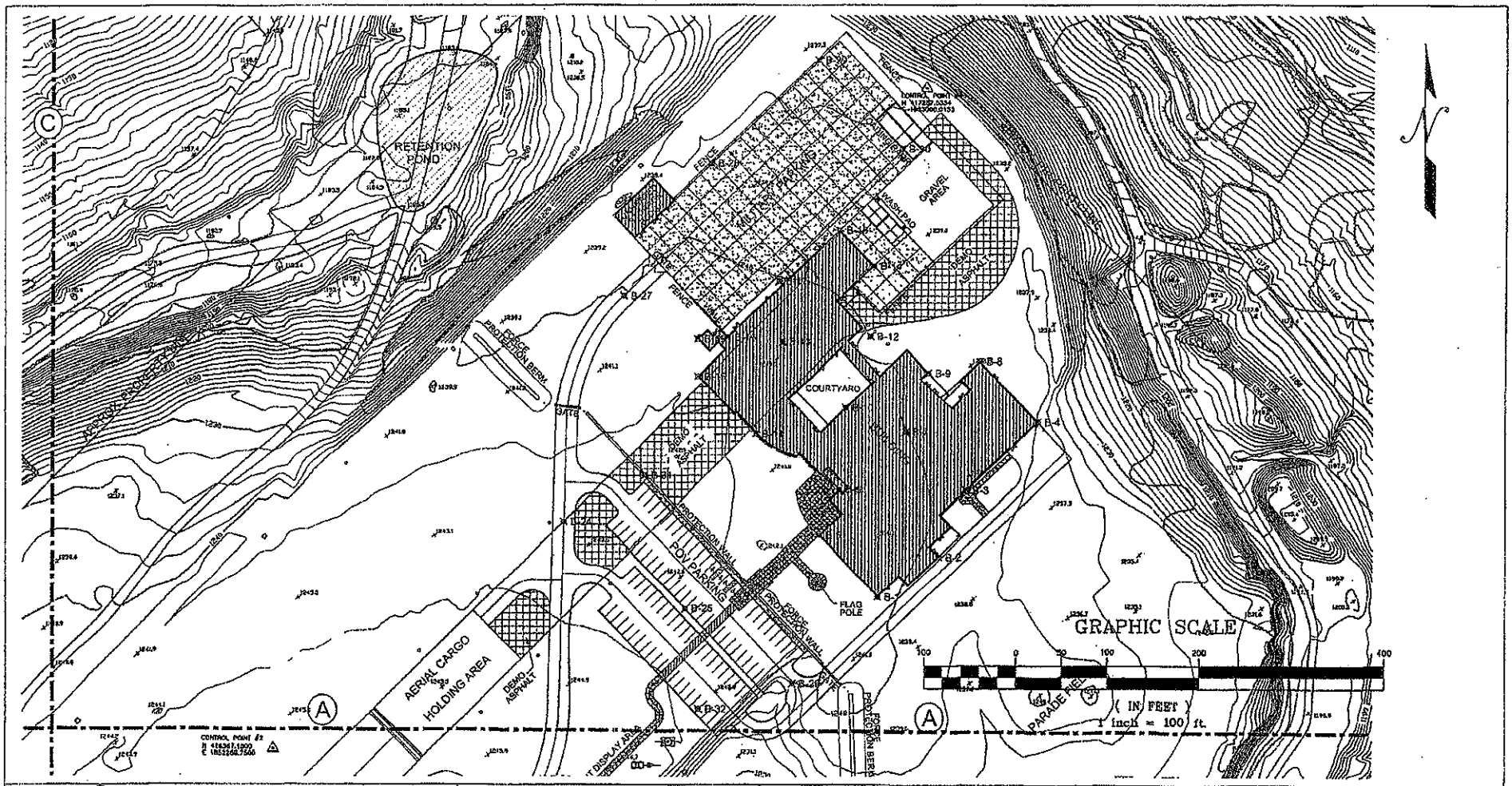
1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.

2. 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.

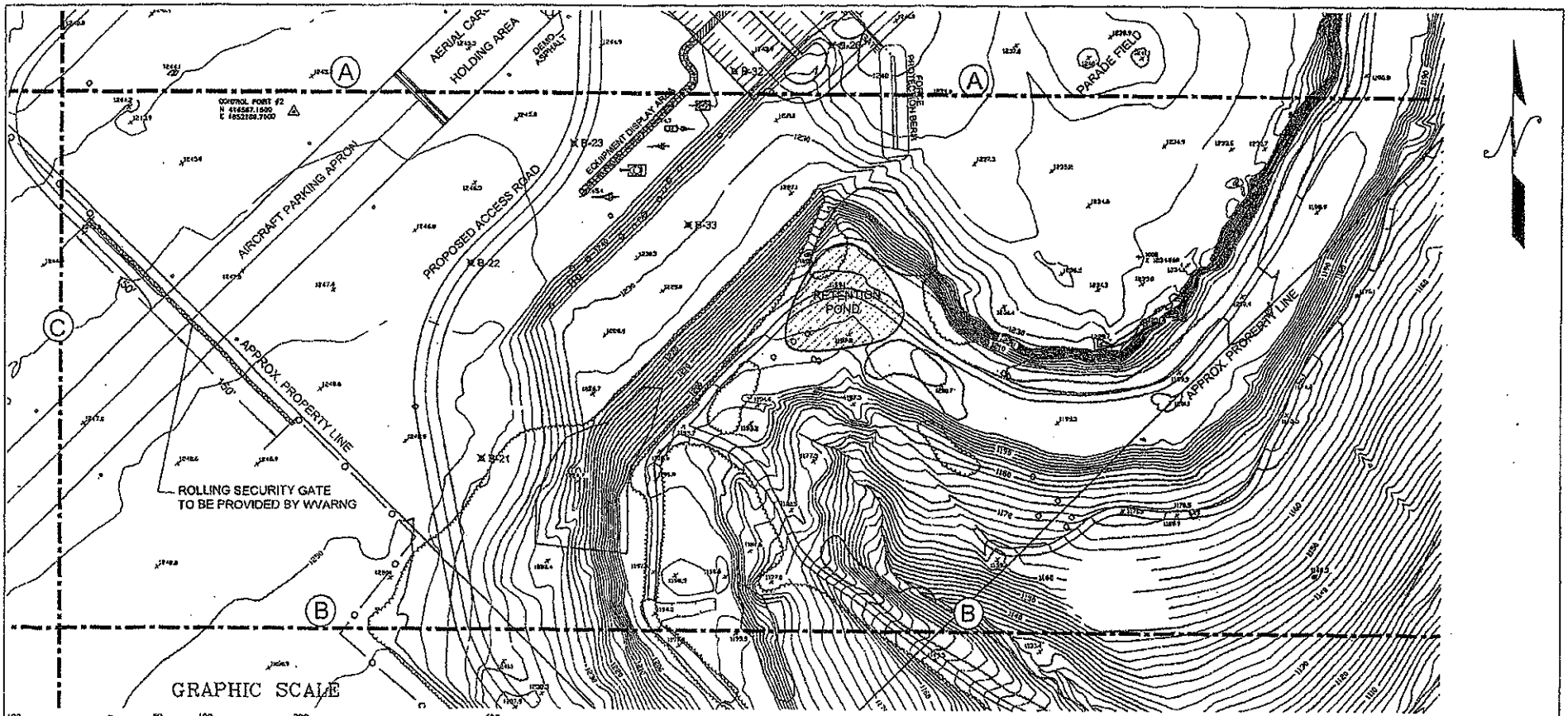
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

