

**West Virginia Department  
of Environmental Protection**

ORIGINAL

Expression of Interest: DEP15220

**Engineering Design & Construction Monitoring Services  
for the Hawkinberry Hollow Portals & Subsidence  
Design Project  
Marion County, WV**



**Prepared For:**

WV Department of Environmental Protection  
Office of Abandoned Mine Lands &  
Reclamation

Purchasing Division  
2019 Washington Street, East  
PO Box 50130  
Charleston, WV 25305-0130

**Buyer: CB-23**

**Opening: December 2, 2010, 1:30PM**

**Submitted By:**

Triad Engineering, Inc.  
219 Hartman Run Road  
Morgantown, WV 26505  
Ph: 304.296.2562  
Fx: 304.296.8739

RECEIVED

2010 DEC -2 A 9:58

PURCHASING DIVISION  
STATE OF WV

**TRIAD**  
TRIAD ENGINEERING, INC.

◆ TRIAD Listens, Designs & Delivers™

[www.triadeng.com](http://www.triadeng.com)



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**TRIAD**  
**TRIAD ENGINEERING, INC.**



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  
 DEP15220

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 1

ADDRESS CORRESPONDENCE TO ATTENTION OF  
 CHUCK BOWMAN  
 304-558-2157

RFQ COPY

TYPE NAME/ADDRESS HERE

VENDOR

Triad Engineering, Inc.  
 219 Hartman Run Road  
 Morgantown, WV 26505  
 304-296-2562

SHIP TO

ENVIRONMENTAL PROTECTION  
 DEPARTMENT OF  
 OFFICE OF AML&R  
 601 57TH STREET SE  
 CHARLESTON, WV  
 25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
11/03/2010				

BID OPENING DATE: 12/02/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		
HAWKINBERRY HOLLOW PORTALS & SUBS DESIGN						
EXPRESSION OF INTEREST						
<p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ENGINEERING DESIGN SERVICES AND CONSTRUCTION MONITORING SERVICES AT THE HAWKINBERRY HOLLOW PORTALS &amp; SUBSIDENCE PROJECT IN MARION COUNTY, WEST VIRGINIA, PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.</p>						
<p>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.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>[Signature]</i>	TELEPHONE 304-296-2562	DATE 12/1/2010
TITLE NW Regional Manager	FEIN 550592364	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](http://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).

Revised 9/09

## **EXPRESSION OF INTEREST**

Hawkinberry Hollow Portals & Subsidence  
Requisition DEP15220

### **Part 1**

### **GENERAL INFORMATION**

#### **1.1 Purpose:**

The Acquisition and Contract Administration Section of the Purchasing Division "State" is soliciting Expression(s) of Interest (EOI) for the West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands & Reclamation (AML), from qualified firms to provide architectural/engineering services as defined in section two (2) and three (3) and construction monitoring services during the construction phase of the project as defined by the **Scope of Work**. Construction Inspection by the firm will be at the option of WVDEP/AML.

#### **1.2 Project:**

The mission or purpose of the project described in sections 2 & 3 is to provide design services for the following:

#### **Hawkinberry Hollow Portals & Subsidence:**

Prepare site by clearing and grubbing.

Upgrade access road.

Excavate, dewater and install wet seals in collapsed portals.

Excavate and construct bat gates at the open portal locations.

Construct drainage channel and install culverts to carry water safely off-site.

Remove and dispose of trash along the subsidence crack.

Excavate the subsidence cracks, grout if needed and cover with stable material.

Condition and revegetate all disturbed areas.

#### **1.3 Format:**

All responses should be submitted in a loose-leaf, three ring binder. The response should be presented in concise format which defines the corporation history and the experience, qualifications, and performance data of the firm's

staff as requested by the AML Consultant Qualification Questionnaire (CQQ), Attachment "B" and the AML and Related Project Experience Matrix (RPEM). Attachment "C".

**Electronic copies of the above referenced documents Attachment "B" and Attachment "C" are available online for registered vendors at:**  
**<http://www.state.wv.us/admin/purchase/newbul.htm>**

**1.4 Inquiries:**

Additional information inquiries regarding this EOI must be submitted in writing to the State Buyer with the exception of questions regarding proposal submission, which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.16. All inquiries of specification clarification must be addressed to:

Chuck Bowman, Buyer Supervisor  
 Purchasing Division  
 P.O. Box 50130  
 Charleston, WV 25305-0130  
 Fax: (304) 558-4115  
 Email: charles.a.bowmanjr@wv.gov

**The firm, or anyone on the firm's behalf, is not permitted to make any contact whatsoever with any member of the evaluation committee.** Violation may result in rejection of the EOI. The State Buyer named above is the sole contact for any and all inquiries after this EOI has been released.

**1.5 Vendor Registration:**

Firms participating in this process should complete and file a **Vendor Registration and Disclosure Statement** (Form WV-1) and remit the registration fee. Firm is not required to be a registered vendor in order to submit an EOI, but the **successful firm must** register and pay the fee prior to the issuance of an actual contract.

**1.6 Oral Statements and Commitments:**

Firm must clearly understand that any verbal representations made or assumed to be made during any oral discussions held between firm's representatives and any State personnel are **not** binding. Only the information issued in writing and added to the Expression of Interest specifications file by an official written addendum is binding.

1.7 **Economy of Preparation:**

EOI's should be prepared simply and economically, providing a straightforward, concise description of firm's abilities to satisfy the requirements of the EOI. Emphasis should be placed on completeness and clarity of content. Example projects referred to in a firm's EOI's submittal should address projects that are similar in scope to that of the EOI. **Firms must complete the CQQ and RPEM as included in Section 4.2 of this EOI. (Proposals must be no more than 100 pages).**

1.8 **Labeling of the Sections:** The response sections should be labeled for ease of evaluation.

1.9 **Submission:**

1.9.1 State law requires that the original expression shall be submitted to the Purchasing Division. All copies to the Purchasing Division must be submitted **prior** to the date and time stipulated as the opening date. All expressions will be date and time stamped on the Purchasing Division official time clock to verify time and date of receipt.

1.9.2 Firms mailing expressions should allow sufficient time for mail delivery to ensure timely arrival. The Purchasing Division **CANNOT** waive or excuse late receipt of an expression which is delayed and late for any reason according West Virginia State Code §5A-3-11. Any EOI received after the bid opening time and date will be immediately disqualified in accordance with State law and the Legislative Rule 148-CSR-1.

**Submit:**

One original plus one convenience copy and one copy on CD to:

Purchasing Division  
2019 Washington Street, East  
P.O. Box 50130  
Charleston, WV 25305-0130

The outside of the envelope or package(s) should be clearly marked:

Buyer: CB-23  
Req #: DEP15220  
Opening Date: 12/02/2010  
Opening Time: 1:30 pm



**1.10 Rejection of Expressions:**

The State shall select the best value solution according to §5G-1-3 of the West Virginia State Code. However, the State reserves the right to accept or reject any or all expressions and to reserve the right to withdraw this Expression of Interest at any time and for any reason. Submission of, or receipt by the State of Expressions confers no rights upon the firm nor obligates the State in any manner.

**1.11 Incurring Costs:**

The State and any of its employees or officers shall not be held liable for any expenses incurred by any firm responding to this EOI for expenses to prepare, deliver, or to attend the short-list interviews.

**1.12 Addenda:**

If it becomes necessary to revise any part of this EOI, an official written addendum will be issued by the State to all potential firms of record.

**1.13 Independent Price Determination:**

A contract will not be considered for award if the negotiated price was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor.

**1.14 Price Quotations:** No "price" or "fee" quotation is requested or permitted in the response.

**1.15 Public Record:**

*1.15.1 Submissions are Public Record.*

All documents submitted to the State Purchasing Division related to purchase orders/contracts are considered public records. All EOI's submitted by firms shall become public information and are available for inspection during normal official business hours in the Purchasing Division Records and Distribution center after the expressions have been opened.

*1.15.2 Written Release of Information.*

All public information may be released with or without a Freedom of Information request, however, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently the fees are \$0.50/page, or a minimum of \$10.00 per request, whichever is greater.

### 1.15.3 *Risk of Disclosure.*

The only exemptions to disclosure of information are listed in West Virginia Code §29B-1-4. Primarily, only trade secrets as submitted by a firm are the only exemption to public disclosure. The submission of any information to the State by a firm puts the risk of disclosure on the firm. The submission of any information to the State by a vendor puts the risk of disclosure on the vendor. The State does not guarantee non-disclosure of any information to the public.

### 1.16 **Schedule of Events:**

Release of EOI.....	11/04/2010
EOI Opening Date.....	12/02/2010

### 1.17 **Mandatory Pre-bid Conference:** NA

### 1.18 **Bond Requirements:** N/A

### 1.19 **Purchasing Affidavit:**

West Virginia State Code §5A-3-10a (3) (d) requires that all firms submit an Affidavit regarding any debt owed to the State and licensing and confidentiality certifications. The Affidavit **must** be signed and submitted prior to award. It is preferred that the Affidavit be submitted with the EOI.

## **PART 2**

## **OPERATING ENVIRONMENT**

### 2.1 **Location:**

#### **Directions to Hawkinberry Hollow Portals & Subsidence**

Travel I-79 north to Fairmont. Travel to US 19 North and follow 19 North through Fairmont and Dakota. Just north of Dakota US 19 crosses railroad tracks and the road parallels the Monongahela River. From the railroad tracks that cross US 19, continue 0.2 mile to the first road on the left (CR 19/7, this road travels under a railroad trestle). Turn left traveling under the trestle and travel 0.7 mile to the end of the site (portal 7). The site begins at the first house on the left (subsidence cracks north of the house along the fence line).

### 2.2 **Background:**

Firms are to be licensed Architectural/Engineering Firms (A/E) and should be familiar with, and have a successful track record of design of similar projects. The anticipated contract will be for "full-service" A/E design. Aspects of the design are to include, but not be limited to, Civil, Structural, Geological and Hydrological.

*The successful A/E will be responsible for **Design** of the following:*

The site includes eleven deep mine portals and two subsidence cracks or fissures. Four of the mine portals are collapsed (portals 2,3,6 & 10) and seven are open enough to allow entry (portals 1,4,5,7,8,9 & 11). See attached map. Portal 1 is located above three homes in livestock pasture. The opening is 2'X4' and the residents below use the water from the portal for drinking and livestock. Portal 2, 3, 6 & 10 are collapsed and located within 100' of the county road. Drainage from the portals flows down the hill and into the county road ditch (~20 gpm for each). If a blowout were to occur, residents who live west of the portals would have no way to leave the hollow. Portals 4, 5, 7, 8, & 9 are located within 100' of the county road and their openings range from 1'X4' to 4'X5'. These portals can easily be seen from the road when the leaves are off. The area surrounding the portal openings is composed of broken and fractured material that is sloughing into the openings. Portal 11 is located in a livestock pasture and discharging ~ 25gpm. This opening is ~5'X10' and the rock above the portal is fractured sandstone. The sandstone above the portal is overhanging the entrance by 6'. If this rock were to fall on a person or livestock they would certainly be killed. Drainage from this portal has created a large swampy area in the pasture making it hard to navigate and unproductive.

Two Subsidence fissures are located east of portal 11 on the opposite side of the pasture along the fence line. These fissures are approximately 75' long and 2' wide, depth unknown.

Preliminary design documents will be due 60 days from the issuance of the Purchase Order.

## **PART 3                   PROCUREMENT SPECIFICATIONS**

### **3.1    General Requirements:**

Firm must submit a completed CQQ (Attachment "B") and RPEM (Attachment "C") as per Section 4.2

### **3.2    Project Description:**

#### **Scope of Work – Hawkinberry Hollow Portals & Subsidence:**

Prepare site by clearing and grubbing.

Upgrade access road.

Excavate, dewater and install wet seals in collapsed portals.

Excavate and construct bat gates at the open portal locations.

Construct drainage channel and install culverts to carry water safely off-site.

Remove and dispose of trash along the subsidence crack.

Excavate the subsidence cracks, grout if needed and cover with stable material.

Condition and revegetate all disturbed areas.

### 3.3 Special Terms and Conditions:

3.3.1 *Bid and Performance Bonds:* N/A

3.3.2 *Insurance Requirements:* \$1,000,000 General Liability per Occurrence  
 \$2,000,000 Aggregate  
 \$1,000,000 Automobile Liability  
 \$1,000,000 Professional Liability  
 Workers Compensation Certificate Upon Award  
 West Virginia Statutory requirements including  
 West Virginia Code §23-4-2 (Mandolidis)  
 DEP15220 must be listed on Insurance Certificates

### 3.4 General Terms and Conditions:

By signing and submitting the EOI, the successful firm agrees to be bound by all the terms contained in Section Three (3) of this EOI.

#### 3.4.1 *Conflict of Interest:*

Firm affirms that it, its officers or members or employees presently have no interest and shall not acquire any interest, direct or indirect which would conflict or compromise in any manner or degree with the performance or its services hereunder. The firm further covenants that in the performance of the contract, the firm shall periodically inquire of its officers, members and employees concerning such interests. Any such interests discovered shall be promptly presented in detail to the Agency.

#### 3.4.2 *Prohibition Against Gratuities:*

Firm warrants that it has not employed any company or person other than a bona fide employee working solely for the firm or a company regularly employed as its marketing agent to solicit or secure the contract and that it has not paid or agreed to pay any company or person any fee, commission, percentage, brokerage fee,

gifts or any other consideration contingent upon or resulting from the award of the contract. For breach or violation of this warranty, the State shall have the right to annul this contract without liability at its discretion, and/or to pursue any other remedies available under this contract or by law.

#### *3.4.3 Certifications Related to Lobbying:*

Firm certifies that no federal appropriated funds have been paid or will be paid, by or on behalf of the company or an employee thereof, to any person for purposes of influencing or attempting to influence an officer or employee of any Federal entity, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.

If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the firm shall complete and submit a disclosure form to report the lobbying.

Firm agrees that this language of certification shall be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this contract was made and entered into.

#### *3.4.4 Vendor Relationship:*

The relationship of the firm to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by the parties to this contract. The firm as an independent contractor is solely liable for the acts and omissions of its employees and agents.

Firm shall be responsible for selecting, supervising and compensating all individuals employed pursuant to the terms of this EOI and resulting contract. Neither the firm nor any employees or contractors of the firm shall be deemed to be employees of the State for any purposes whatsoever.

The Firm shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties,

fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension or other deferred compensation plans, including but not limited to Workers' Compensation and Social Security obligations, and licensing fees, etc. and the filing of all necessary documents, forms and returns pertinent to all of the foregoing.

The Firm shall hold harmless the State, and shall provide the State and Agency with a defense against all claims including but not limited to the foregoing payments, withholdings, contributions, taxes, social security taxes and employer income tax returns.

The Firm shall not assign, convey, transfer or delegate any of its responsibilities and obligations under this contract to any person, corporation, partnership, association or entity without expressed written consent of the Agency.

#### **3.4.5 Indemnification:**

The firm agrees to indemnify, defend and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person or firm performing or supplying services, materials or supplies in connection with the performance of the contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the firm, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use or disposition of any data used under the contract in a manner not authorized by the contract, or by Federal or State statutes or regulations; (3) Any failure of the firm, its officers, employees or subcontractors to observe State and Federal laws, including but not limited to labor and wage laws.

#### **3.4.6 Contract Provisions:**

After the most qualified firm is identified, and fee negotiations are concluded, a formal contract document will be executed between the State and the firm. The order of precedence is the contract, the EOI and the firm's response to the EOI.

#### **3.4.7 Governing Law:**

This contract shall be governed by the laws of the State of West Virginia. The firm further agrees to comply with the Civil Rights Act of 1964 and all other applicable laws (Federal, State or Local Government) regulations.

#### **3.4.8 Compliance with Laws and Regulations:**

The Firm shall procure all necessary permits and licenses to comply with all applicable laws, Federal, State or municipal, along with all regulations, and ordinances of any regulating body.

The Firm shall pay any applicable sales, use, or personal property taxes arising out of this contract and the transactions contemplated thereby. Any other taxes levied upon this contract, the transaction, or the equipment, or services delivered pursuant here to shall be borne by the contractor. It is clearly understood that the State of West Virginia is exempt from any taxes regarding performance of the scope of work of this contract.

**3.4.9 Subcontracts/Joint Ventures:**

The State will consider the firm to be the sole point of contact with regard to all contractual matters. The firm may, with the prior written consent of the State, enter into written subcontracts for performance of work under this contract; however, the firm is totally responsible for payment of all subcontractors.

**3.4.10 Term of Contract:**

This contract will be effective (date set upon award) and shall extend until the scope of work is complete or for one (1) consecutive twelve (12) month period. The contract may be renewed upon mutual consent for two (2) consecutive years one (1) year periods or until such reasonable time as may be necessary to obtain a new contract or to complete work.

**3.4.11 Non-Appropriation of Funds:**

If the Agency is not allotted funds in any succeeding fiscal year for the continued use of the service covered by this contract by the West Virginia Legislature, the Agency may terminate the contract at the end of the affected current fiscal period without further charge or penalty. The Agency shall give the firm written notice of such non-allocation of funds as soon as possible after the Agency receives notice. No penalty shall accrue to the Agency in the event this provision is exercised.

**3.4.12 Contract Termination:**

The State may terminate any contract resulting from this EOI immediately at any time the firm fails to carry out its responsibilities or to make substantial progress under the terms of this EOI and resulting contract. The State shall provide the firm with advance notice of performance conditions, which are endangering the contract's continuation. If after such notice the firm fails to remedy the conditions contained in the notice, within the time contained in the notice, the State shall issue the firm an order to cease and desist all work immediately.

The State shall be obligated only for services rendered and accepted prior to the date of the notice of termination. The contract may also be terminated upon mutual agreement of the parties with thirty (30) days prior notice.

#### 3.4.13 *Changes:*

If changes to the original contract become necessary, a formal contract change order will be required. Prior to any work being performed, the change must be negotiated and approved by the State, the Agency and the firm. An approved contract change order is defined as one approved by the Purchasing Division and approved as to form by the West Virginia Attorney General's Office prior to the effective date of such amendment. **NO CHANGE SHALL BE IMPLEMENTED BY THE FIRM UNTIL THE FIRM RECEIVES AN APPROVED WRITTEN CHANGE ORDER.**

#### 3.4.14 *Invoices, Progress Payments, & Retainage:*

The Firm shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To" pursuant to the terms of the contract. Progress payments may be made at the option of the Agency based on percentage of work completed if so defined in the final contract. Any provision for progress payments must also include language for a minimum 10% retainage until the final deliverable is accepted.

If progress payments are permitted, firm is required to identify points in the work plan at which compensation would be appropriate. Progress reports must be submitted to Agency with the invoice detailing progress completed or any deliverables identified. Payment will be made only upon approval of acceptable progress or deliverables as documented in the firm's report. Invoices may not be submitted more than once monthly and State law forbids payment of invoices prior to receipt of services.

*The firm will invoice for completed work on an approved WVDEP form.*

#### 3.4.15 *Liquidated Damages:*

According to West Virginia State Code §5A-3-4(8), firm agrees that liquidated damages shall be imposed at the rate of N/A per workday, for failure to provide deliverables at the agreed upon date identified in the final contract. This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue to any other additional remedy to which the State or Agency may have legal cause for action including further damages against the firm.

#### 3.4.16 *Record Retention (Access & Confidentiality):*

Firm shall comply with all applicable Federal and State of West Virginia rules and regulations, and requirements governing the maintenance of documentation to verify any cost of services or commodities rendered under this contract by the firm. The firm shall maintain such records a minimum of five (5) years and make available all records to Agency personnel at firm's location during normal



business hours upon written request by Agency within 10 days after receipt of the request.

Firm shall have access to private and confidential data maintained by Agency to the extent required for firm to carry out the duties and responsibilities defined in this contract. Firm agrees to maintain confidentiality and security of the data made available and shall indemnify and hold harmless the State and Agency against any and all claims brought by any party attributed to actions of breach of confidentiality by the firm, subcontractors, or individuals permitted access by the firm.

## **PART 4 EVALUATION & AWARD**

### **4.1 Evaluation and Award Process:**

- a) Expressions of Interest will be evaluated and awarded in accordance with **§5G-1-3 "Contracts for architectural and engineering services; selection process where total project costs are estimated to cost two hundred fifty thousand dollars or more."**

"In the procurement of architectural and engineering services for projects estimated to cost two hundred and fifty thousand dollars or more the director of purchasing shall encourage such firms engaged in the lawful practice of the profession to submit an expression of interest, which shall include a statement of qualifications, and performance data and may include anticipated concepts and proposed methods of approach to the project. All such jobs shall be announced by public notice published as a Class II legal advertisement in compliance with the provisions of article three [§59-3-1et seq.] A committee comprised of three to five representatives of the agency initiating the request shall evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service. Interviews with each firm selected shall be conducted and the committee shall conduct discussions regarding anticipated concepts and the proposed methods of approach to the assignment. The committee shall then rank in order of preference no less than three professional firms deemed to be the most highly qualified to provide the services required, and shall commence scope of service and price negotiations with the highest qualified professional firm for architectural or engineering services or both. Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified, at a fee determined to be fair and reasonable, price negotiations with the firm of second choice

shall commence. Failing accord with the second most qualified professional firm, the committee shall undertake price negotiations with the third most qualified professional firm. Should the agency be unable to negotiate a satisfactory contract with any of the selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached."

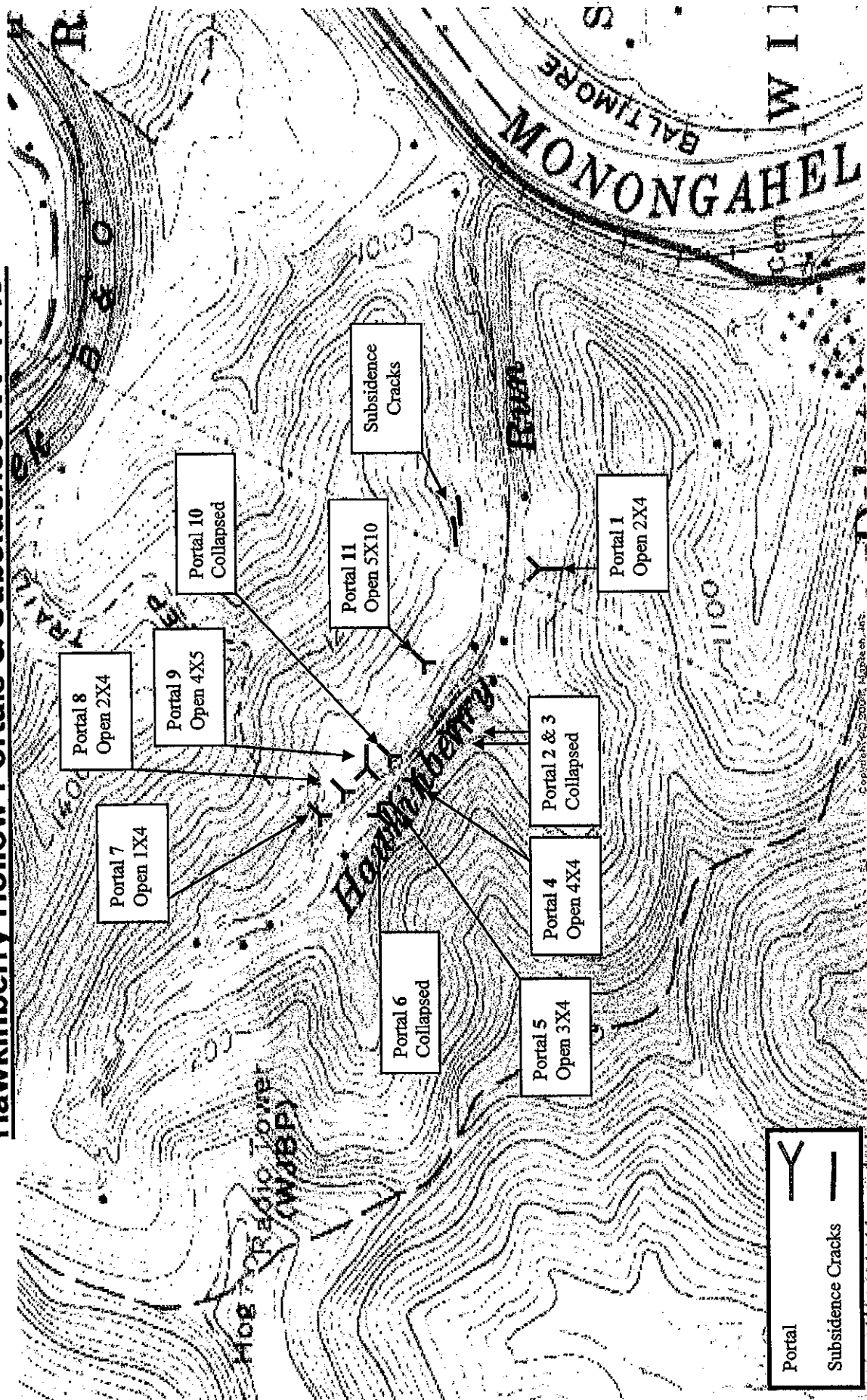
b) The evaluation criteria and assigned point values are as follows:

- |   |           |
|---|-----------|
| A. WV Registered Professional Engineers (Civil or Mining)<br>In the Primary Office:   | 20 points |
| B. Reclamation Engineering design experience of the Primary Office's WVRPE as it relates to the specific project problem Areas:   | 25 points |
| C. Available WV-AML Design Teams within the Primary office (A Design team should consist of one Project Engineer (Civil or Mining), one CAD person and availability of other support personnel a required by the particular project): | 20 points |
| D. The Oral Interview (See Section 4.3 of this EOI):  | 35 points |
- 4.2 (a) AML Consultant Qualification Questionnaire (CQQ) must be completed to be eligible (See Attachment "B").
- (b) AML and Related Project Experience Matrix (RPEM) must also be completed to be eligible (See Attachment "C").
- 4.3 Interviews as stated in 4.1 "Evaluation and Award Process" will be conducted with the three firms selected as the most qualified by the WVDEP Selection Committee. The Committee will schedule the interviews.

The format for the interviews will be a 15-30 minute PowerPoint presentation consisting, at a minimum, of the following:

- Corporate/personnel experience as it relates to the project or projects
- Proposed project management plan
- Key personnel available for the proposed work
- Proposed subcontractors (mapping, geotechnical, etc.)
- Product quality control
- Project cost control

# Project Location Map Hawkinberry Hollow Portals & Subsidence WV-4149



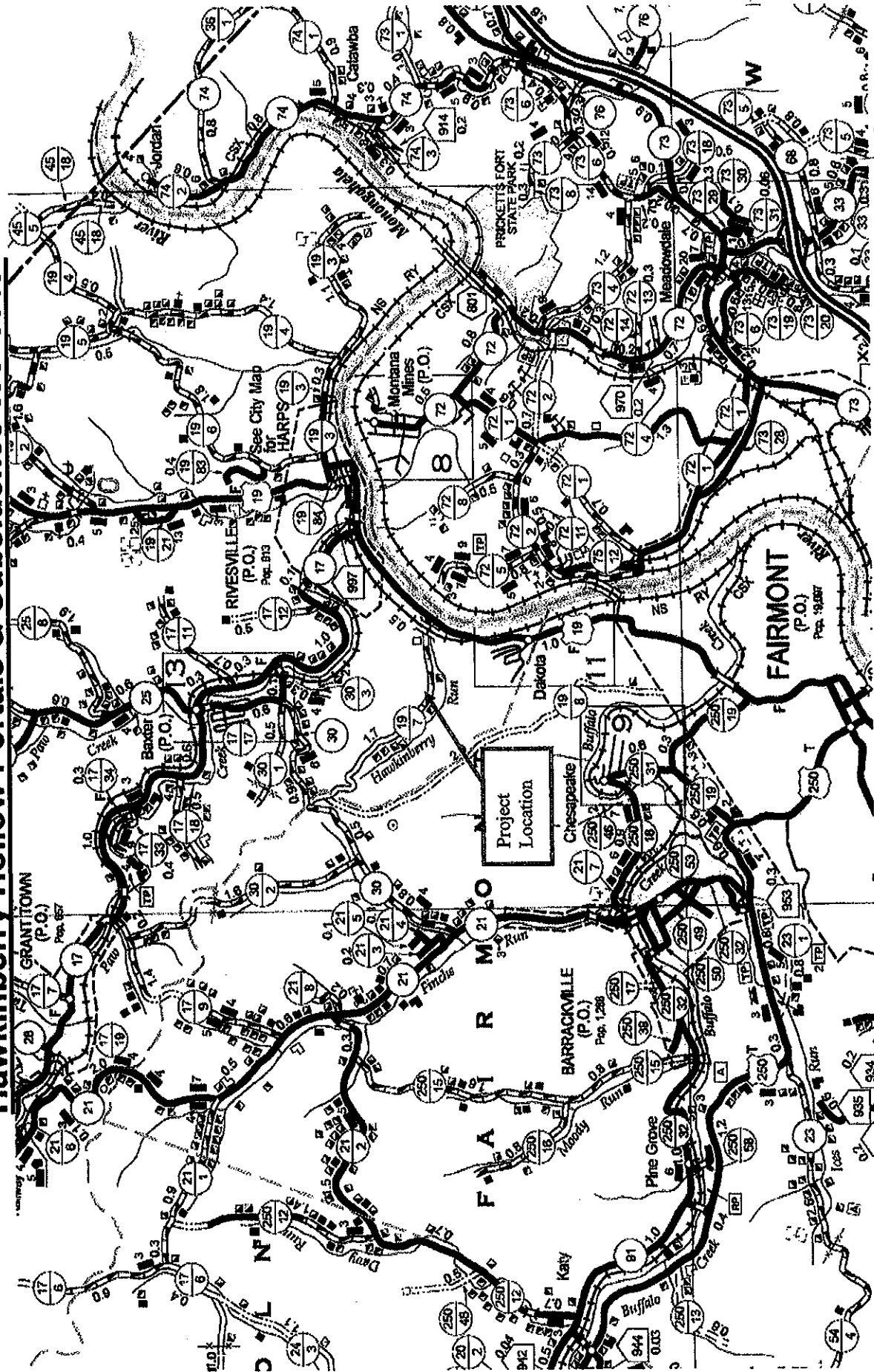
Marion County  
Longitude: 80° 8' 33"