4. All quotations must be delivered by the bidder to the office 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: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

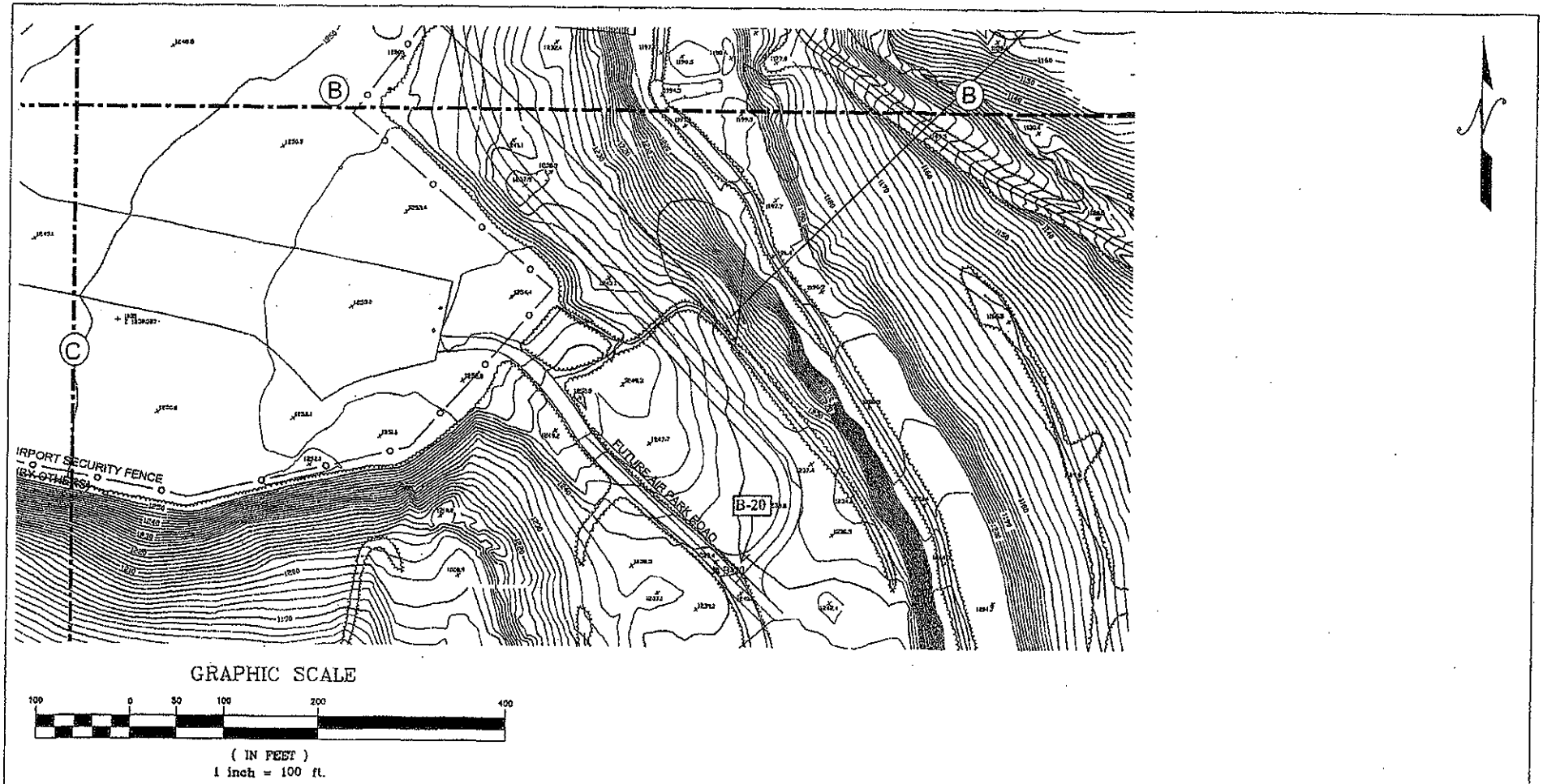
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



Schnabel Engineering 1901 SOUTH MAIN STREET SUITE 11 BLACKSBURG, VA 24060 540-953-1239 FAX 540-953-3863	Test Boring Location Plan	DRAWN BY: JAS	SCALE: 1"=100'	LEGEND
	Morgantown Readiness Center	CHECKED BY: SEC	DATE: 9-2008	B-1 Test boring number and approximate location
	Morgantown, West Virginia	CONTRACT NO.: 08160057	FIGURE: 2	



Schnabel Engineering 1901 SOUTH MAIN STREET SUITE 11 BLACKSBURG, VA 24060 540-953-1239 FAX 540-953-3863	Test Boring Location Plan	DRAWN BY: JAS	SCALE: 1"=100'	LEGEND
	Morgantown Readiness Center	CHECKED BY: SEC	DATE: 9-2008	⊕ Test boring number and B-23 approximate location
	Morgantown, West Virginia	CONTRACT NO.: 08160057	FIGURE: 3	



GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Schnabel Engineering
1901 SOUTH MAIN STREET
SUITE 11
BLACKSBURG, VA 24060
540-953-1239
FAX 540-953-3863

Test Boring Location Plan
Morgantown Readiness Center
Morgantown, West Virginia

DRAWN BY	SCALE
JAS	1"=100'
CHECKED BY	DATE
SEC	9-2008
CONTRACT NO.	FIGURE
08160057	4

LEGEND

⊕ B-20 Test boring number and approximate location

Descriptive Criteria for Rock Core Logging

Rock is defined as natural subsurface material yielding SPT blow counts of N ≥ 100/2 inches (Martin, 1977). Rock descriptions may include the following descriptive elements, as applicable, generally in the order indicated. Supplemental descriptors may also be used, depending on project performance objectives and available information.

ROCK TYPE, strength, weathering, fracturing, color, recovery, RQD

Rock Type General terms are used following the NRCS (2001) rock type classification chart based on visual identification. Some of the NRCS rock types common to our geographic area of practice are listed below. Mineralogical modifiers may be added where they help define distinct units (e.g., Garnet-Muscovite Schist).

Sedimentary:	Conglomerate, Sandstone, Mudstone, Siltstone, Claystone, Shale, Limestone, Dolomite, Coal, Chert
Igneous:	Pegmatite, Granite, Diorite, Gabbro, Diabase, Rhyolite, Monzonite, Andesite, Basalt
Metamorphic:	Gneiss, Schist, Phyllite, Slate, Quartzite, Marble, Amphibolite, Hornfels

Strength (modified from Hoek, 2001) The estimated Uniaxial Compressive Strength associated with each rock strength term is based on the field strength index test for intact rock samples as follows.

Extremely Strong	>36,000 psi	Specimen can only be chipped with a geological hammer.
Very Strong	15,000 - 36,000 psi	Specimen requires many blows of a geological hammer to fracture it.
Strong	7,500 - 15,000 psi	Specimen requires more than one blow of a geological hammer to fracture it.
Medium Strong	3,500 - 7,500 psi	Specimen cannot be peeled with a pocketknife, can be fractured with one blow from a geological hammer.
Weak	700 - 3,500 psi	Specimen can be peeled with a pocketknife with difficulty, shallow indentation made by firm blow with point of a geological hammer.
Very Weak	150 - 700 psi	Material crumbles under firm blows with point of a geological hammer, can be peeled with a pocket knife.