Scale: 1 inch = ~ 905 Feet

Y	Portal
—	Subsidence Cracks

Grant Town Quad  
Latitude: 39° 31' 21"

# Project Location Map Hawkinberry Hollow Portals & Subsidence WV-4149



Marion County  
Longitude: 80° 8' 33"

Grant Town Quad  
Latitude: 39° 31' 21"

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AML CONSULTANT QUALIFICATION QUESTIONNAIRE Attachment "B"

PROJECT NAME		DATE (DAY, MONTH, YEAR)		FEIN	
1. FIRM NAME		2. HOME OFFICE BUSINESS ADDRESS		3. FORMER FIRM NAME	
4. HOME OFFICE TELEPHONE		5. ESTABLISHED (YEAR)		6. TYPE OWNERSHIP Individual Corporation Partnership Joint-Venture YES NO	
7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE		6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES NO			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM		8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS			
9. PERSONNEL BY DISCIPLINE					
— ADMINISTRATIVE	— ECOLOGISTS	— LANDSCAPE ARCHITECTS	— STRUCTURAL ENGINEERS		
— ARCHITECTS	— ECONOMISTS	— MECHANICAL ENGINEERS	— SURVEYORS		
— BIOLOGIST	— ELECTRICAL ENGINEERS	— MINING ENGINEERS	— TRAFFIC ENGINEERS		
— CADD OPERATORS	— ENVIRONMENTALISTS	— PHOTOGRAMMETRISTS	— OTHER		
— CHEMICAL ENGINEERS	— ESTIMATORS	— PLANNERS: URBAN/REGIONAL			
— CIVIL ENGINEERS	— GEOLOGISTS	— SANITARY ENGINEERS			
— CONSTRUCTION INSPECTORS	— HISTORICIANS	— SOILS ENGINEERS	— TOTAL PERSONNEL		
— DESIGNERS	— HYDROLOGISTS	— SPECIFICATION WRITERS			
— DRAFTSMEN					
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: _____					
*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.					
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO					

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Qualification Questionnaire".

NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE Yes _____ No _____

12. A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: \_\_\_\_\_

NO \_\_\_\_\_

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: \_\_\_\_\_

NO \_\_\_\_\_

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: \_\_\_\_\_

NO \_\_\_\_\_

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects: \_\_\_\_\_

NO \_\_\_\_\_

E. Is your firm experienced in domestic waterline design? (include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: \_\_\_\_\_

NO \_\_\_\_\_

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: \_\_\_\_\_

NO \_\_\_\_\_

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.)	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brief Explanation of Responsibilities			
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS			
REGISTRATION (Type, Year, State)			
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.)	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brief Explanation of Responsibilities			
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS			
REGISTRATION (Type, Year, State)			



13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.)	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
	Brief Explanation of Responsibilities		
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS			
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.)	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
	Brief Explanation of Responsibilities		
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS			

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES


15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS: \$	





18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

20. The foregoing is a statement of facts.

Signature: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

AML and RELATED PROJECT EXPERIENCE MATRIX		PROJECT EXPERIENCE REQUIREMENTS												PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional										
PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (2)	Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/Managem ent	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability							

Attachment "C"

\* List whether project experience is corporate or personnel based or both.  
 \*\* Use this area to provide specific sections or pages if needed for reference.  
 \*\*\* List Primary Design personnel and their functional capacity for the projects listed.

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**West Virginia Code §5A-3-10a states:** No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code §61-5-3*), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

**WITNESS THE FOLLOWING SIGNATURE**

Vendor's Name: TRIAD ENGINEERING, INC.

Authorized Signature: [Signature] Date: 12/1/2010

State of West Virginia

County of Monongalia, to-wit:

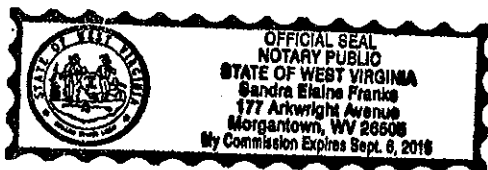
Taken, subscribed, and sworn to before me this 1st day of December, 2010

My Commission expires Sept 6, 2015

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature: Sandra Elaine Franks]





**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE**

PROJECT NAME DEP15220 - Hawkinberry Hollow Portals & Subsidence Design Project	DATE (DAY, MONTH, YEAR) 1 December 2010	FEIN 550592364
1. FIRM NAME TRIAD ENGINEERING, INC.	2. HOME OFFICE BUSINESS ADDRESS 219 Hartman Run Road Morgantown, WV 26505	3. FORMER FIRM NAME N/A
4. HOME OFFICE TELEPHONE (304) 296-2562	5. ESTABLISHED (YEAR) 1975	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES NO X
6. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE 219 Hartman Run Road, Morgantown, WV 26505/ (304)296-2562/Lydia Work, L.R.S.-NW Regional Manager / 15 4980 Teays Valley Road, Scott Depot, WV 25560/ (304) 755-0721/John Meeks, P.G., L.R.S.-SW Regional Manager / 20		
NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Randy L. Moulton, P.E., President & CEO (540) 667-9300 John Kent, P.E., COO (540) 667-9300 John Meeks, P.G., L.R.S., Vice President (304) 755-0721		
9. PERSONNEL BY DISCIPLINE		
23 ADMINISTRATIVE	3 LANDSCAPE ARCHITECTS	STRUCTURAL ENGINEERS
ARCHITECTS	MECHANICAL ENGINEERS	32 SURVEYORS
BIOLOGIST	MINING ENGINEERS	17 DRILLERS & HELPERS
17 CADD OPERATORS	PHOTOGRAMMETRISTS	10 LABORATORY TECHS.
CHEMICAL ENGINEERS	PLANNERS: URBAN/REGIONAL	7 LIC. REMEDIATION SPECS.
14 CIVIL ENGINEERS	SANITARY ENGINEERS	217 TOTAL PERSONNEL
45 CONSTRUCTION	SOILS ENGINEERS	
INSPECTORS	SPECIFICATION WRITERS	
DESIGNERS		
DRAFTSMEN		
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 4 (Mgtn.) / 8 (Sc. Depot) / 19 (Triad)		
*RPES other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.		
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA-		

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Confidential Qualification Questionnaire".

<p><b>NAME AND ADDRESS:</b>  <b>Keddal Aerial Mapping</b>                  1121 Boyce Road, Suite 3100                  Pittsburgh, PA 15241</p>	<p><b>SPECIALTY:</b>                  Aerial Mapping Services including aerial photography / remote sensing, surveying, digital photogrammetry, digital imaging, cadastral mapping, data conversion, and geographic information systems.</p> <p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No</p> <p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>

12. A. Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?

**YES Description and Number of Projects:** Triad has performed this work on hundreds of projects for the WVDEP/AML. In addition, we have performed numerous similar projects for other governmental agencies and private entities since our inception in 1975.  
NO

B. Is your firm experienced in Soil Analysis?

**YES Description and Number of Projects:** Triad has completed thousands of projects involving soil analysis throughout our years of service, and our geotechnical materials testing labs are certified by the WVDOT/DOH.  
NO

C. Is your firm experienced in hydrology and hydraulics?

**YES Description and Number of Projects:** Triad has completed hundreds of projects in the areas of hydrology and hydraulics since our inception, with customers including the WVDEP, U.S. Army Corps of Engineers, and the WVDNR.  
NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

**YES Description and Number of Projects:** Triad typically subcontracts the aerial photography. However, Triad lays out the targets in the field and conducts the survey for establishment of horizontal and vertical control used to develop the final contour mapping. It is estimated that we have completed several hundred of these types of mapping projects since the inception of the firm in 1975.

NO

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

**YES Description and Number of Projects:** Triad has completed a total of 10 waterline design projects including: Norton Harding Jimtown, Alkol Phase 1 and 2, 14 Mile, 10 Mile, 9 Mile, 6 Mile, Gatlin Coal Waterline Extension, Mason Phase 1 and 2, and Moorefield. Numerous Phase I and Phase II waterline feasibility studies have also been conducted.

NO

E. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

**YES Description and Number of Projects:** Triad has performed hundreds of AMD evaluations and abatement designs and is qualified to support this project.

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
Chambers, Harold W. (Chip) Project Manager / Surveying Manager, Northwestern Region / Project Engineer		YEARS OF AML DESIGN EXPERIENCE: 17	YEARS OF AML RELATED DESIGN EXPERIENCE: 26
		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 17	

Brief Explanation of Responsibilities: Mr. Chambers has performed engineering, surveying and management services for numerous civil design, mine development, commercial, industrial, transportation and mine reclamation projects. Mr. Chambers office duties associated with AML reclamation projects involve mine map review and the planning, coordination, supervision, survey data processing and cost estimation for surveying services on design and mapping projects.

EDUCATION (Degree, Year, Specialization)  
BS, 1981, Mining Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
WVMS  
REGISTRATION (Type, Year, State)  
MSHA Annual Certification, Surface Coal Mine  
Operations

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
Hare, Robert M., P.E. Civil Department Manager, Northwestern Region / Senior Engineer		YEARS OF AML DESIGN EXPERIENCE: 3	YEARS OF AML RELATED DESIGN EXPERIENCE: 10
		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 10	

Brief Explanation of Responsibilities: Mr. Hare has extensive and diversified experience in project management, permitting, marketing, land development/infrastructure development, utility relocation, waterline design, sewer line design, stormwater management design, storm drain design, erosion and sedimentation control, field survey coordination, right of way plan preparation, and highway design. Mr. Hare has over nearly 30 years of diversified civil engineering experience.

EDUCATION (Degree, Year, Specialization)  
BS, 1979, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
ASHE  
REGISTRATION (Type, Year, State)  
Registered Professional Engineer, 1984, WV  
Registered Professional Engineer, 1984, PA  
Registered Professional Engineer, 1984, MD  
Registered Professional Engineer, 1984, VA

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Krabill, Karen L., P.E. Geotechnical Services Manager, Northwestern Region / Senior Engineer	YEARS OF AML DESIGN EXPERIENCE:  15	YEARS OF AML RELATED DESIGN EXPERIENCE:  15	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  0
	Brief Explanation of Responsibilities: Ms. Krabill is responsible for the set-up and supervision of all aspects of geotechnical projects. Her specialties include design of safe and stable fill and excavated slopes. She is proficient in performing stability evaluations, hydraulic and hydrologic analysis and design, and coordination of subsurface explorations. Ms. Krabill's responsibilities on this project will include coordination of the design team and review of all work product generated for the project.		

EDUCATION (Degree, Year, Specialization)  
BS, 1984, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
  
REGISTRATION (Type, Year, State)  
Registered Professional Engineer, 1984, WV  
Registered Professional Engineer, 2007, MD  
Registered Professional Engineer, 2008, PA  
MSHA Annual Certification, Surface Coal Mine Operations

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) McCoy, Larry L., Jr., P.E. Senior Engineer	YEARS OF AML DESIGN EXPERIENCE:  2	YEARS OF AML RELATED DESIGN EXPERIENCE:  11	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  3
	Brief Explanation of Responsibilities: Mr. McCoy is the responsible engineer for numerous projects including civil site, utilities, roadways, and AML remediation. Mr. McCoy has performed design tasks related to these projects which have included: stream restoration, portal / shaft closure, hydraulic / hydrologic analysis, grading, project specifications, project plans, and other related tasks. Mr. McCoy also served as project manager on these and several related projects.		

EDUCATION (Degree, Year, Specialization)  
BS, 1996, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
  
REGISTRATION (Type, Year, State)  
Registered Professional Engineer, 2001, WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) <b>Spradling, Steven R., P.E.</b> Senior Engineer		YEARS OF AML DESIGN EXPERIENCE: 17		YEARS OF AML RELATED DESIGN EXPERIENCE: 29		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0	
Brief Explanation of Responsibilities: Mr. Spradling has formulated and implemented subsurface investigations on landfills, roadways / bridges, and structures for coal mining sites and facilities. Mr. Spradling's responsibilities include design and preparation of drawings and specifications. Mr. Spradling's strong background in the construction industry provides Triad with a reliable source in preparing bid documents and evaluating construction bids.							
EDUCATION (Degree, Year, Specialization) BSCE, 1974, Civil Engineering MSCE, 1992, Civil Engineering							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS WVSPE, ASCE				REGISTRATION (Type, Year, State) Registered Professional Engineer, 1993, WV			
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)							
NAME & TITLE (Last, First, Middle Int.) <b>Murphy, Steve I.</b> ACADD Drafting Manager / Senior Designer		YEARS OF AML DESIGN EXPERIENCE: 10		YEARS OF AML RELATED DESIGN EXPERIENCE: 15		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 3	
Brief Explanation of Responsibilities: Mr. Murphy has over 20 years of experience in surveying with an emphasis in Computer Aided Design Drafting (CADD), and currently serves as a Senior Designer for Triad's Civil Engineering Department. He has been involved in many aspects of surveying, mapping, photo control, property survey, construction layout, and deep mine surveys. Mr. Murphy has also been responsible for the preparation of numerous site grading plans of varying size and magnitude, which routinely include earthwork volume calculations, drainage control plans and portal closure, and has served as the Senior Designer for a number of WVDEP - AML projects.							
EDUCATION (Degree, Year, Specialization)							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS				REGISTRATION (Type, Year, State)			

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Jalali, Parviz J., P.E. Geotechnical Services Manager, Southwestern Region / Senior Engineer	YEARS OF AML DESIGN EXPERIENCE:  16	YEARS OF AML RELATED DESIGN EXPERIENCE:  29	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  0
	Brief Explanation of Responsibilities: Mr. Jalali is responsible for geotechnical engineering analysis and design, preparation of geotechnical engineering reports, and provides oversight of field geotechnical engineers and geologists. He has been the lead geotechnical engineer on projects involving hundreds of boreholes and thousands of feet of drilling. Mr. Jalali operates our in-house computers for slope stability analysis, quantity determinations, and computer aided design drafting (CADD).		

EDUCATION (Degree, Year, Specialization)  
 BACE, 1973, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
 WVACE, WVSPE, NSPE, ASPE

REGISTRATION (Type, Year, State)  
 Registered Professional Engineer, 1987, WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Hicks, Linda J. (Jane) Project Engineer	YEARS OF AML DESIGN EXPERIENCE:  6	YEARS OF AML RELATED DESIGN EXPERIENCE:  6	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  0
	Brief Explanation of Responsibilities: Ms. Hicks has provided geotechnical/environmental engineering services with a focus on mining related consequences. Her work has included soil and foundation engineering, subsidence evaluations, environmental testing and assessments, geological analysis, as well as construction testing and inspection. Ms. Hicks is also currently serving as the lead Project Engineer for Triad's ongoing WV BRIM investigations and projects.		

EDUCATION (Degree, Year, Specialization)  
 BSEM, 1981, Engineering of Mines  
 MA, 1989, Mathematical Education

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
 MSHA Annual Certification, Surface Coal Mine Operations  
 Humboldt Certified for Nuclear Density Gauge Operations

REGISTRATION (Type, Year, State)  
 Registered Professional Engineer, 1987, WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Meeks, John M., P.G., L.R.S. Southwestern Regional Manager / Senior Geologist / Vice President	YEARS OF AML DESIGN EXPERIENCE:  10	YEARS OF AML RELATED DESIGN EXPERIENCE:  10	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  6
	YEARS OF EXPERIENCE		

Brief Explanation of Responsibilities: Mr. Meeks' involvement with AML projects is primarily related to AMD abatement and wetland design. He has provided environmental expertise on all water study feasibility projects. He has supervised field crews and assigned and evaluated analytical reports. Mr. Meeks served as an environmental geologist on the Chief Logan Park AMD project.

EDUCATION (Degree, Year, Specialization) BS, 1980, Geology	REGISTRATION (Type, Year, State) Registered Professional Geologist, 1992, KY Registered Professional Geologist, 1999, WV Licensed Remediation Specialist, 1998, WV
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Maurin, James (Jim) Environmental Services Manager Northwestern Region	YEARS OF AML DESIGN EXPERIENCE:  0	YEARS OF AML RELATED DESIGN EXPERIENCE:  30	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  0
	YEARS OF EXPERIENCE		

Brief Explanation of Responsibilities: Mr. Maurin has joined Triad Engineering after more than 30 years of service with the WV Department of Environmental Protection. For Triad, Mr. Maurin will serve as Environmental Services Manager in the Morgantown, WV office. Mr. Maurin has extensive experience in environmental inspection and assessment, including more than 10 years of experience managing surface mine reclamation activities for the WVDEP.

EDUCATION (Degree, Year, Specialization) B.S., 1975, Forest Resources Management	
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MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) OSHA Health & Safety Training (with annual 8 hour refresher courses); National Association of Corrosion Engineers (NACE) Certified Technician.
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Phillips, Carol L. Project Environmental Scientist	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 3	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0
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Brief Explanation of Responsibilities: Ms. Phillips is a Project Environmental Scientist at the Morgantown office of Triad. In this capacity she conducts field work and report writing for environmental projects. She has extensive experience in stream & wetland mitigation construction monitoring, CWA permitting, stream & wetland delineation using US Corps of Engineers Wetland Delineation Manual, hydric soil characterization, wetland vegetation, and field indicators for wetland hydrology. She has also conducted threatened and endangered species habitat surveys and will bring this plus her extensive ESA experience to the project environmental work.

EDUCATION (Degree, Year, Specialization)  
BS, 2009, Agribusiness Management and Rural Development  
AS, 2003, Environmental Technology / AS, 2003, General Studies  
Canaan Valley Institute, 2007, Natural Stream Channel Design Construction

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
Air & Waste Management Association  
Society of Wetland Managers  
Association of State Wetland Managers  
Virginia Association of Wetland Professionals

REGISTRATION (Type, Year, State)  
Certified Responsible Land Disturber, VA  
Wetland Plant Identification Training  
MSHA Annual Certification, Surface Coal Mine Operations

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Sutphin, Amanda M., P.E. Staff Engineer	YEARS OF AML DESIGN EXPERIENCE: 1	YEARS OF AML RELATED DESIGN EXPERIENCE: 3	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 3
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Brief Explanation of Responsibilities: Ms. Sutphin assists the Project Manager on wastewater and potable water projects, as well as general civil engineering projects. In this capacity, Ms. Sutphin facilitates planning, design and construction of civil and sanitary engineering projects in coordination with the client's expectations. Her duties have included design calculations and infrastructure modeling, estimating, pipeline design, and permitting activities.

EDUCATION (Degree, Year, Specialization)  
BS, 2004, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
REGISTRATION (Type, Year, State)  
Professional Engineer, 2010, WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.) Work, Lydia M., L.R.S. Northwestern Regional Manager / Senior Chemist	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
	0	5	0
Brief Explanation of Responsibilities: Ms. Work is currently the Branch Manager of the Morgantown, WV office of Triad Engineering. In this capacity, Ms. Work is responsible for managing staff and contract administration of projects undertaken by the office. She will also provide direction to environmental work on this project, and use her significant background in water chemistry and environmental assessment to provide senior management and oversight.			
EDUCATION (Degree, Year, Specialization) BS (Honors), 1989, Chemistry			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS Management Association West Virginia Manufacturers Association			
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.) Talkington, Ronald A., P.S. Survey Supervisor	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
	0	26	0
Brief Explanation of Responsibilities: Mr. Talkington's field responsibilities associated with abandoned mine lands and reclamation mapping and design projects include construction and property surveys. He has experience in a wide range of survey-related project/client applications, including construction layout, pay item quantity calculation / verification, record research, property surveys and preparation of property plats and legal descriptions.			
EDUCATION (Degree, Year, Specialization) Various Surveying Courses			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS REGISTRATION (Type, Year, State) Professional Surveyor, 1989, WV MSHA Annual Certification, Surface Coal Mine Operations			

<p>13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)</p>			
<p>NAME &amp; TITLE (Last, First, Middle Int.)  <b>Stemple, Kevin D., P.E.</b>  Senior Engineer</p>	<p>YEARS OF AML DESIGN EXPERIENCE:  0</p>	<p>YEARS OF AML RELATED DESIGN EXPERIENCE:  0</p>	<p>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  0</p>
<p>Brief Explanation of Responsibilities: Mr. Stemple is a Senior Engineer for Triad's Northwestern Region. In this capacity, Mr. Stemple is responsible for technical quality and management of geotechnical projects. His technical work includes bearing capacity and settlement analyses, geophysical study implementation and analysis, shallow and deep foundation analysis and design, slope stability analyses, hydraulic and hydrologic evaluations, and preparation/review of geotechnical reports.</p>			
<p>EDUCATION (Degree, Year, Specialization)  B.S., 1995, Civil Engineering</p>			
<p>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</p>			
<p>REGISTRATION (Type, Year, State)  Professional Engineer, 2001, WV  Professional Engineer, 2001, VA  Professional Engineer, 2001, MD  Professional Engineer, 2001, PA  Professional Engineer, 2008, NC</p>			
<p>13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)</p>			
<p>NAME &amp; TITLE (Last, First, Middle Int.)  <b>Haynes, John J., P.E.</b>  Drilling Services Manager  Northwestern Region</p>	<p>YEARS OF AML DESIGN EXPERIENCE:  5</p>	<p>YEARS OF AML RELATED DESIGN EXPERIENCE:  5</p>	<p>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:  2</p>
<p>Brief Explanation of Responsibilities: Mr. Haynes has recently been promoted and now serves as the Northwestern Regional Drilling Manager for Triad Engineering. With this, he will manage all drilling and sampling activities conducted by the regional offices. Previously, Mr. Haynes served as a Project Geotechnical Engineer for the St. Albans office of Triad. In this role, he was responsible for geotechnical engineering analysis, preparation of geotechnical engineering reports, and leading field inspection of highway projects during the subsurface investigation phases. For this project, his duties will include design and implementation of the subsurface investigation, assignment of laboratory testing, approval of design drawings, technical specifications, and preparation of drilling reports.</p>			
<p>EDUCATION (Degree, Year, Specialization)  BS, 1996, Mechanical Engineering  BS, 2006, Civil Engineering</p>			
<p>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</p>			
<p>REGISTRATION (Type, Year, State)  Professional Engineer, 2006, WV  Certified Monitoring Well Installer (WV00225)</p>			

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Simar, Roger A. QC / Construction Services Manager Northwestern Region	YEARS OF EXPERIENCE	
	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 32
YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0		

Brief Explanation of Responsibilities: Mr. Simar has over 30 years of experience performing and providing QA/QC inspection, and laboratory testing services for Triad Engineering, Inc. He has 20 years of experience as Triad's Laboratory / Field Services Coordinator. Mr. Simar is experienced in most phases of earthwork, asphalt, and concrete construction. He is also knowledgeable in most basic laboratory test procedures for soil, concrete, aggregate and asphalt materials. Mr. Simar schedules field testing projects and personnel, reviews and submits field reports, provides problem solving and client consulting, writes reports, and prepares invoices. He also schedules and prioritizes all laboratory tests that are conducted, and reviews, approves and writes laboratory test reports. Additionally, Mr. Simar is the Radiation Safety Officer for Triad. He is responsible for inventory, leak testing, maintenance, and calibration of the company nuclear-density gauges. He is also responsible of the safety training and record keeping requirements in order to comply with NRC regulations.

EDUCATION (Degree, Year, Specialization)  
AS, 1976, Civil Engineering Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
APAWW

REGISTRATION (Type, Year, State)  
 -WV DOH Certifications: Bituminous Concrete Tech. (#651); Portland Cement Concrete Tech. (#693);  
 Aggregates Technician (#112); Compaction Tech. (#312); Marshall Mix Design  
 -Fairmont State University: Cert. Inspector, Level V  
 -National Inst. For Cert. in Engineering Technologies: Senior Civil, Geotechnical Eng. Tech. (#060687)  
 -American Concrete Institute: Concrete Tech., Grade 1 (#196-38-3400)  
 -Troxler Electronics Laboratories: Radiation Safety  
 -Humboldt Scientific, Inc.: Cert. Radiation Safety Officer

## Equipment Listing

### Drilling Equipment:

Track Mounted Drill Rigs	1- Simco 5000 2- Davey DK 90 1- Davey DK 50 1- CME 55 1- CME 45
All Terrain Drill Rigs	1- CME 55 1- Mobile B53
Truck Mounted Rigs	3- Mobile B53 1- Mobile B52 1- Mobile B61 HDX
Skid Mounted Rigs	1- Diedrich 25
Transport Vehicles	4- Peterbilt Tandem Axle Tiltbeds 1- Mack Tandem Axle Tiltbed 2- Tractor Trailers Truck with Lowboy Trailers 4- Flatbed Trucks 1- Box Truck 15- 4WD ¾ Ton Support Trucks
Portable Drilling Equipment	2- Motorized Cathead / Tripod Units 2- Handheld Sampling Equipment 1- Pontoon Boat 1- Portable Barge

Miscellaneous equipment includes Dutch cone Penetrometer, Mobile Grout Pump (Chem-Grout), Steam Jenny (Whitco), Steam Jenny (Hotsy), 600 CFM Air Compressor (Sullair), various size utility trailers.

Protective Clothing & Equipment-Complying with EPA & OSHA Regulations  
Air Purifying Respirators & Supplied Air Respirators

## Equipment Listing

Continued – page 2

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### Drilling Tools:

- Hollow Stem Augers (2 ¼" I.D., 3 ¼" I.D., 4 ¼" I.D., 6 ¼" I.D.)
- Continuous Flight Augers
- NQ Core Equipment
- AW Core Equipment
- Pressure Testing Equipment
- Water Pumps, Trucks and Tanks
- Shelby-Tube Samplers (2", 3" and 5" Diameter)
- Split-Spoon Samplers (2" and 3" Diameter)
- CME Continuous 5.0' Length Samplers
- Longyear Casing Advancer (HQ)
- Downhole Hammer

### Laboratory Equipment:

- Triaxial Compression Machine
- Manual Proctor Devices (standard and modified)
- Automatic Proctor Hammer
- Turbidimeter
- Hydrometer
- pH Tester (soil & water)
- Electronic Scales
- Unconfined Compression Machine
- Atterberg Limits Devices
- California Bearing Ratio Devices
- Electrical Resistivity Devices
- Specific Gravity Devices (soils & aggregates)
- 2000 Degree Fahrenheit Oven
- Permeability Cells & Panels
- Consolidometers

## Equipment Listing

Continued – page 3

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- Electronic Manometers
- Concrete Compressive Strength Equipment
- Aggregate Shakers
- Sieve Shakers
- Sample Splitters
- Unit Weight Buckets
- Slake Durability Machine
- Gradation Sieves
- L.A. Abrasion Test Equipment
- Soiltest Loading Devices
- Sodium Sulfate Soundness Test Equipment
- Asphalt Test Equipment
- Relative Density Determination Device

### Field Testing Equipment:

#### Soil

- Nuclear Moisture/Density Gauges
- Sand Cone Equipment
- Support Compaction Testing Equipment
- Digitilt Slope Indicator
- Pocket Penetrometers
- Hand Augers
- Static Cone Penetrometers

# Equipment Listing

Continued – page 4

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## Concrete

- Air Meters (pressure & volumetric)
- Slump Cones & Accessories
- Windsor Probes
- Rebound Hammers
- Concrete Core Drills & Accessories
- Concrete Slab Profiler