Weathering (modified from ACOE, 1994; and USBR, 2001)

Fresh	Mineral crystals appear bright and show no discoloration. Fractures show little or no staining on their surfaces. Discoloration does not extend into intact rock.
Slightly Weathered	Rock is generally fresh except along fractures. Some fractures are stained and discoloration may extend up to 0.5 inches into rock.
Moderately Weathered	Significant portions of rock appear dull and discolored. Rock may be significantly weaker than in its fresh state near fractures. Soil zones of limited extent may occur along some fractures.
Highly Weathered	Rock appears dull and discolored throughout. Majority of rock mass is significantly weaker than in its fresh state. Isolated zones of stronger rock and/or soil may occur throughout.
Severely Weathered	Significant portions of rock mass essentially weathered to soil. Rock fabric may still be discernable (i.e., saprolite). Isolated zones of stronger rock may occur locally. Quartz may be present as hard, fractured dikes or veins.

Fracturing (from ACOE, 1994)

Very Slightly Fractured	> 6.5 ft
Slightly Fractured	2 ft - 6.5 ft
Moderately Fractured	8 in - 2 ft
Highly Fractured	2.5 in - 8 in
Intensely Fractured	< 2.5 in

Color (from Munsell Color System; and GSA, 1995) Color descriptions include a primary color and up to two shade or secondary color modifiers, and may also include a color pattern term to define the relationship between multiple colors.

Shade:	Light, Dark
Secondary:	Blackish, Brownish, Grayish, Greenish, Reddish, Yellowish, Orangeish
Primary:	Black, Brown, Gray, Green, Red, Yellow, Orange, White
Pattern:	and, to, with mottles of, with speckles of, with streaks of, with bands of

Recovery is defined as the total length of recovered core in a core run divided by the total length of the core run, times 100 percent. A core run may be any depth interval of concern. Only natural fractures are considered for determining the length of core pieces. Mechanical breaks formed during or after coring do not count against the length determination. The length of recovered core pieces is measured along the core axis, between fracture midpoints.

RQD (ASTM D-6032, Deere & Deere, 1988, 1989) is defined as the total length of core pieces at least four inches long recovered from a core run divided by the total length of the core run, times 100 percent. A core run may be any depth interval of concern. Only natural fractures are considered for determining the length of core pieces. Mechanical breaks formed during or after coring do not count against the length determination. The length of recovered core pieces should be measured along the core axis, between fracture midpoints. Core pieces that are highly to severely weathered, very weak, or contain numerous pores should not count toward RQD.

Rev January 25, 2006

Schnabel

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-1
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1241± (ft) Total Depth: 18.7 ft

Groundwater Observations	Date	Time	Depth	Casing	Caved
During Drilling	7/15	3:28 PM	Dry	---	---
Completion	7/15	3:32 PM	Dry	---	---
Casing Pulled	7/15	3:37 PM	Dry	---	17.5'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil	ML	1240.7	C		12+8+44		
1.0	SANDY SILT, moist, brown and gray, contains mica	DR	1240.1					
2.0	DISINTEGRATED ROCK, sampled as silty sand, moist, brown		1239.1			50		
	DISINTEGRATED ROCK, sampled as silt with sand, moist, gray				5	50		
						50/1"		
						50/3"		
		DR		D	10			
						50/3"		
					15			
18.7			1222.4			50/2"		

Bottom of Boring at 18.7 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG_DRAFT LOGS_MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-2
Contract Number: 08160057.00
Sheet: 1 of 2

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel
Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/16/08
Location: See Location Plan
Ground Surface Elevation: 1240± (ft) Total Depth: 58.6 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	6:09 AM	---	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1239.7					
	SANDY SILT, moist, gray, contains weathered rock fragments	ML		C		3+5+6	PP = 1.50 tsf	
2.5	DISINTEGRATED ROCK, sampled as silt, moist, gray	DR	1237.6	D		13+26+50/2"		
5.0	SANDSTONE, weak, moderately weathered, highly fractured to moderately fractured, gray, fine to medium grained, iron oxide staining, bedding planes perpendicular to core axis, micaceous		1235.1		5	50/3"		Dry hole @ 5 ft. Water introduced for coring.
						1, CORE Run = 3.6 ft REC=40", 93% RQD=36", 83%		
	Changes to fresh to slightly weathered, no staining				10	2, CORE Run = 5.0 ft REC=56", 93% RQD=28", 47%		Gray return water.
					15	3, CORE Run = 5.0 ft REC=60", 100% RQD=35", 58%		
				E				
	Changes to medium strong, slightly fractured to moderately fractured, at 21.8'				20	4, CORE Run = 5.0 ft REC=56", 93% RQD=56", 93%		
					25	5, CORE Run = 5.0 ft REC=58", 97% RQD=58", 97%	PR = 51.6 sec/ft	
						6, CORE Run = 5.0 ft	PR = 60 sec/ft	

(continued)

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-2
Contract Number: 08160057.00
Sheet: 2 of 2

DEPTH (ft)	MATERIAL DESCRIPTION	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	SANDSTONE, weak, moderately weathered, highly fractured to moderately fractured, gray, fine to medium grained, iron oxide staining, bedding planes perpendicular to core axis, micaceous *(continued)*				REC=62", 103% RQD=54", 90%		Picked up 2" from Run #5
	SANDSTONE, weak, highly weathered, highly fractured, fine to medium grained, fractures heavily iron stained at ±80-85° to core axis, mud seam at 36.8-36.9'			35	7, CORE Run = 5.0 ft REC=53", 88% RQD=19", 32%	PR = 54 sec/ft	Brown return water.
36.9	SANDSTONE, medium strong, slightly weathered, moderately fractured, gray and white, coal stingers at 38.8-38.9'	1203.2					
39.0	Changes to weak, fresh, moderately fractured, dark gray, siltstone	1201.1		40	8, CORE Run = 5.0 ft REC=53", 88% RQD=40", 67%	PR = 114 sec/ft	
42.5	COAL, weak, fresh, intensely fractured to highly fractured, black	1197.6	E				Black return water
				45	9, CORE Run = 5.0 ft REC=30", 50% RQD=0", 0%	PR = 144 sec/ft	
49.5	SILTSTONE, medium strong, fresh, moderately fractured, gray, no staining, contains pyrite and 1 to 2-inch clay seams	1190.6		50	10, CORE Run = 5.0 ft REC=46", 77% RQD=28", 47%		Gray return water.
				55	11, CORE Run = 5.0 ft REC=57", 95% RQD=41", 68%		
58.6		1181.5					

Bottom of Boring at 58.6 ft.
Auger refusal at 5.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG_DRAFT LOGS_MORGANTOWN-COMPLETE.GPJ_SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-3
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1240± (ft) Total Depth: 6.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	2:34 PM	Dry	---	---
Completion	7/15	2:38 PM	Dry	---	---
Casing Pulled	7/15	2:42 PM	Dry	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1239.8					
	SANDY SILT, moist, brown and gray, contains mica	ML		C		5+15+31		
2.5	DISINTEGRATED ROCK, sampled as silty sand, moist, brown	DR	1237.6	D	5	21+50/4"		
						50/2"		
5.8			1234.3					
6.1	DISINTEGRATED ROCK, sampled as sand, moist, brown, trace silt	DR	1234.0			50/1"		

Bottom of Boring at 6.1 ft.
Auger refusal at 6.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-4
Contract Number: 08160057.00
Sheet: 1 of 2