## Water

- Pressure Transducer / Data Logger & Associated Software
- pH Meters
- Turbidity Meters
- Iron Test Kits
- Dissolved Oxygen Meter
- Water Test Kits

## Structural Steel, Bolt, and Paint

- Torque Wrenches
- Magnetice Gauges
- Tooke Gauges
- Wet File Gauges
- Sling Psychrometers
- Dye Test Kits



# Equipment Listing

Continued – page 5

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## Environmental Testing

- OVA Meters (Trace Gas Analyzer by Flame Ionization)
- HNU Meters (Trace Gas Analyzer by Photoionization)
- Air-Stripping Unit for Water Treatment
- LEL/Oxygen Meter
- Draeger Pump and Assorted Tubes
- pH/ Conductivity/ Temperature Meters
- Hammer Drill and Associated Sampling Equipment

## Field Laboratory Trailer

- Equipped as Required for Specific Projects

## Surveying and Mapping Equipment

- Total Station Survey Instruments (Topcon, Lietz, Hewlett Packard, various models, 25 total)
- Wild T2 Precise Theodolite
- 2 Trimble 4000ssi Total Station GPS Recievers  
L1/ L2 dual frequency capability  
OTF (On The Fly) Initialization  
1.0MB static memory
- 2 Compact L1/ L2 frequency GPS Antenna w/ detachable geodetic groundplane
- 1 Pacific Crest 35w Data Transmitter
- 1 Pacific Crest 2w Data Reciever
- Trimble GPSurvey Software (v2.30b)
- Trimble TRIMNET Software (v92.11c)
- Dell Dimension XPS-D333 Computer w/ Dell Trinitron Monitor

## Equipment Listing

Continued – page 6

- CTX – 300 MHz Laptop Computer
- Toshiba – 200 MHz Laptop Computer
- Thodolites (Dietzgen, 2 total)
- Engineer's Transits
- Data Collectors (SMJ – Construction V, HP 48 GX, Topcon, Leitz, various models, 20 total)
- Wild N3 Precise Level
- Automatic Levels (Lietz, Pentax, Wild, various models, 25 total)
- Planimeters (4)
- Various Lengths of Engineer Chains, Precision Leveling Rods
- 12 ft. Boat with Trolling Motor
- Pontoon Boat

### Computer Equipment:

#### Software

- MicroStation J
- MicroStation SE
- MicroStation V8 – (2) Network Administered
- Bentley View (41) Network Administered
- InRoads v8.3 – Network Administered
  - InRoads Bridge
  - InRoads Site
  - InRoads Storm & Sanitary
  - InRoads Survey

## Equipment Listing

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- AutoCAD 2005 Land Development Desktop – (2) Network Administered
- AutoCAD Civil Engineering Desktop – Network Administered
- AutoCAD 2005 – (2) Network Administered
- Site SelectCAD Package
- SurvCADD 2000 (2)
- Corel WordPerfect 2000 (21)
- Corel WordPerfect 2002 (20)
- Microsoft Office 97 Professional (21)
- Microsoft Office 2000 Premium (3)
- Microsoft Office XP Professional (8)
- Microsoft Office Professional 2003 (9)
- Microsoft Windows 98SE (21)
- Microsoft Windows 2000 Professional (3)
- Microsoft Windows XP Professional (17)
- Adobe Photoshop 7 (2)
- Adobe PageMaker 7 (2)
- Adobe Acrobat 6 Pro (21)
- Adobe PageMill (2)
- Adobe Illustrator 7 (2)
- Adobe InDesign 2 (2)
- Adobe GoLive 6 (2)
- Macromedia Studio MX (2)
- PCSTABL6/STED – Slope Stability
- UTEXAS2 – Slope Stability
- COGOPC+ - Surveying and Mapping

## Equipment Listing

Continued – page 8

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- CONTOUR+ - Surveying and Mapping
- HEC1 – Flood Hydrograph Package
- HEC2 – Water Surface Profiles
- DAMS2 – SCS Structure Site Analysis
- PONDPACK – Urban Hydrology and Detention Pond Design
- GEOPRO – Geotechnical Engineering Software
- LPILE Plus 4.0 for Windows – Pile Design
- SHAFT 4.0 for Windows – Caisson Design
- HELPMODEL – Hydrologic Evaluation of Landfill Performance
- FLOWMASTER 7.0 - Network Administered Pipe and Ditch Sizing
- WaterCAD for AutoCAD – 6.5 – Network Administered
- StormCAD for Windows
- CULVERTMASTER – Culvert Design and Analysis
- EXXON I – Pavement and Subbase Thickness Design
- Trimble GPSurvey Software (v2.30b)
- Trimble TRIMNET Software (v92.11c)
- Q & A Database
- Peachtree Accounting (time & billing)
- Protrax Axium accounting
- Laboratory Test Data Reduction Programs
- GeoSystems – Geotech Engineering Materials Testing
- gINT 6 – (7)
- Lotus 123 Spreadsheet

## Equipment Listing

Continued – page 9

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- HWY – Asphalt Pavement Thickness for Streets and Overlays
- HWLOAD – Asphalt Pavement Thickness for Heavy Wheel Loads
- Government Forms Software '98 (SF 254/255)
- Deed Plotter for Windows
- HEC-HMS
- HEC-RAS
- HEC-Storm Sewers
- Hydraflow Hydrographs
- Hydraflow Storm Sewers
- CP-4 Asphalt
- Server Software
  - Windows 2000 Professional Server
  - Microsoft Exchange 2000 Server
  - Symantec Anti-virus Server
  - Symantec Mail Security AVF filter for MS Exchange
  - Symantec Web Security
  - Veritas Backup Exec 9.1 for Windows Servers
  - TripLite Power Alert

# Equipment Listing

Continued – page 10

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## Hardware

- PIII (400MHz – 1 GHz), 21 Stations total, up to 40GB Hard Drives
- P4 (1 GHz – 2 GHz) (14)
- P4 (2 GHz – 3.4 GHz) (5)
- Notebook Computers (6)
- Digital Cameras (3)
- Printers
  - HP Color LaserJet 4500
  - HP LaserJet 4100 (2)
  - HP LaserJet 4000
  - HP LaserJet 1300 (3)
  - HP LaserJet v4
- Plotters
  - HP DesignJet 1050C
  - HP DesignJet 750C (2)
- Fax Machines
  - HP 3100
  - Brother MFC4600
- Copiers
  - Xerox 5343C
  - Xerox Document Centre 440 DC
  - K&E CADD Copier
- Firewall
  - Cisco PIX 506E Security Appliance
- Compaq Proliant ML370 G2 Server
- TripLite UPS

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Little Laurel Run AML Project Preston County, WV	WVDEP - AML&R 601 57th Street Charleston, WV 25304	Engineering Design	N/A	30%
Mullens Portals Project Wyoming County, WV	WVDEP - AML&R 601 57th Street Charleston, WV 25304	Engineering Design	N/A	50%
Elk Creek Portals Mingo County, WV	WVDEP - AML&R 601 57th Street Charleston, WV 25304	Engineering Design & Mapping - Deep Mine Reclamation, Portal Closure, Project Specifications, Water Quality/Treatment, Construction Monitoring	N/A	90%
Rumble (Stevens) Refuse & Portals Boone County, WV	WVDEP - AML&R 601 57th Street Charleston, WV 25304	Engineering Design - Surface/Deep Mine Reclamation, Portal Closures, Project Specifications, Geotechnical Evaluations, Construction Monitoring	N/A	90%
Belington Portals & Drainage Logan County, WV	WVDEP - AML&R 601 57th Street Charleston, WV 25304	Engineering Design - Surface/Deep Mine Reclamation, Portal Closure, Project Specifications, Water Quality/Treatment, Geotechnical Evaluations, Construction Monitoring	N/A	95%
Mine Subsidence Investigations, Engineering Throughout WV	WV Board of Risk & Insurance Management 4501 MacCorkle Avenue South Charleston, WV 25309	Mine Subsidence Investigations, Engineering Consulting Services	N/A	Ongoing Contract
Asbestos Inspections, Throughout WV	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305	Asbestos Inspections	N/A	Ongoing Contract

WVDOT / DOH Testing & Inspection, Throughout WV	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305	Testing and inspection services for WVDOT/DOH projects	N/A	Ongoing Contract
WVDOT / DOH Geotechnical & Drilling Services, Throughout WV	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305	Geotechnical engineering and drilling services for WVDOT/DOH projects	N/A	Ongoing Contract
WVDOT / DOH Environmental & Drilling Services, Throughout WV	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305	Environmental consulting services and/or related drilling services for WVDOT/DOH projects	N/A	Ongoing Contract
Indefinite Delivery / Indefinite Quantity Contract - Surveying & Mapping, Various Locations	US Army Corps of Engineers Huntington District 502 Eighth Street Huntington, WV 25701	On-call surveying and mapping services for USACE - Huntington District projects	N/A	Ongoing Contract
Probable Hydrologic Consequences of Mining, Various Sites in WV and PA.	Various Mining Clients in WV and PA	Determine the potential impacts of mining-related activities on the hydrologic balance. Evaluate hydrologic and geochemical data; determination of potential for adverse hydrologic consequences; and recommendations for avoidance of adverse impacts.	N/A	Ongoing
America Church Bridge Replacement, Mingo County, WV	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305	Highway / Bridge Design	N/A	75%
FAA Improvement Projects (Various), Charleston, WV	Central WV Regional Airport Authority 100 Airport Road Charleston, WV 25311	Civil Engineering / Surveying	\$3-5M	90%
New Haven Water / Sewer Line Extension, New Haven, WV	Town of New Haven PO Box 217 New Haven, WV 25265	Water / Sewer Line Extension Design	\$1-3M	90%



Mammoth Coal Handling Facility, Kanawha County, WV	Mammoth Coal Company PO Box 150 Cannelton, WV 25036	Geotechnical Engineering, Drilling, QA/QC, Laboratory Testing Services	N/A	90%
Justice Mine Exploration, Boone County, WV	Independence Coal HC78, Box 1800 Madison, WV 25130	Drilling & Geological services	N/A	90%
Marion County Landfill Marion County, WV	WVDEP / DLR / LCAP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	Landfill Closure Design - Site Characterization study, leachate management, closure cap design and QA/QC. Environmental / Geological services, Drilling, Surveying & Mapping, Geotechnical & Civil Engineering & Design, QA/QC, Laboratory Testing	N/A	75%
Morgan County Landfill, Morgan County, WV	WVDEP / DLR / LCAP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	Landfill Closure Design - Site Characterization study, leachate management, closure cap design and QA/QC. Environmental / Geological services, Drilling, Surveying & Mapping, Geotechnical & Civil Engineering & Design, QA/QC, Laboratory Testing	N/A	75%
ALCON Site Sampling Huntington, WV	Alcon Manufacturing 6065 Kyle Lane Huntington, WV 25702	NPDES Environmental Sampling Services	N/A	Ongoing Contract
Heartland Facility Additions Kingwood, Keyser & Rainelle, WV	Healthcare & Retirement Corporation of America, Inc. 7361 Calhoun Place, Suite 300 Rockville, MD 20855	Civil Engineering Site Design, Geotechnical / Subsurface Drilling & Exploration, Environmental assessment, Surveying & Mapping, QA/QC/Testing for additions to healthcare facilities	N/A	95%
TOTAL NUMBER OF PROJECTS:		TOTAL ESTIMATED CONSTRUCTION COSTS: \$		

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
502 Junction Substation, Mt. Morris, PA & PREXY Substation, Cannonsburg, PA	Preparation of an ALTA/ACSM Land Title Survey for Kenny Construction Co.	Allegheny Energy Service Co. 800 Cabin Hill Dr., Greensburg, PA 15601	2011	N/A	Ongoing project
Longview Power Plant Monongalia County, WV	Geotechnical / Subsurface Investigations, Drilling & Sampling, Surveying & Mapping, QA/QC, Laboratory Testing for Siemens Power Generation and Aker Construction	GenPower Holdings, L.P. 1040 Great Plain Ave., Needham, MA 02492	2010	\$1,820,000,000	Ongoing; \$750,000+
Raleigh Street Extension Berkeley County, WV	Geotechnical Engineering, Drilling & Sampling, Surveying & Mapping Services for PB Americas, Inc.	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305	2009 - 2010	N/A	Ongoing project
Nuttallburg Mine Complex, New River Gorge, WV	Geotechnical Engineering, Drilling, Lab Testing, Surveying & Construction Management	National Park Service PO Box 246 Glen Jean, WV 25846	2010	N/A	Ongoing Project
Sawmill Village Snowshoe, WV	Drilling & Sampling, Geological Services	Snowshoe Mountain Resort 10 Snowshoe Drive Snowshoe, WV 26209	2009	N/A	\$12,000

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Tibbs Run (Perine) Landslide Remediation Project (Drilling, remedial design package, relocation of utilities, erosion control, construction documentation, revegetation)	WVDEP - AML&R 105 South Railroad St. Phillippi, WV 26416	N/A	2008	Yes
Fairmont (Smith) Subsidence (Mining assessment, site reconnaissance, field & subsurface investigations, drilling, field surveying & mapping, remedial design package, construction documentation, pre/post construction meetings, construction monitoring)	WVDEP - AML&R 105 South Railroad St. Phillippi, WV 26416  WV Board of Risk & Insurance Management 4501 MacCorkle Avenue South Charleston, WV 25309	N/A	2009	Yes
Jessop Portals Jessop, WV	Friends of the Cheat 109 South Price Street Kingwood, WV 26537	N/A	2007	Yes
Federal No. 2 Mine Refuse Area Refuse Sampling & Vegetation Analysis Bula, WV	Peabody Energy Miracle Run Road Bula, WV	N/A	2008	Yes
Grafton Coal Company Mt. Storm, WV	NedPower II, LLC Chantilly, VA 20151	N/A	2008	Yes
HIGHLANDS AT BLACKWATER LAND DEVELOPMENT PROJECT TUCKER COUNTY, WV	BLACKWATER INVESTMENT GROUP 2615 WINDRIDGE DRIVE DOYLESTOWN, PA 18902	N/A	2007	Yes
Jintown Tipple Lumberport, WV Geotechnical Evaluation	WVDEP AML & R 105 S. Railroad St. Suite 201 Phillippi, WV	N/A	2004	Yes

Vens Run Landslide #2 Jane Lew, WV Geotech/Drilling/Surveying	WVDEP AML & R 105 S. Railroad St. Suite 201 Phillippi, WV	N/A	2004	Yes
Mettiki Coal, Test Drilling for Monitoring Well Development over a Proposed Deep Mine, Garrett County, MD	Mettiki Coal Company 293 Table Rock Road Oakland, MD 21550	N/A	2004	Yes
Mettiki Coal, Rock Coring & Piezometer Installation Over Longwall Mine in Grant Co, WV	Mettiki Coal Company 293 Table Rock Road Oakland, MD 21550	N/A	2005	Yes
Fairmont General Hospital Wellness Center Marion County, WV Geotech./Mining Assessment	Fairmont General Hospital Locust Avenue Fairmont, WV	N/A	2006	Yes
WVU Alumni Center Monongalia County, WV Geotechnical Evaluation	West Virginia Alumni Assoc. Erickson Alumni Center Morgantown, WV	N/A	2004	Yes
Rosemont Highway & Portals Barbour County, WV Design Regrading & Drainage	WVDEP AML & R 105 S. Railroad Street Suite 201 Phillippi, WV	N/A	2002	Yes
Duffy St./Van Rufus Drive Subsidence Project Shinnston, WV Reclamation Design	WVDEP AML & R 105 S. Railroad Street Suite 201 Phillippi, WV	N/A	2003	Yes
Suncrest Towne Centre Monongalia County, WV Geotechnical Eval./QA/QC	705 Development Group Suncrest Village Morgantown, WV	N/A	2004	On-Going
Westwood & Cass Elementary Schools, Morgantown High, Clay Batelle High, Mason- Dixon Elementary Monongalia County, WV Geotechnical/Surveying	Monongalia County Board of Education 13 S. High Street Morgantown, WV	N/A	2004	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)						
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH	
Lincoln Hall Dormitory, WVU Evansdale Campus Civil, ESA, testing	West Virginia University, Planning Design & Construction Morgantown, WV 26506	Project cost \$14,500,000	2006	yes	American Campus Communities, 805 Las Cimmas Parkway Ste 400 Austin TX 78746	
West Virginia Univ. Admin Bldg & Parking Bldg, Morgantown WV; geotech/drilling/foundation design	West Virginia University, Planning Design & Construction Morgantown, WV 26506	100,000	2004	Yes	March Westin Co., 360 Frontier St., Morgantown WV 26505	
Waterfront Hotel & Conf Center, Morgantown WV Geotech/drilling/testing	Platinum Properties, 990 Elmer Prince Dr Morgantown, WV 26505	Project cost \$32,000,000	2004	Yes	March Westin Co., 360 Frontier St., Morgantown WV 26505	
University Towne Centre, Retail Shopping Complex, Granville WV; testing, surveying, geotech, drilling	Ideal Co. (Cracker Barrel) 8313 N. Kimmel Rd, Clayton OH 45315; Complete Const.(Olive Garden), 11700 Commonwealth, Louisville KY 40299	Unknown	2007	Various retail stores built; development on-going	CONSOL Energy/CNX Land Resources, 4000 Brownesville Rd., South Park PA 15129	
Monongalia General Hospital Addition Surveying Services	Monongalia Health Systems, Inc., 1200 J.D. Anderson Drive, Morgantown, WV 26505	Project Cost: \$92,000,000	2008	Yes	Turner Construction Co. Two PNC Place 620 Liberty Avenue, 27 <sup>th</sup> Floor Pittsburgh, PA 15222	
Engineering Sciences Building, East Wing Addition Surveying Services	West Virginia University, One Waterfront Place, Morgantown, WV 26506	N/A	2008	Yes	TEDCO Construction Co. TEDCO Place Carnegie, PA 15106	
Mon-Fayette Expressway Surveying, QC / Testing Services	WV Dept. of Transportation Building 5, 1900 Kanawha Blvd., East Charleston, WV 25305	N/A	Ongoing	Yes - ongoing	Mosites Construction Co. 4839 Campbells Run Road Pittsburgh, PA 15205	

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

Triad Engineering, Incorporated (Triad) is a full service engineering firm specializing in the areas of geotechnical, civil and mining engineering and design, environmental assessment, surveying and mapping, construction monitoring, subsurface exploration, and laboratory testing, among other earth science disciplines. Our current work force includes civil, geotechnical and mining engineers, environmental scientists, geologists, hydrologists, chemists, surveyors, trained Computer Aided Design Drafting (CADD) draftsmen, field and laboratory technicians, drillers and support personnel.

Triad was founded in Morgantown, West Virginia (WV) in 1975 by three principals who molded the firm based on their belief that if the highest standards were maintained throughout all aspects of the company, they would earn their clients' respect, therefore ensuring the firm's continued growth. Today, Triad has a staff of over 200 full-time employees and seven office locations in WV, Pennsylvania, Maryland, Virginia and Ohio. By providing an array of competent services, using modern equipment, and maintaining a well-trained professional staff, Triad has maintained the founders' philosophies and proven that customer satisfaction results in good relationships and repeat business.


Furthermore, Triad is an employee-owned company with an active Board of Directors. Current Officers and Board Members are:

- Chief Executive Officer (CEO) – Randy Moulton, PE
- Senior Vice President – John Meeks, PG, LRS
- Chief Financial Officer (CFO) – Tina McPhail
- Chief Operations Officer (COO) – John Kent, PE
- Robert Holstead, PE
- Parviz Jalali, PE
- David Moore
- Brad Reynolds, PE
- Roger Simar

Triad has successfully performed thousands of projects utilizing its professional expertise. Triad employees pride themselves on their ability to provide the firm's clients with top-quality work that is on schedule and within budget. Our company is small enough to be responsive to the needs of our customers and large enough to remain at the forefront of scientific solutions.

We are extremely proud of our performance under past contracts, including those we have held with the WVDEP. As of this date, more than 400 AML&R projects have been undertaken by Triad. The vast majority of these projects have been successfully completed on time and within the proposed cost estimate. As always, Triad will commit the necessary resources to meet the needs of this project.

20. The foregoing is a statement of facts.

Signature: 

Printed Name: Lydia M. Work, L.R.S.

Title: NW Regional Manager

Date: 1 December 2010

AML and RELATED PROJECT EXPERIENCE MATRIX		PROJECT EXPERIENCE REQUIREMENTS														PRIMARY STAFF PARTICIPATION/CAPACITY																														
PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (s)	PROJECT EXPERIENCE REQUIREMENTS														PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional																													
			Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Monitoring Services	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Robert M. Hare, P.E.	Karen L. Krabill, P.E.	Steve L. Murphy	Harold W. Chambers	John J. Haynes, P.E.	William M. Gardner																							
Bleser Refuse & Portals	C			X	X											X									P								P													
Chicks Highway & Portals	C			X												X																						P								
Homer Run Portal, Highway & Slide	C			X												X																								P						
Wayne Shreve Portals	C			X												X																									P					
Jessop Portals	C			X												X																										P				
Albert Highway & Portals	C			X												X																										P				
Rosemont Highway & Portals II	C			X												X																										P				
Stillhouse Run Refuse	C			X												X																											P			
Phillip Thorn Highway	C			X												X																												P		
North 8th Street Refuse & Portals	C			X												X																												P		
Livengood Highway & AMD	C			X												X																												P		
Belington Portals & Drainage	C			X												X																												P		
Fairmont (Smith) Subsidence	C			X												X																													P	
Little Laurel Run	C			X												X																													P	

\* List whether project experience is corporate or personnel based or both.

\*\* Use this area to provide specific sections or pages if needed for reference.

\*\*\* List Primary Design personnel and their functional capacity for the projects listed.

AML and RELATED PROJECT EXPERIENCE MATRIX														PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional												
PROJECT	Exp. Basis C=Corp. P=Personal * Additional Info Provided in Section (S) **	PROJECT EXPERIENCE REQUIREMENTS												Steven A Clark, PS	John Meeks, P.G., L.R.S.	Amanda Sulphin	James. R. "Bo" Crnill	Lee McCoy, P.E.								
		Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Litigation/Replic ement	Construction Inspection/Management	Water Treatment						Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability					
Morris Creek Drainage	C		X	X	X							X	X	X	X		P/M							M		
WVU Tech Drainage	C		X	X	X						X						P/M					X			M	
Coal Hollow Refuse *A	C		X	X	X																	X			P/M	
Dille-Widen Water Feasibility	C															X										
Mullens Water Feasibility	C															X										
Logan AMD	C															X										
Elk Creek Portals	C		X	X	X																	X			P	
Rumble (Stevens) Refuse & Portals	C	X	X	X	X																		X			P
Bellington Portals & Drainage	C	X	X	X	X																			X		P

\* List whether project experience is corporate or personnel based or both.

\*\* Use this area to provide specific sections or pages if needed for reference.

\*\*\* List Primary Design personnel and their functional capacity for the projects listed.



## I. INTRODUCTION

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Triad Engineering, Inc., (Triad) proposes to perform engineering design, construction monitoring and other related services for the Hawkinberry Hollow Portals and Subsidence Design project in Marion County, West Virginia. Factors that make Triad a strong candidate for consideration include:

- Past experience & complete familiarity with AML&R projects
- In-house capabilities
- Experienced professional and support personnel
- 100% employee owned and operated West Virginia firm
- Strong geotechnical background
- Outstanding laboratory facilities
- Expeditious & economical mobilization of drilling rigs, equipment and personnel
- Experience in major design projects

Triad has completed over 400 projects for the WVDEP. Each project has involved various areas of expertise and problem types. In addition to WVDEP projects, Triad has successfully completed major design projects for other government agencies, large coal mining concerns, chemical manufacturers, developers and numerous other clients. Triad's responsibilities on these projects have included, but were not limited to:

- Design Development and Drawings
- Geotechnical Investigations and Analyses
- Permit Applications
- Surveying and Mapping
- Hydrology and Hydraulics
- Construction Bid Packages
- Construction Specifications
- Construction Bid Packages
- Construction Observation and Monitoring
- Construction Management

## II. GENERAL EXPERIENCE AND CAPABILITIES

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### General Information

Triad is a West Virginia-based engineering firm providing professional services in the areas of civil, environmental, mining, geotechnical and chemical engineering; environmental consulting; site assessment; land planning and landscape architecture; geology and hydrogeology; surveying and mapping; construction inspection and materials testing; and other related earth-science disciplines. Our firm has provided services on many thousands of projects of varying size and complexity since beginning operations in 1975. Clients include mining and industrial companies, federal, state and local governmental agencies, contractors, architects, engineers, developers, owners and commercial organizations.

Triad was founded in 1975 in Morgantown, West Virginia (WV) by three civil engineers from West Virginia University. A second office was opened in Charleston, WV in 1979 and later relocated to our present St. Albans, WV location. Triad expanded into the northern Virginia (VA) area in 1989 with offices in Winchester and Harrisonburg, VA, and began operations in Pennsylvania in 1990 with a full-service office in Greensburg. Most recently, Triad has opened offices in Hagerstown, Maryland, Ashburn, Virginia and Athens, Ohio.

Facilities and equipment available to support our staff have grown substantially during the past 35 years. Each of our offices contains secure computer networks utilized for hydrogeologic evaluations, risk assessment, stability analyses, survey data reduction, mapping and site design. Our computer-based drafting and reproduction facilities are used to develop detailed site plans (monochrome or color), construction details, and other graphic documentation as required for our projects. Triad's fleet of drilling rigs and support vehicles are based in our WV offices and maintained in-house to meet the needs of our engineering and site assessment projects. Well equipped, modern state-of-the-art materials testing laboratories are maintained at our offices to support our engineering and construction-related projects. Standard 35-mm photography and digital cameras are used to document the stages of our projects.

Triad currently employs a staff of more than 200 professionals in its seven office locations. Our personnel include chemical, civil, environmental, geotechnical and mining engineers, as well as geologists and hydrogeologists, biologists, chemists, environmental scientists, planners, landscape architects, natural resource specialists, regulatory compliance specialists, permitting engineers, risk assessors and health and safety specialists. Our technical support staff includes designers, draftsmen, surveyors, technicians, drillers, construction inspectors, and other corporate and clerical personnel. Most of our professional and technical staff has been with the company for many years - we pride ourselves on a very low turnover rate, which adds to continuity and enhances the level of productivity and experience afforded by Triad.

#### Surveying and Mapping

Triad has completed numerous mapping projects since our inception in 1975. These projects have included performing ground control for aerial mapping, field mapping of specific sites and/or obscured areas, and field mapping of in-stream topography. Triad has performed topographic surveying and mapping and construction layout for large development projects as well as for major bridge/roadway projects under construction for the West Virginia Department of Transportation. Triad utilizes state-of-the-art tools and equipment including Global Positioning system base station and portable GPS HF radio receivers, as well as total station theodolites with electronic data collectors. Maps and plats are developed in either AutoCADD or Microstation format.

Triad maintains quality control by adherence to our Standard Operating Procedures Manual for Surveying. The document is continuously updated to stay abreast of new survey innovations and accuracy standards. All topographic map development is completed to the standards set forth by the National Map Accuracy Standards or other appropriate quality standards. MSHA and OSHA HAZWOPER-trained crews are also available for hazardous work environments.

As can be seen on Block 14 of the WVDEP/AML Consultant Confidential Qualification Questionnaire (CCQQ), Triad possesses the most modern equipment available to perform surveying services in support of the engineering design required for this project.

### Subsurface Investigation

Triad currently maintains fifteen rotary drill rigs outfitted for geotechnical and environmental investigation work. All rigs and support trucks are outfitted for services which may be required on any project. Drilling equipment includes samplers, casing, drill rods, coring bits, piping, pumps and various drilling tools. Most of our rigs are mounted on ATV, tracked and 4WD carriers. Skid mounted rigs are also available to permit gaining access to difficult locations without the need for dozer assistance. Air purifying and supplied air respirators are maintained in-house for drilling programs involving burning refuse where concentrated levels of carbon monoxide may be encountered. Our drill crews, field geologists and support personnel have received OSHA and MSHA safety training for work on hazardous sites, and are certified monitoring well drillers. Triad employs corporate safety officers responsible for ensuring the safety of our employees. Triad has performed drilling activities on an AML&R project where levels of CO were in excess of 1900 parts per million. Our drilling personnel are experienced in all phases of exploration work which may be required on this project.