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel
Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/16/08 Finished: 7/16/08
Location: See Location Plan
Ground Surface Elevation: 1239± (ft) Total Depth: 53.5 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/16	10:28 AM	Dry	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1238.2			3+2+4	MC = 14.5%	
	SILTY SAND, moist, brown, contains rock fragments, and mica	SM		C		7+6+10	MC = 10.3%	
4.0	SANDY SILT, moist, dark gray and brown, contains mica	ML	1234.6		5	11+17+22	MC = 13.3%	
7.5	DISINTEGRATED ROCK, sampled as silt, moist, dark gray and brown	DR	1231.1	D	10	20+35+50/4"		
						25+50/2"		
					15	50/4"		
15.0	SANDSTONE, weak, highly weathered, highly fractured, gray, fine to coarse grained, iron oxide staining, bedding planes perpendicular to core axis, contains coal stingers		1223.6			1, CORE Run = 3.6 ft REC=33", 79% RQD=5", 12%		Dry hole @ 15 ft. Water introduced for coring. Brown return water.
18.2	SHALE, weak, slightly weathered, highly fractured, black, iron oxide staining		1220.4	E	20	2, CORE Run = 5.0 ft REC=50", 83% RQD=24", 40%		Drilling penetration rate slower.
20.5	SANDSTONE, weak to medium strong, highly weathered to moderately weathered, moderately fractured, gray, fine to coarse grained, iron oxide staining, intensely fractured and heavily iron stained at 23.5-23.9' and 25.6-25.7', few coal stringers		1218.1			3, CORE Run = 5.0 ft REC=55", 92%		

(continued)

Schnabel Engineering

TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: **B-4**
Contract Number: 08160057.00
Sheet: 2 of 2

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	SANDSTONE, weak to medium strong, highly weathered to moderately weathered, moderately fractured, gray, fine to coarse grained, iron oxide staining, intensely fractured and heavily iron stained at 23.5-23.9' and 25.6-25.7', few coal stringers *(continued)*					RQD=48", 80%		Gray return water.
						4, CORE Run = 5.0 ft REC=58", 97% RQD=48", 80%		Drilling penetration rate faster.
					30			
						5, CORE Run = 5.0 ft REC=58", 97% RQD=40", 67%		Brown return water.
					35			
38.2	SILTSTONE, weak, fresh, intensely fractured to highly fractured, dark gray		1200.4	E		6, CORE Run = 5.0 ft REC=30", 50% RQD=0", 0%		Drilling penetration rate slower.
					40			
42.0	COAL, intensely fractured to highly fractured, black		1196.6			7, CORE Run = 5.0 ft REC=36", 60% RQD=0", 0%		Black return water
					45			No return water.
48.5	SILTSTONE, medium strong, fresh, moderately fractured, gray, no staining, bedding plane fractures at ±10.0' to core axis, few are clay filled		1190.1			8, CORE Run = 5.0 ft REC=47", 78% RQD=47", 78%		
					50			
53.5			1185.1					

Bottom of Boring at 53.5 ft.
Auger refusal at 15.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/8/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-5
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 8.6 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	3:03 PM	Dry	---	---
Casing Pulled	7/14	3:14 PM	Dry	---	---
Completion	7/14	3:19 PM	Dry	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil	FILL	1241.7	A		6+50/5"		
0.7	FILL, sampled as silty sand, moist, brown, contains rock fragments, and mica		1241.3					
	DISINTEGRATED ROCK, sampled as sandy silt, moist, brown	DR		D	5	30+50/5"	MC = 6.7%	
						50/5.5"		
						50/1.5"		
8.6	Changes to gray		1233.4			50/1"		Augers grinding/scraping

Bottom of Boring at 8.6 ft.
Auger refusal at 8.5 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG_DRAFT LOGS_MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-6
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 11.5 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	3:31 PM	Dry	---	---
Completion	7/14	3:40 PM	Dry	---	---
Casing Pulled	7/14	3:47 PM	Dry	---	10.8'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Rootmat and topsoil		1241.4					
	SILTY SAND, moist, brown and gray, contains mica, and rock fragments	SM		C		4+5+7		
2.5	DISINTEGRATED ROCK, sampled as sandy silt, moist, brown		1239.1			19+50/3"		
						50/4"		No recovery
	Changes to gray	DR		D	5	50/5"		
	Changes to black					50/3"		
11.5			1230.1		10	50/1"		

Bottom of Boring at 11.5 ft.
Auger refusal at 11.4 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS_MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-7
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1241± (ft) Total Depth: 6.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	2:14 PM	---	---	---
Completion	7/15	2:16 PM	Dry	---	---
Casing Pulled	7/15	2:19 PM	---	---	6.1'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1240.3					
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		3+7+8		
1.7		CL	1238.9	C				
2.5	LEAN CLAY WITH SAND, moist, brown and gray		1238.1			14+50/3"		
	DISINTEGRATED ROCK, sampled as silt, moist, gray	DR		D		50/3"		No recovery
5.0	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR	1235.6		5			
6.1			1234.5			50/0"		

Bottom of Boring at 6.1 ft.
Auger refusal at 6.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-8
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1240± (ft) Total Depth: 8.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	1:41 PM	Dry	---	---
Completion	7/15	1:43 PM	Dry	---	---
Casing Pulled	7/15	1:45 PM	Dry	---	8.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1239.2					
	FILL, sampled as sandy silt, moist, brown, contains mica, and rock fragments	FILL		A		4+4+6	MC = 10.4%	
1.5		ML	1238.0	C				
2.5	SANDY SILT, moist, brown, contains mica		1237.0			10+43+50/3"		
	DISINTEGRATED ROCK, sampled as silt, moist, brown					50/5.5"		
		DR		D	5			
						50/3"		No recovery
8.1			1231.4			50/1"		

Bottom of Boring at 8.1 ft.
Auger refusal at 8.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-9
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1240± (ft) Total Depth: 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	1:16 PM	---	---	---
Completion	7/15	1:18 PM	Dry	---	---
Casing Pulled	7/15	1:21 PM	---	---	10.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1240.0					
	FILL, sampled as sandy silt, moist, brown, contains mica, and rock fragments	FILL		A		3+3+5	MC = 16.3%	
2.0	DISINTEGRATED ROCK, sampled as silt, moist, gray		1238.3			26+50/5"	MC = 7.1%	
		DR		D	5	50/2"		No recovery
						50/3"		
10.0			1230.3		10	50/2"		

Bottom of Boring at 10.0 ft.
Auger refusal at 10.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG_DRAFT LOGS_MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-10
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1241± (ft) Total Depth: 12.5 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	4:04 PM	Dry	---	---
Completion	7/14	4:10 PM	Dry	---	---
Casing Pulled	7/14	4:15 PM	Dry	---	12.7'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1240.7					
	FILL, sampled as silty sand, moist, brown, contains rock fragments, and mica	FILL		A		2+3+7		
2.0			1239.0			28+50/4"	MC = 7.6%	
	DISINTEGRATED ROCK, sampled as silt, moist, brown							
	Changes to gray					13+50/3"		
					5			
		DR		D		50/4"		
						50/4.5"		
					10			
12.5			1228.5			50/0"		

Bottom of Boring at 12.5 ft.
Auger refusal at 12.5 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-11
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 9.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	5:07 PM	Dry	---	---
Completion	7/14	5:13 PM	Dry	---	---
Casing Pulled	7/14	5:18 PM	Dry	---	6.5'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1241.8					
	FILL, sampled as silty gravel, moist, brown, contains mica	FILL		A		7+6+6	MC = 3.1%	Rip rap in auger cuttings
						7+4+6		
4.5	DISINTEGRATED ROCK, sampled as sandy silt, moist, brown		1237.7			8+31+50/0.5"		
		DR		D	5	50/3"		No recovery
	Changes to gray							
9.1			1233.1			50/1.5"		

Bottom of Boring at 9.1 ft.
Auger refusal at 9.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-12
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1241± (ft) Total Depth: 4.2 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	4:24 PM	Dry	---	---
Completion	7/14	4:30 PM	Dry	---	---
Casing Pulled	7/14	4:35 PM	Dry	---	4.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Rootmat and topsoil		1240.7					
	PROBABLE FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		5+7+14		
1.5			1239.4					
	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR		D		24+27+50/4"		
4.2			1236.7			50/1.5"		

Bottom of Boring at 4.2 ft.
Auger refusal at 4.2 ft.
Boring backfilled with cuttings upon completion.
Boring offset 12 feet east due to utilities

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-13
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 3.6 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Completion	7/14	4:40 PM	Dry	---	---
Completion	7/14	4:42 PM	---	---	---
Casing Pulled	7/14	4:46 PM	Dry	---	3.5'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.5	Asphalt		1241.3					
1.0	Crushed stone	FILL	1240.8	A				
1.5	SILTY SAND, moist, brown, contains rock fragments, and mica		1240.3			19+50/5"		
	DISINTEGRATED ROCK, sampled as sand, dry, brown	DR		D				
3.6			1238.2			50/1.5"		

Bottom of Boring at 3.6 ft.
Auger refusal at 3.5 ft.
Boring backfilled with cuttings upon completion.
Boring patched at the surface with cold patch asphalt.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-14
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1240± (ft) Total Depth: 12.6 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	9:40 AM	Dry	---	---
Completion	7/15	9:42 AM	Dry	---	---
Casing Pulled	7/15	9:44 AM	Dry	---	12.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.8	Asphalt		1239.6	A				
1.3	Crushed stone		1239.1			50/5.5" 50/4"		
	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR		D		50/3"		No recovery
					5	50/1.5"		
						50/1"		
					10			
12.6			1227.8			50/1.5"		

Bottom of Boring at 12.6 ft.
Auger refusal at 12.5 ft.
Boring backfilled with cuttings upon completion.
Boring patched at the surface with cold patch asphalt.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-15
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 9.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	5:31 PM	Dry	---	---
Completion	7/14	5:34 PM	Dry	---	---
Casing Pulled	7/14	5:39 PM	Dry	---	8.3'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1241.8					
	FILL, sampled as sand with silt, moist, brown, contains rock fragments, and mica	FILL		A		7+9+9		
2.0			1240.1					
	DISINTEGRATED ROCK, sampled as silt, moist, yellowish brown	DR		D	5	33+23+44	MC = 8.8%	
						50/4"		
						50/5"		
8.5			1233.6					
9.1	DISINTEGRATED ROCK, sampled as sandy silt, moist, brown	DR	1233.0			50/1"		

Bottom of Boring at 9.1 ft.
Auger refusal at 9.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 8/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-16
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 8.5 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	11:00 AM	Dry	—	—
Completion	7/15	11:04 AM	Dry	—	—
Casing Pulled	7/15	11:06 AM	Dry	—	8.3'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1241.1					
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		5+20+14		
2.0	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR	1239.5			50		
				D	5	50/5"		
6.0	DISINTEGRATED ROCK, sampled as silt, moist, dark gray	DR	1235.5			27+50/5"		
8.3			1233.2					
8.5	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR	1233.0			50/0.5"		

Bottom of Boring at 8.5 ft.
Auger refusal at 8.5 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2009_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-17
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1242± (ft) Total Depth: 13.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	10:25 AM	Dry	---	---
Completion	7/15	10:27 AM	Dry	---	---
Casing Pulled	7/15	10:32 AM	Dry	---	12.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1241.7					
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		5+14+15	LL = 25 PL = 18 MC = 9.8% % Passing #200 = 49.3	Rip rap in auger cuttings
2.0		SC	1240.0	C		6+50		
2.5	CLAYEY SAND, moist, brown and gray, contains rock fragments		1239.5					
	DISINTEGRATED ROCK, sampled as sand, moist, brown				5	50/2"		
		DR		D		50/2"		
					10	50/2"		Augers grinding/scraping.
13.1			1228.9			50/1"		

Bottom of Boring at 13.1 ft.
Auger refusal at 13.0 ft.
Boring backfilled with cuttings upon completion.
Borehole offset 6 feet west to avoid utility.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/8/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-18
Contract Number: 08160057.00
Sheet: 1 of 3

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel
Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/16/08 Finished: 7/17/08
Location: See Location Plan
Ground Surface Elevation: 1240± (ft) Total Depth: 68.6 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/16	4:44 PM	Dry	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.6	Asphalt		1239.5					
1.1	Crushed stone		1239.0					
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		9+7+6		
3.5	DISINTEGRATED ROCK, sampled as sand, dry, brown	DR	1236.6	D	5	50/5"		
7.5	SANDSTONE, very weak to weak, moderately weathered, moderately fractured, brown, fine to coarse grained, iron oxide staining, majority of fractures and bedding planes perpendicular to core axis, manganese stained joints at 45° to core axis at ±15.0', 15.4', 17.1' and 18.6'		1232.6	E		1, CORE 50/2" Run = 0.2 ft REC=15", 750% RQD=0", 0%		Dry hole @ 7 ft. Water introduced for coring.
	Changes to medium strong				10	2, CORE Run = 5.0 ft REC=52", 87% RQD=19", 32%		Brown return water. Moderately rapid penetration rate.
					15	3, CORE Run = 5.0 ft REC=55", 92% RQD=36", 60%		
					20	4, CORE Run = 5.0 ft REC=55", 92% RQD=48", 80%		Gray return water.
	Changes to moderately weathered, gray					5, CORE Run = 5.0 ft REC=60", 100%		

(continued)

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center, Morgantown Municipal Airport, Morgantown, West Virginia

Boring Number: B-18
Contract Number: 08160057.00
Sheet: 2 of 3

DEPTH (ft)	MATERIAL DESCRIPTION	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
					RQD=45", 75%		
26.4	SANDSTONE, weak to medium strong, highly weathered, brown, fine to medium grained, bedding plane fractures perpendicular to core axis, iron stained fracture parallel to core axis from 26.3-27.9';clay seam at ±28.7-28.9'	1213.7					Brown return water.
				30	6, CORE Run = 5.0 ft REC=59", 98% RQD=31.5", 53%		
	Changes to highly fractured, gray, with coal stringers Changes to iron stained vertical fracture at 32.6-33.2'						
					7, CORE Run = 5.0 ft REC=50", 83% RQD=50", 83%		
34.9	SILTSTONE, weak, slightly weathered, moderately fractured to slightly fractured, dark gray, no staining, contains sandstone laminations, clay seam at ±38.7-38.9'	1205.2		35			
					8, CORE Run = 5.0 ft REC=59", 98% RQD=59", 98%		Disking along bedding laminations from 43-43.6'
			E	40			
					9, CORE Run = 5.0 ft REC=57", 95% RQD=57", 95%		
47.4	SANDSTONE, strong, slightly weathered, moderately fractured to slightly fractured, gray, fine to medium grained, contains coal stringers, layer of dark gray siltstone at ±47.1-49.8', iron stained fracture at ±10.0' to core axis at 53.5-53.8'; siltstone laminations at ±58.36-59.4' and 60-63'	1192.7		45			
					10, CORE Run = 5.0 ft REC=60", 100% RQD=48.5", 81%		
				50			
					11, CORE Run = 5.0 ft REC=60", 100% RQD=46", 77%		Partial loss of return water.
				55			