Typical types of projects for which we have provided drilling services include:

- Highways, bridges and haulroads
- Railways and sidings
- Refuse piles
- Burning refuse investigations
- Dams and impoundments
- Valley fills
- Landslides
- Subsidence investigations
- Mine-related investigations
- Coal preparation plants
- Commercial and Residential structures
- Pavement design and evaluations
- Instrumental installation - groundwater monitoring wells & piezometers
- Leaking underground storage tanks
- Landfills
- Hazardous waste investigations

## Laboratory Services

Geotechnical testing and analysis has been a major discipline of Triad since our inception. In addition, we have facilities and equipment to perform various chemical and analytical testing. Fully-equipped geotechnical testing laboratories are maintained in both our Morgantown and St. Albans, WV offices. An outline of our in-house laboratory and field testing capabilities is as follows:

Geotechnical and Materials Testing services include:

- Moisture content determinations
- Grain size analyses
- Plastic limit determinations
- Liquid limit determinations
- Shrinkage limit
- Slake durability testing
- Shear strength determinations
- Consolidation characteristics
- Permeability testing
- Compaction testing
- Soundness testing
- Specific gravity determinations
- CBR determinations
- Unit weight determinations
- Chemical and Analytical Testing:
  - Soil Analysis
    - pH (field)
    - pH (lab)
  - Water Analysis
    - Temperature
    - pH
    - Specific Conductance
    - Flow
    - Iron Content

### Design Engineering and Contract Document Preparation

Triad has extensive experience in design engineering and preparation of construction contract drawings on projects for the WVDEP / AML&R, as well as similar projects for private concerns.

Triad professionals execute practical engineering and scientific solutions that balance science, aesthetics and jurisdictional requirements. With in-house staff providing related services aligned to project milestones, Triad can support a project from original survey through construction inspection. Our Professional Engineers are well-versed in the areas of civil design and stormwater management, as well as other disciplines, and are licensed in the states of West Virginia, Pennsylvania, Maryland, Virginia and Ohio, among others.

Design Engineering services provided by Triad include:

- Abandoned Mine Lands Reclamation
- Roadway Improvement Plans
- Commercial and Residential Site Development Plans
- Rezoning and Master Development Plans
- Construction Specifications
- Stormwater Management Best Management Practices
- Water Distribution System Design
- Storm Drainage System Design
- Sanitary Sewer Design
- Hydrologic Studies
- Land Use and Planning
- NPDES Plans and Permitting
- Residential Subdivision Development Plans

## Construction Monitoring and Inspection

Construction monitoring services provided by Triad include soil, concrete, aggregate, asphalt, steel, welding and paint. Triad maintains a staff of engineering technicians who are certified by state-specific highway and materials departments, ACI, FAA, and others. Senior level technicians are skilled in interpreting design drawings as well as typical construction inspection and testing. Services provided on these projects have included: testing of compacted fill with a nuclear moisture density gauge, documentation of construction personnel hours and equipment utilized, quantity determinations, submittal of daily and weekly reports, interpretation of technical specifications, inspection of liner installation, and construction recommendations. Triad also routinely provides technicians with OSHA and/or MSHA certifications.

Construction Monitoring and Inspection services include:

- Quantity Estimates and Verification
- Inspection of Deep Foundations, including Driven Piles, Caissons and Auger Cast Piles
- Footing Inspection and Bearing Capacity Evaluation
- Field Concrete Testing and Sampling, including Coring, Windsor Probe and Rebound Hammer Testing
- Batch Plant Inspection
- Steel Inspection, including Bolt Torque
- Visual Weld Inspection, and Dye Testing
- Penetrant Testing
- Paint Thickness (Wet and Dry Film)
- Water Testing, including pH, Iron, and Turbidity
- Fireproofing Inspection
- Floor Flatness Testing
- In-place Density Testing
- Grade Checking
- Nuclear Moisture Density Gauge Testing

### **III. CORPORATE SPECIALIZED EXPERIENCE**

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Triad has provided a wide range of services on mining and coal-related projects since the firm began operations more than thirty years ago. With this extensive experience in geotechnical, civil and design engineering and contract document preparation, we are expertly qualified to provide these services for the abatement of problems arising from abandoned mine lands. We maintain in-house expertise and capabilities for all phases of the abandoned mine lands program which require services in geotechnical and design engineering, surveying and mapping, subsurface investigation, drilling, testing, construction drawings and specifications, contract document preparation, and other related technical and administrative duties associated with the successful completion of a design / construction project.

### **IV. MANAGEMENT PLAN, LOCATION OF FACILITIES & WORK LOAD**

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#### **MANAGEMENT PLAN**

##### **Resource Allocation & Location of Facilities:**

As indicated in other sections of this response, Triad has the staff, equipment and resources to complete most AML&R projects in-house. The location of our offices and laboratories in Morgantown and St. Albans gives us ready access to both the northern and southern coalfields of WV. Our professional staff have extensive experience in AML&R, or similar design projects, and are well-qualified to perform the work. If awarded this project, we are committed to allocating the personnel and resources required to complete the work in a timely, competent and cost-effective manner.

##### **Management and Project Team Organization:**

Triad's Project Manager (PM), **Mr. Harold W. "Chip" Chambers**, will be responsible for the overall management of the project. Upon award, Mr. Chambers will schedule a site visit with the AML&R Project Manager to review the work requirements and prepare a work plan for review. Our PM will also meet with AML&R personnel, as required, to develop a complete understanding of the work directive and to answer any questions concerning the proposed work approach. The PM will review the project requirements and assign team members and allocate resources needed for timely completion of the project.



Upon receipt of authorization to proceed with a project, Mr. Chambers will be responsible for daily execution and coordination of all phases of the project, including the supervision of other staff members working on the project and coordination of all field and laboratory activities. Mr. Chambers will also be responsible for maintaining liaison with AML&R personnel and, when required, issue periodic progress reports.

As the project progresses, our PM will periodically meet with the AML&R personnel to review progress, discuss any problems, and evaluate various corrective alternatives as needed. Input from AML&R personnel will be actively solicited on each phase of the project.

Schedule and Budget Control:

Triad's PM will be responsible for monitoring and controlling project schedules and budget. As the work progresses, Mr. Chambers will evaluate progress on a weekly basis and compare the progress to the established work schedule. If these reviews indicate a schedule problem is developing, he will meet with our personnel to discuss the problem and explore options for correcting the situation. If circumstances develop that will make it impossible to maintain the original schedule, AML&R personnel will be immediately informed and a mutually satisfactory schedule adjustment will be made.

Personnel time and expense charges are maintained and allocated to projects on a weekly basis using our automated desktop accounting and project management software (Axium). Using this data with knowledge of exploration, testing and subcontractor costs, Mr. Chambers will review project budget status on a weekly basis. The percentage of work completed will be compared to the percent of costs incurred in order to quickly identify any budget problems which may develop. If potential budget problems are identified, they will be evaluated by the PM. If measures to eliminate potential cost overruns cannot be eliminated, AML&R personnel will be immediately informed of the problems and causes. A mutually agreeable budget will be prepared or the scope of work will be revised to conform to the original budget, based on the nature of the problem.

## **WORK APPROACH**

### **Work Directive and Initial Planning:**

Upon notice to proceed, Mr. Chambers will review the work directive, discuss the project with AML&R personnel, and visit the site to become familiar with the project and work requirements. Available site information and data, such as results of previous borings, geologic reports or old mine maps will be reviewed. Based on this information, the PM will plan the scope of work including the subsurface investigation, surveying, engineering design and plan / specification development.

### **Surveying and Mapping:**

Prior to undertaking any surveying, Mr. Chambers will work with our surveying staff to determine the extent and required accuracy of the work involved. We will then determine if existing mapping such as U.S.G.S., Corps of Engineers, Highway Department, or other utility mapping is available for the area. Should satisfactory existing mapping be available, we will utilize this (along with such location or "fill-in" surveys as are necessary) in order to minimize the project cost.

### **Subsurface Investigation:**

Mr. Chambers will work with our drilling manager, Mr. John Haynes, P.E., to determine the best-suited equipment, personnel, and access routes for drilling so that work can begin as quickly as possible. The results and progress of the drilling work will be monitored on a continuing basis by the PM to determine that the needed information is being obtained. When necessary, the drilling program will be revised as it progresses to account for unanticipated conditions. In addition, needs for specialized drilling procedures, observation wells, slope inclinometers, piezometers, angle borings, hand sampling techniques, etc. will be evaluated by Mr. Chambers and Mr. Haynes.

### **Laboratory Testing:**

Testing requirements for the project will be developed by our PM or a designated member of the project team. Since practically all of the testing will be performed in-house, the results can and will be evaluated on an on-going basis. This will permit us to eliminate unneeded tests before they are performed and to revise the testing program to better provide data which will be useful for project evaluation and design.

### Design Development Report:

After the field and laboratory investigations are complete, an engineering report will be prepared and submitted to the WVDEP for review and comment. The report will contain:

1. Project description
2. Boring location plan and topographic mapping
3. Boring logs
4. Description of subsurface conditions including soil, bedrock and groundwater
5. Laboratory test results
6. Recommended alternative(s)
7. Special recommendations such as potential environmental effects of the design, damage to adjacent property , loss of use, and future effects.

After review and approval, Triad will proceed with preparation of all necessary construction documents including Drawings, Specifications and a Detailed Cost Estimate.

### Design Drawings and Specifications:

Design drawings and specifications will be prepared to meet the site-specific criteria for the project. The drawings will accurately reflect the site conditions and depict the proposed work in a clear and understandable manner. The drawing packages will, as a minimum, include site plans, cross sections and details as necessary to define the scope of work. Detailed technical specifications will be prepared for general working conditions as well as each work item. The specifications will be the contractor's guide to the work and will set the guidelines for quality and materials to be used in the construction. All work will be reviewed and certified by **Mr. Robert M. Hare, P.E.**, or one of our other WV-registered Professional Engineers (P.E.).

### Construction Cost Estimate:

Upon completion of the final construction plans and specifications, the expected cost of the work will again be evaluated. This cost evaluation will be made using unit cost data from various sources (i.e. previous bids on similar projects, information solicited from contractors, Department of Highways, construction cost data, etc.). The final cost estimate will be discussed with AML&R personnel and, whenever necessary, revisions to the plans and specifications will be made to bring the estimated costs in line with the project budget. We expect to coordinate our efforts with the WVDEP throughout the project so that the need for final revisions will be minimized.

Project Meetings:

Our PM and engineers will meet with AML&R representatives on an as-needed basis during the planning and design phases of the project to assure an understanding of the work scope for that project and to keep the WVDEP informed of our progress and results. Upon completion of the design phase, our personnel will be available to attend pre-bid and pre-construction meetings to answer questions concerning the design and clarify the intent of the drawings and specifications.

QA/QC Construction Monitoring

Project team personnel will also be available to make periodic inspections during construction and to make a final inspection upon completion of construction. Summary reports of our inspections will be prepared and submitted to the WVDEP. These reports will summarize our observations of construction activities and progress and will indicate any problems which are observed. If construction problems or deficiencies are observed, recommended solutions will be presented in the inspection reports.

**West Virginia Department of Environmental Protection  
Office of Abandoned Mine Lands and Reclamation  
Completed Projects – 1992 to Present  
Triad Engineering  
St. Albans and Morgantown, West Virginia**

<b>YEAR</b>	<b>PROJECT NAME</b>	<b>LOCATION</b>	<b>SERVICES PROVIDED</b>
<b>1 9 9 2</b>	Jim's Branch Refuse Piles	Wyoming Co.	Surveying, Mapping, CADD
	Newsome Branch Refuse	McDowell Co.	Surveying, Mapping, CADD
	Red Hollow Burning Refuse	Mercer Co.	Surveying, Mapping, CADD
	Turnhole Branch	McDowell Co.	Surveying, Mapping, CADD
	Newett (Crum) Burning Refuse	Logan Co.	Drilling & Sampling, Temperature Probes
	Campbell's Creek (Hodge) Landslide	Kanawha Co.	Drilling, Geotechnical Analyses
	Decota (Persinger) Landslide	Kanawha Co.	Drilling, Geotechnical Analyses
	Beckley (Long) Subsidence	Raleigh Co.	Drilling, Geotechnical Analyses
	Tuppers Creek (Turley) Drainage	Kanawha Co.	Drilling, Geotechnical Engineering
	Kelly's Creek Portals, Burning Refuse	Kanawha Co.	Surveying, Mapping, CADD
	Welch (Moore) Vertical Opening	McDowell Co.	Drilling, Engineering, Temperature Probes
	Milburn Burning Refuse	Kanawha Co.	Drilling, Surveying, Engineering
	Whitesville (Averson) AML	Boone Co.	Drilling & Sampling
	Kelly's Creek Road Burning Refuse	Kanawha Co.	Drilling, Surveying, Engineering
	Manila Creek (Bryant) Landslide	Putnam Co.	Drilling, Surveying, Engineering
	Hilltop (Logan) Subsidence	Fayette Co.	Drilling, Subsidence Investigation
	Taylorville (Garten) Drainage	Mingo Co.	Drilling & Sampling
	MacArthur Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Carbon (Williams) Burning Refuse	Kanawha Co.	Drilling & Sampling, Temperature Probes
	Davis Creek (Larabee) Subsidence	Kanawha Co.	Drilling, Subsidence Investigation
Chapmanville AML	Logan Co.	Drilling & Sampling	
Dry Branch Burning Refuse	Kanawha Co.	Drilling, Geologic Investigation	
Henline Subsidence	Harrison Co.	Drilling, Subsidence Investigation	
Pauley Burning Coal Seam	Kanawha Co.	Drilling, Subsidence Investigation	

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<b>YEAR</b>	<b>PROJECT NAME</b>	<b>LOCATION</b>	<b>SERVICES PROVIDED</b>
<b>1</b>	Stevenski Subsidence	Marion Co.	Subsidence Investigation
<b>9</b>	Albert Highway	Tucker Co.	Investigation, Design, Re-grade, Drainage, Portals
<b>9</b>	A.S.&K. Bond Forfeiture	Monongalia Co.	Surface & Deep Mine Drainage Investigation
<b>2</b>	F & M Coal	Preston Co.	Surveying, Mapping, CADD
<b>2</b>	Moran Subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Monongah (Mayo) subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Mount Claire Refuse	Harrison Co.	Investigation and design, Refuse, Drainage, Re-grade
<b>2</b>	Fairmont (Shipco) Subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Farmington (Gum) Subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Rivesville (Straight) Subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Morgantown (Fox) Subsidence	Monongalia Co.	Subsidence Investigation
<b>2</b>	Fairmont (Parks) Subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Moundsville (Oliver) Subsidence	Marshall Co.	Subsidence Investigation
<b>2</b>	Fairmont (Hines) Subsidence	Marion Co.	Subsidence Investigation
<b>2</b>	Morgantown (McCabe) Subsidence	Monongalia Co.	Subsidence Investigation
<b>2</b>	Ashland (Poca Land) Complex	McDowell Co.	Surveying, Mapping, CADD
<b>2</b>	Helen (Lewis) Refuse	Raleigh Co.	Surveying, Mapping, CADD
<b>2</b>	Minden Mine Dump	Fayette Co.	Surveying, Mapping, CADD
<b>2</b>	Pageton Refuse Pile	McDowell Co.	Surveying, Mapping, CADD
<b>2</b>	Eckman Refuse Pile	McDowell Co.	Surveying, Mapping, CADD
<b>2</b>	Micco (Elledge) Drainage	Mingo Co.	Drilling, Geotechnical Analyses, Surveying
<b>2</b>	Big Creek "C"	Logan Co.	Drilling, Geotechnical Analyses
<b>2</b>	MacArthur (Brush) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
<b>2</b>	Davis Creek (Snodgrass) Subsidence	Kanawha Co.	Drilling, Subsidence Investigation