(continued)

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2005_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-18
Contract Number: 08160057.00
Sheet: 3 of 3

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	SANDSTONE, strong, slightly weathered, moderately fractured to slightly fractured, gray, fine to medium grained, contains coal stringers, layer of dark gray siltstone at ±47.1-49.8', iron stained fracture at ±10.0' to core axis at 53.5-53.8'; siltstone laminations at ±58.36-59.4' and 60-63' *(continued)*				60	12, CORE Run = 5.0 ft REC=60", 100% RQD=40", 67%		
63.0	SILTSTONE, weak, fresh, highly fractured to moderately fractured, dark gray, no staining, contains sandstone and shale laminations and lenses		1177.1	E	65	13, CORE Run = 5.0 ft REC=57", 95% RQD=57", 95%		
68.6			1171.5					

Bottom of Boring at 68.6 ft.
Auger refusal at 7.0 ft.
Boring backfilled with cuttings upon completion.
Boring patched with cold patch asphalt at the surface.

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-19
Contract Number: 08160057.00
Sheet: 1 of 3

Contractor: Total Depth Drilling, Inc
Knoxville, TN

Contractor Foreman: T. Hall

Schnabel Representative: D. Shaw

Equipment: CME-550X

Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel

Hammer Type: Auto Hammer (140 lb)

Dates Started: 7/17/08 Finished: 7/17/08

Location: See Location Plan

Ground Surface Elevation: 1241± (ft) Total Depth: 68.7 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/17	9:52 AM	Dry	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil	SM	1241.1	C		9+20+50	LL = 23 PL = 18 % Passing #200 = 35.9	
1.0	SILTY SAND, moist, brown, contains mica	DR	1240.4					
2.0	DISINTEGRATED ROCK, sampled as sand, moist, brown		1239.4			30+50/5"		
	DISINTEGRATED ROCK, sampled as silty sand, moist, brown					50/6"		
		DR		D	5			
						50/3"		Dry hole at 7 ft. Water introduced for coring.
9.0	SANDSTONE; medium strong, moderately weathered to highly weathered, moderately fractured to highly fractured, brown, fine to coarse grained, iron oxide staining, majority of fractures and bedding planes perpendicular to core axis, contains coal lenses and stringers, spotty iron staining along bedding plane fractures		1232.4		10	1, CORE Run = 4.7 ft REC=50", 89% RQD=21", 37%		Brown return water.
					15	2, CORE Run = 5.0 ft REC=58", 97% RQD=30", 50%		Vertically to steeply dipping, iron stained fracture at 13.8-14.2' and 19.4-19.8'
	Changes to very weak to weak, severely weathered, at 16.8'			E				
	Changes to medium strong, slightly weathered to moderately weathered, gray, fine to medium stained; silty micuceous laminations/partings from ±20.5-24.6'				20	3, CORE Run = 5.0 ft REC=60", 100% RQD=47", 78%		
						4, CORE Run = 5.0 ft REC=55", 92%		

(continued)

Schnabel Engineering

TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: **B-19**
Contract Number: 08160057.00
Sheet: 2 of 3

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	Changes to weak to very weak, highly weathered to severely weathered, intensely fractured to highly fractured, brown					RQD=35.5", 59%		
	SANDSTONE, medium strong, moderately weathered to highly weathered, moderately fractured to highly fractured, brown, fine to coarse grained, iron oxide staining, majority of fractures and bedding planes perpendicular to core axis, contains coal lenses and stringers, spotty iron staining along bedding plane fractures *(continued)*				30	5, CORE Run = 5.0 ft REC=57", 95% RQD=50", 83%		
	Changes to medium strong, slightly weathered, slightly fractured to moderately fractured, gray							Gray return water.
	Changes to medium strong to strong, fresh, moderately fractured to slightly fractured				35	6, CORE Run = 5.0 ft REC=58", 97% RQD=50", 83%		
	Changes to highly fractured, at ±37.0-37.4'				40	7, CORE Run = 5.0 ft REC=56", 93% RQD=53", 88%		
42.5	SILTSTONE, weak, fresh, slightly fractured to moderately fractured, dark gray, no staining		1198.9	E	45	8, CORE Run = 5.0 ft REC=57", 95% RQD=57", 95%		Drilling penetration rate slower.
					50	9, CORE Run = 5.0 ft REC=58", 97% RQD=58", 97%		Discing along laminations from 50.0-51.5'
54.0	SANDSTONE, medium strong, fresh, slightly fractured to moderately fractured, gray, fine to coarse grained, contains numerouse coal stringers		1187.4		55	10, CORE Run = 5.0 ft REC=54", 90% RQD=54", 90%		
55.3	SILTSTONE, weak, fresh, slightly fractured to moderately fractured, dark gray, no staining, contains sandstone laminations		1186.1					

(continued)

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-19
Contract Number: 08160057.00
Sheet: 3 of 3

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	SILTSTONE, weak, fresh, slightly fractured to moderately fractured, dark gray, no staining, contains sandstone laminations *(continued)*			E	60	11, CORE Run = 5.0 ft REC=56", 93% RQD=56", 93%		
					65	12, CORE Run = 5.0 ft REC=52", 87% RQD=52", 87%		
67.5	SHALE, weak, fresh to slightly weathered, slightly fractured, dark gray		1173.8					
68.7			1172.7					

Bottom of Boring at 68.7 ft.
Auger refusal at 9.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-20
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/18/08 Finished: 7/18/08
Location: See Location Plan

Ground Surface Elevation: 1241± (ft) Total Depth: 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/18	11:55 AM	Dry	---	---
Completion	7/18	11:57 AM	Dry	---	---
Casing Pulled	7/18	12:03 PM	Dry	---	8.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Crushed stone		1240.2					
	SANDY LEAN CLAY, moist, brown	FILL		A		6+5+4	PP = 3.25 tsf	
2.0	CLAYEY SAND, moist, brown and gray	SC	1238.5			6+8+9	MC = 13.6%	
4.0	LEAN CLAY WITH SAND, moist, gray	CL	1236.5	C	5	5+7+9	MC = 25.3% PP = 1.50 tsf	
6.0	SILTY SAND, moist, grayish brown and black, contains coal	SM	1234.5			12+14+14	MC = 21.7%	
						12+14+30		
9.5	DISINTEGRATED ROCK, sampled as	DR	1231.0	D	10			
10.0	sand, moist, brown		1230.5					

Bottom of Boring at 10.0 ft.
Boring backfilled with cuttings upon completion.
Offset 67 feet south of staked location due to dense woods. Coordinates/ elev. = drilled location.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-21
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel
Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/18/08 Finished: 7/18/08
Location: See Location Plan
Ground Surface Elevation: 1247± (ft) Total Depth: 6.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/18	11:16 AM	Dry	---	---
Completion	7/18	11:20 AM	Dry	---	---
Casing Pulled	7/18	11:22 AM	Dry	---	5.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil	SC-SM	1247.0	C		2+7+50/5"	LL = 22 PL = 17 MC = 9.8% % Passing #200 = 36.8	
1.0	SILTY CLAYEY SAND, moist, brown, contains rock fragments, and mica		1246.4					
	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR		D		50/5"		
					5	50/3"		
6.1			1241.3					

Bottom of Boring at 6.1 ft.
Auger refusal at 6.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-22
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1248± (ft) Total Depth: 8.7 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	1:44 PM	Dry	---	---
Completion	7/14	1:51 PM	Dry	---	---
Casing Pulled	7/14	1:55 PM	Dry	---	9.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1247.3					
	FILL, sampled as lean clay with sand, moist, brown, contains rock fragments, and mica	FILL				4+4+5		
2.0			1245.6	A			MC = 14.2%	
	FILL, sampled as silt with sand, moist, brown, contains rock fragments, and mica	FILL				9+6+4		
4.5			1243.1			16+33+67/4"		
	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR		D	5			
						100/3"		
8.7			1238.9			100/2"		Sampler refusal

Bottom of Boring at 8.7 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2009_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-23
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1246± (ft) Total Depth: 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	2:10 PM	Dry	---	---
Completion	7/14	2:20 PM	Dry	---	---
Casing Pulled	7/14	2:25 PM	Dry	---	8.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1245.3			3+3+9	MC = 11.5%	
	FILL, sampled as silty sand, moist, brown, contains rock fragments, and mica	FILL						
2.0			1243.6			5+11+10	MC = 8.1%	
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments			A	5	5+4+2	MC = 7.0%	
		FILL				3+5+10	MC = 6.9%	
						4+9+2		
10.0			1235.6		10			

Bottom of Boring at 10.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2006_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-24
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1244± (ft) Total Depth: 9.2 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	7:40 AM	Dry	---	---
Completion	7/15	7:44 AM	Dry	---	---
Casing Pulled	7/15	7:49 AM	Dry	---	6.3'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1243.7					
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		2+10+17	LL = 30 PL = 21 % Passing #200 = 43.3	
						9+12+10	MC = 5.9%	
					5	2+2+2	MC = 7.1%	
7.0	SILTY SAND, moist, brown, contains mica	SM	1237.0	C		6+8+13	MC = 15.7%	
8.5	DISINTEGRATED ROCK, sampled as silty sand, moist, brown	DR	1235.5	D		41+59/2"		
9.2			1234.8					

Bottom of Boring at 9.2 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-25
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/14/08 Finished: 7/14/08
Location: See Location Plan

Ground Surface Elevation: 1244± (ft) Total Depth: 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/14	2:27 PM	Dry	---	---
Completion	7/14	2:28 PM	Dry	---	---
Casing Pulled	7/14	2:38 PM	Dry	---	6.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1243.2					
	FILL, sampled as sandy silt, moist, brown, contains rock fragments, and mica	FILL				3+5+8		
2.0			1241.5					
	FILL, sampled as silty sand, moist, brown, contains rock fragments, and mica	FILL		A	5	12+11+4	MC = 7.8%	
						2+2+1	MC = 7.8%	
						2+2+4	MC = 5.5%	Low recovery
8.0	FILL, sampled as silty sand, moist, brown, contains rock fragments, and mica	FILL	1235.5			10+9+6		
10.0			1233.5		10			

Bottom of Boring at 10.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG_DRAFT LOGS_MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering

TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: **B-26**
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1238± (ft) Total Depth: 8.8 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	4:48 PM	Dry	---	---
Completion	7/15	4:52 PM	Dry	---	---
Casing Pulled	7/15	5:00 PM	Dry	---	8.7'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1237.9					
	CLAYEY SAND, moist, yellowish brown	SC		C		3+4+5	LL = 28 PL = 20 % Passing #200 = 49.2	
						11+10+50/5.5"		
4.0	CLAYEY SAND, moist, brown	SC	1234.3			19+28+36		
5.0	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR	1233.3	D	5	50/4"		
8.8			1229.5			50/4"		

Bottom of Boring at 8.8 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering

TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-27
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 **Finished:** 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1241± (ft) **Total Depth:** 15.5 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	7:19 AM	Dry	---	---
Completion	7/15	7:23 AM	Dry	---	---
Casing Pulled	7/15	7:28 AM	Dry	---	12.8'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1240.5			2+3+4		
	FILL, sampled as silt with sand, moist, brown, contains rock fragments	FILL		A		4+3+3	MC = 16.3%	
					5	4+1+2	MC = 18.2% PP = 0.75 tsf	
7.0	FILL, sampled as lean clay with sand, moist, brown, contains rock fragments	FILL	1233.8			3+2+2	MC = 15.3% PP = 1.00 tsf	
9.0	FILL, sampled as sandy silt, moist, brown, contains rock fragments	FILL	1231.8		10	2+2+2	MC = 9.2%	
12.0	SANDY SILT, moist, brown, contains mica	ML	1228.8	C				
					15	9+9+13		
15.5			1225.3					

Bottom of Boring at 15.5 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-28
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1239± (ft) Total Depth: 15.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	8:14 AM	Dry	---	---
Completion	7/15	8:17 AM	Dry	---	---
Casing Pulled	7/15	8:21 AM	Dry	---	13.8'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1238.5			3+4+3		
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		4+2+1	MC = 12.5%	
					5	1+2+7	MC = 17.8%	
						1+2+2	MC = 10.5%	
9.0	FILL, sampled as sand with silt, moist, brown, contains manganese, and rock fragments	FILL	1229.8		10	2+2+1		
12.0	LEAN CLAY WITH SAND, moist, brown and gray	CL	1226.8	C				
						5+6+6	PP = 3.75 tsf	
15.0			1223.8		15			

Bottom of Boring at 15.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-29
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1238± (ft) Total Depth: 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	8:35 AM	Dry	---	---
Completion	7/15	8:38 AM	Dry	---	---
Casing Pulled	7/15	8:42 AM	Dry	---	6.2'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1237.9					
	FILL, sampled as sandy silt, moist, dark brown, contains rock fragments	FILL		A		3+5+5	LL = 26 PL = 18 MC = 13.7% % Passing #200 = 64.3 PP = 2.00 tsf	
						2+3+3		
4.0	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL	1234.2		5	2+2+4		
6.0	SAND WITH SILT, moist, brown, contains mica, and rock fragments, probable RESIDUAL material	SP-SM	1232.2	C		24+15+12		
						9+3+4		
10.0			1228.2		10			

Bottom of Boring at 10.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-30
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger

Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/15/08 Finished: 7/15/08
Location: See Location Plan

Ground Surface Elevation: 1239± (ft) Total Depth: 8.8 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/15	9:09 AM	Dry	---	---
Completion	7/15	9:11 AM	Dry	---	---
Casing Pulled	7/15	9:15 AM	Dry	---	8.3'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Rootmat and topsoil		1238.6					
	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		9+8+6		
						2+4+5	MC = 6.7%	Rip rap in auger flights
4.0	DISINTEGRATED ROCK, sampled as sand, moist, light brown		1234.9		5	27+36+32		
		DR		D		50/5"		
8.8			1230.1			50/4"		

Bottom of Boring at 8.8 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2009_04_01.GDT 9/8/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-31
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel
Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/17/08 Finished: 7/17/08
Location: See Location Plan
Ground Surface Elevation: 1244± (ft) Total Depth: 9.8 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/17	5:27 PM	Dry	---	---
Completion	7/17	5:28 PM	Dry	---	---
Casing Pulled	7/17	5:31 PM	Dry	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.0	Asphalt		1243.3					
0.7	Crushed stone		1242.8					
1.2	FILL, sampled as silty sand, moist, brown, contains mica, and rock fragments	FILL		A		10+13+10	MC = 7.3%	
						10+1+2	MC = 7.3%	
4.0	FILL, sampled as fat clay, moist, brown, trace sand	FILL	1240.0		5	2+3+2	PP = 1.00 tsf	
7.0	SILTY SAND, moist, brown, contains mica	SM	1237.0	C		7+10+25		
						25+25+50/4"		
9.5	DISINTEGRATED ROCK, sampled as sand, moist, brown	DR	1234.5	D				
9.8			1234.2					

Bottom of Boring at 9.8 ft.
Boring backfilled with cuttings upon completion.
Boring patched at surface with cold patch asphalt.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2006_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-32
Contract Number: 08160057.00
Sheet: 1 of 1

Contractor: Total Depth Drilling, Inc
Knoxville, TN

Contractor Foreman: T. Hall

Schnabel Representative: D. Shaw

Equipment: CME-550X

Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel

Hammer Type: Auto Hammer (140 lb)

Dates Started: 7/17/08 Finished: 7/18/08

Location: See Location Plan

Ground Surface Elevation: 1245± (ft) Total Depth: 15.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
During Drilling	7/18	7:11 AM	Dry	---	---
Completion	7/18	7:14 AM	Dry	---	---
Casing Pulled	7/18	7:23 AM	Dry	---	13.6'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1244.6			7+13+13	PP = 3.25 tsf	
	FILL, sampled as sandy elastic silt, moist, brown, contains rock fragments	FILL				18+22+34		
					5	11+3+3		
6.5	FILL, sampled as silty sand, moist, brown, contains rock fragments, and mica		1238.5	A				
		FILL			10	3+2+2		
15.0			1230.0		15	17+14+18		

Bottom of Boring at 15.0 ft.
Boring backfilled with cuttings upon completion.

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/9/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-33
Contract Number: 08160057.00
Sheet: 1 of 3

Contractor: Total Depth Drilling, Inc
Knoxville, TN
Contractor Foreman: T. Hall
Schnabel Representative: D. Shaw
Equipment: CME-550X
Method: 3-1/4" I.D. Hollow Stem Auger,
NQ Double Barrel
Hammer Type: Auto Hammer (140 lb)
Dates Started: 7/18/08 Finished: 7/18/08
Location: See Location Plan

Ground Surface Elevation: 1231± (ft) Total Depth: 59.1 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	7/18	8:31 AM	28.0'	—	—
Completion ▽	7/18	9:31 AM	26.0'	—	—
Casing Pulled ▽	7/18	10:03 AM	25.0'	—	25.0'

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.4	Rootmat and topsoil		1230.6					
	FILL, sampled as clayey sand, moist, brown, contains rock fragments	FILL		A		3+5+6		
						14+13+15		
					5	26+30+28		
						15+19+21		
					10	15+20+15		
					15	7+24+25		
					20	6+6+14		
23.0	SANDY LEAN CLAY, moist, grayish brown, contains rock fragments ▽	CL	1208.0	B		1+3+9	PP = 0.25 tsf	Roots rising up auger flights.

(continued)

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-33
Contract Number: 08160057.00
Sheet: 2 of 3

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	SANDY LEAN CLAY, moist, grayish brown, contains rock fragments *(continued)*	CL						
28.0	CLAYEY SAND, moist, brown, contains rock fragments	SC	1203.0	B	30	5+12+13		
32.0	CLAYEY SAND, wet, brown, contains rock fragments	SC	1199.0	C	35	4+8+10		
39.5	DISINTEGRATED ROCK, sampled as sand, wet, brown	DR	1191.5	D	40	15+50/3"		
42.0	LEAN CLAY WITH SAND, moist, brown, contains mica, and rock fragments	CL	1189.0	C	45	2+2+2	LL = 28 PL = 20 % Passing #200 = 72.2 PP = 0.50 tsf	
50.2	COAL, black		1180.8		50	9+5+3		
52.0	SANDY LEAN CLAY, moist, brown, contains mica, and rock fragments	CL	1179.0					
54.0	DISINTEGRATED ROCK, sampled as silt, moist, gray	DR	1177.0	D	55	27+50/3"		Augers grinding/scraping.

(continued)

TEST BORING LOG DRAFT LOGS, MORGANTOWN-COMPLETE.GPJ SCHNABEL DATA TEMPLATE 2008_04_01.GDT 9/11/08

Schnabel Engineering — TEST BORING LOG

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, West Virginia

Boring Number: B-33
Contract Number: 08160057.00
Sheet: 3 of 3

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
59.1			1171.9			50/1"		Sampler refusal

Bottom of Boring at 59.1 ft.
Boring terminated at sampler refusal.
Boring backfilled with cuttings upon completion.

APPENDIX A

Soil Laboratory Test Data

Summary of Soil Laboratory Tests (1)
Gradation Curves (6)
Moisture Density Relationships (6)
California Bearing Ratio Curves (6)
Sulfur Fractionation (1)

Summary Of Laboratory Tests

Appendix
Sheet 1 of 1
Project Number: 08160057.00

Boring No.	Sample Depth ft / Elevation ft	Sample Type	Description of Soil Specimen	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	% Retained No. 4 Sieve	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Proctor Test Method	CBR Value	CBR Surcharge Pressure (psf)	CBR Percent Swell
B-17	0.0-1.5 / 1241.0-1239.5	Bulk	SILTY CLAYEY SAND (SC-SM), fine to coarse, contains rock fragments - brown	26	18	7	49.3	2.7	130.8	8.6	1557B	9.9	100	2.4
B-19	0.0-1.5 / 1241.4-1239.9	Bulk	SILTY CLAYEY SAND (SC-SM), fine to coarse, contains rock fragments - brown	23	18	5	35.9	6.9	131.1	7.3	1557A	20.0	100	1.7
B-21	0.0-1.4 / 1247.4-1246.0	Bulk	SILTY CLAYEY SAND (SC-SM), fine to coarse, contains rock fragments - tan	22	17	5	36.8	2.0	132.0	8.4	1557A	36.9	100	0.6
B-24	0.0-1.5 / 1244.0-1242.5	Bulk	CLAYEY SAND WITH GRAVEL (SC), fine to coarse - dark brown	30	21	9	43.3	15.6	125.2	10.7	1557A	37.6	100	1.2
B-26	0.0-1.5 / 1238.3-1236.8	Bulk	CLAYEY SAND (SC), fine to coarse, contains rock fragments - tan	28	20	8	49.2	8.3	123.8	11.1	1557A	24.6	100	1.0
B-29	0.0-1.5 / 1238.2-1236.7	Bulk	SANDY LEAN CLAY (CL), fine to coarse, contains rock fragments - brown	26	18	8	54.3	7.8	133.1	7.6	1557B	8.5	100	0.3

Notes:
1. Soil tests in general accordance with ASTM standards.
2. Soil classifications are in general accordance with ASTM D2487(as applicable), based on testing indicated and visual classification.
3. Key to abbreviations: NP=Non-Plastic, -- indicates no test performed

Schnabel Engineering

Project: Morgantown Readiness Center
Morgantown Municipal Airport
Morgantown, WV

EXHIBIT 10

REQUISITION NO.: .....

ADDENDUM ACKNOWLEDGEMENT

I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.

ADDENDUM NO.'S:

NO. 1 .....

NO. 2 .....

NO. 3 .....

NO. 4 .....

NO. 5 .....

I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS. VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.

.....
SIGNATURE

.....
COMPANY

.....
DATE

REV. 11/96