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YEAR	PROJECT NAME	LOCATION	SERVICES PROVIDED
<b>1993</b>	MacArthur (Kinsley) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Taylorville Drainage II	McDowell Co.	Drilling & Sampling, Engineering
	Elbert (Lane)	Mingo Co.	Drilling & Sampling
	Glen Morgan (Lilly) Subsidence	Boone Co.	Drilling, Subsidence Investigation
	Marrowbone Creek (Dingess) Landslide	Mingo Co.	Drilling & Sampling, Engineering
	Black Betsy (Adkins) Landslide	Putnam Co.	Drilling, Surveying, Engineering
	Chief Logan State Park Dam	Logan Co.	Drilling, Surveying & Mapping, Engineering CADD
	Apple Grove (Smith) Subsidence	Mason Co.	Drilling, Subsidence Investigation
	Logan Landslide	Logan Co.	Drilling & Sampling
	Midway (McVey) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Williamson Branch (Warren) Landslide	Mingo Co.	Drilling & Sampling
	Peter Street (McNeely) Drainage	Mingo Co.	Drilling & Sampling
	Hanover (Alley)	McDowell Co.	Drilling, Geologic Investigation
	Kilsyth (Burdette) Drainage	Raleigh Co.	Drilling & Sampling
	Crane Creek Drainage	Logan Co.	Surveying, Mapping, CADD
	Logan (Marcum) Drainage	Logan Co.	Drilling & Sampling
	Chapmanville Landslide	Logan Co.	Drilling & Sampling
	Davis Creek (Oxley) Subsidence II	Kanawha Co.	Drilling & Sampling
	Follansbee (Martino) Subsidence	Brooke Co.	Subsidence Investigation
Collier (Valero) Subsidence	Collier	Subsidence Investigation	
Philli Lane Subsidence	Harrison Co.	Subsidence Investigation and Stabilization Design	
Wheeling (Naegele) Subsidence	Wheeling	Subsidence Investigation	
Clarksburg (Siebert) Subsidence	Clarksburg	Subsidence Investigation	
Fairmont (Lawson) Subsidence	Fairmont	Subsidence Investigation	
Monongah Filtration Plant	Monongah	Emergency Subsidence Investigation	

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<b>YEAR</b>	<b>PROJECT NAME</b>	<b>LOCATION</b>	<b>SERVICES PROVIDED</b>
<b>1993</b>	Estes Landslide II	Harrison Co.	Geotechnical Investigation & Design, Slopes, Drainage
	Warswich Subsidence	Morgantown	Subsidence Investigation
	Fairmont (Harmon) Subsidence	Fairmont	Subsidence Investigation
	Fairview (Toothman) Subsidence	Fairview	Subsidence Investigation
	Fairmont (Robinson) Subsidence	Fairmont	Subsidence Investigation
	Fairmont (Pizatella) Subsidence	Fairmont	Subsidence Investigation and Emergency Design
	Follansbee (Banff) Subsidence	Follansbee	Subsidence Investigation
	Shinnston (Vincent) Subsidence	Shinnston	Subsidence Investigation
	Shinnston (Ours) Subsidence	Shinnston	Subsidence Investigation
	Brookhaven (Hearn) Subsidence	Brookhaven	Subsidence Investigation
Fairmont (Cannon) Subsidence	Fairmont	Subsidence Investigation	
Canyon Road Refuse	Morgantown	Burning Refuse Remediation Design	
West Milford (Deverick) Landslide	Clarksburg	Investigation & Design, Geotechnical, Slopes, Drainage	
Fairview (Abel) Subsidence	Fairview	Subsidence Investigation	
Mannington (Hwakinberry) Subsidence	Fairview	Subsidence Investigation	
Shinnston (Vincent) Subsidence	Shinnston	Subsidence Investigation	
Fairmont (Knoll) Subsidence	Fairmont	Subsidence Investigation	
Clarksburg (Thompson) Subsidence	Clarksburg	Subsidence Investigation	
Shinnston (Hall) Subsidence	Shinnston	Subsidence Investigation	
Clarksburg (Weekly) Subsidence	Clarksburg	Subsidence Investigation	
Colliers (Kiger) Subsidence	Colliers	Subsidence Investigation	
Philippi (Hansford) Subsidence	Philippi	Subsidence Investigation	
Whitman Flats	Randolph Co.	Investigation, Design, Drainage, Refuse Re-grade, Surface Mine	



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<b>1 9 9 4</b>	Marmet (Pauley) Landslide	Kanawha Co.	Drilling & Sampling, Engineering
	Rawl (Russel) Drainage	Mingo Co.	Surveying, Mapping, CADD
	Lefthand Fork (See)	Logan Co.	Surveying, Mapping, CADD
	Algoma Refuse Piles	McDowell Co.	Surveying, Mapping, CADD
	Lorado (Grimmett) Mine Drainage	Logan Co.	Surveying, Mapping, CADD
	Amherstdale (Carter) Landslide	Logan Co.	Surveying, Mapping, CADD
	Chauncey (Sammons) Drainage	Logan Co.	Drilling & Sampling
	Sophia (McKinney) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Beckley (Johnson) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Beckley (Wood) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Pratt (Crookshank) Landslide	Raleigh Co.	Drilling & Sampling
	Kirk (Caperton) Landslide	Mingo Co.	Drilling & Sampling, Engineering
	Crooked Creek Refuse	Logan Co.	Surveying & Mapping
	Branchland Landslide	Lincoln Co.	Drilling & Sampling
	Hanshew Subsidence	Kanawha Co.	Drilling, Subsidence Investigation
	Belle (Turner) Landslide	Kanawha Co.	Drilling, Surveying, Engineering, CADD
	Hugheston Monitoring Well	Kanawha Co.	Drilling, Well Installation
	Delbarton (Spence) Subsidence	Mingo Co.	Drilling, Subsidence Investigation
	Haynes Landslide	Kanawha Co.	Drilling & Sampling
	Campbell's Creek Landslide	Kanawha Co.	Drilling & Sampling
Shrewsbury Landslide	Kanawha Co.	Drilling & Sampling	
Thurmond Landslide	Fayette Co.	Drilling & Sampling	
Crab Orchard Subsidence	Raleigh Co.	Drilling, Subsidence Investigation	
Crooked Creek Coal Refuse	Logan Co.	Drilling, Engineering	

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<b>1 9 9 4</b>	Campbell's Creek Subsidence	Kanawha Co.	Drilling & Sampling
	Latrobe (Gibson) Landslide	Logan Co.	Drilling & Sampling
	North Charleston (Toon) Landslide	Kanawha Co.	Surveying, Mapping, Drilling, Design
	Wilkinson Landslide	Kanawha Co.	Drilling, Surveying, Mapping, Design
	Sophia (Lucas) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Sophia (Lawrence) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Zickefoose Subsidence	Raleigh Co.	Drilling Subsidence Investigation
	Oak Hill (Huddleston) Subsidence	Oak Hill	Drilling, Subsidence Investigation
	Lumberport (Peterson) Subsidence	Lumberport	Subsidence Investigation
	Farmington (Hefner) Subsidence	Farmington	Subsidence Investigation
	Clarksburg (LeFevre) Subsidence	Clarksburg	Subsidence Investigation
	Fairmont (Hanne) Subsidence	Fairmont	Subsidence Investigation
	AML Surveying & Mapping	Various	Surveying & Mapping
	Moundsville (Frame) Subsidence	Moundsville	Subsidence Investigation
	Wheeling (Roshak) Subsidence	Wheeling	Subsidence Investigation
	Ida May (Heldreth) Subsidence	Ida May	Subsidence Investigation
	Mannington (Brinegar) Subsidence	Mannington	Subsidence Investigation
	Moundsville (Wolfe) Subsidence	Moundsville	Subsidence Investigation
	Follansbee (Turkaly) Subsidence	Follansbee	Subsidence Investigation and Stabilization Design
	Garrett Drainage	Preston Co.	Geotechnical Investigation for In-house Design
Fairmont (Tims) Subsidence	Fairmont	Subsidence Investigation	
Clarksburg (Walker) Subsidence	Clarksburg	Subsidence Investigation	
Clarksburg (Hall) Subsidence	Clarksburg	Subsidence Investigation	
Kanes Creek Refuse Pile	Preston Co.	Investigation & Design, Refuse, Drainage, Re-grade	
Windsor (Dawson) Subsidence	Windsor	Subsidence Investigation	

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<b>1 9 9 4</b>	Wheeling (Scott) Subsidence	Wheeling	Subsidence Investigation
	Fairmont (Skaggs) Subsidence	Fairmont	Subsidence Investigation
	Harris Drainage	Clarksburg	Subsurface Investigation for In-house Design
	Weston Hospital AML	Weston	Deep Mine (Portal) Drainage Design
	Fairmont (Twyman) Subsidence	Fairmont	Subsidence Investigation
	Wheeling (Innocenti) Subsidence	Wheeling	Subsidence Investigation
	Fairmont (Brown) Subsidence	Fairmont	Subsidence Investigation
	Fairmont (Vincent) Subsidence	Fairmont	Subsidence Investigation
	Moundsville (Parento) Subsidence	Moundsville	Subsidence Investigation
	Follansbee (Mossor) Subsidence	Follansbee	Subsidence Investigation
	Wheeling (Shultz) Subsidence	Wheeling	Subsidence Investigation
	Wellsburg (Hubbard) Subsidence	Wellsburg	Subsidence Investigation
	Moundsville (Oelshalger) Subsidence	Moundsville	Subsidence Investigation
	Fairmont (Sterratt) Subsidence	Fairmont	Subsidence Investigation
	Wheeling (Sprowls) Subsidence	Wheeling	Subsidence Investigation
	Morgantown (Fox) Subsidence	Morgantown	Subsidence Investigation
	Farmington (Goodnight) Subsidence	Farmington	Subsidence Investigation
	Fairmont (Tichenor) Subsidence	Fairmont	Subsidence Investigation
	Fairmont (Ferrise) Subsidence	Fairmont	Subsidence Investigation
	Barrackville (Garlow) Subsidence	Barrackville	Subsidence Investigation
Kirtle Flats	Randolph Co.	Investigation & Design, Re-grade, Surface Mine, Drainage, AMD	

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<b>1 9 9 5</b>	Crab Orchard (Mullins) Subsidence	Raleigh Co.	Subsidence Investigation, Drilling
	Welch (Frezier) Subsidence	Welch	Subsidence Investigation, Drilling
	Logan (Browning) Landslide	Logan	Drilling, Surveying & Mapping, Engineering
	Holly Grove "A" Landslide	Kanawha Co.	Surveying, Mapping, CADD
	Big Cub Creek Refuse Pile	Wyoming Co.	Surveying, Mapping, CADD
	Blue Pennant Complex	Boone Co.	Surveying, Mapping, CADD
	Toler Hollow Portals	Wyoming Co.	Surveying, Mapping, CADD
	Rocklick (Beckett) Landslide	Boone Co.	Surveying, Mapping, CADD
	Indian Ridge Refuse Pile	Wyoming Co.	Surveying, Mapping, CADD
	New Haven (Collier) Subsidence	New Haven	Subsidence Investigation, Drilling
	Aracoma (Napier) Drainage	Logan	Drilling & Sampling
	Hansford Landslide	Crown Hill	Drilling & Sampling
	Padgett Subsidence	Whitman	Subsidence Investigation, Drilling
	Dry Branch Drainage	Kanawha Co.	Drilling & Sampling
	Lockhart Subsidence	War	Subsidence Investigation, Drilling
	Burning Refuse	Williamson	Drilling & Sampling
	Cannelton (Miller) Drainage	Fayette Co.	Drilling & Sampling
	Logan (Robinson) Drainage	Logan	Drilling, Engineering, Geologic Investigation
	Beckley (Colacino) Subsidence	Beckley	Subsidence Investigation, Drilling, Surveying
	Holly Grove "A" Landslide	Kanawha Co.	Drilling, Surveying & Mapping, Design
Campbell's Creek (Stone) Drainage	Kanawha Co.	Surveying & Mapping, Drilling	
Eccles (McGinnis) Subsidence	Eccles	Subsidence Investigation, Drilling	
Whitewater Branch Drainage	Nicholas Co.	Drilling & Sampling, Geologic Investigation	
Jim Branch (Tyree) Landslide	Boone Co.	Drilling & Sampling, Geologic Investigation	
Upper Decker's Creek	Preston Co.	Subsurface Investigation for In-house Design	

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<b>1 9 9 5</b>	Childs Highway & Portals	Preston Co.	Investigation & Design, Re-grade, Surface Mine, Drainage, AMD
	Martin Creek	Preston Co.	Investigation & Design, Drainage, AMD, Re-grade, Surface & Deep Mine, Hazardous Materials
	AML Surveying & Mapping	Various	Surveying & Mapping, CADD
	Grant Town (Domico) Subsidence	Grant Town	Subsidence Investigation, Drilling
	Fairview (Toothman) Subsidence	Fairview	Subsidence Investigation, Drilling
	Wheeling (Stazenski) Subsidence	Wheeling	Subsidence Investigation, Drilling
	Moundsville (Feisz) Subsidence	Moundsville	Subsidence Investigation, Drilling
	Weirton (Tingler) Subsidence	Weirton	Subsidence Investigation, Drilling
	Monongah (Eller) Subsidence	Monongah	Subsidence Investigation, Drilling
	Steadman AMD	Monongalia Co.	Investigation & Design, Deep Mine, Drainage, AMD
	Morgantown (Cryster) Subsidence	Morgantown	Subsidence Investigation, Drilling
	Fairmont (Long) Subsidence	Fairmont	Subsidence Investigation, Drilling
	Kiser Subsidence Design	Marion Co.	Investigation & Design of Deep Mine Stabilization
	Fairmont (Kropog) Subsidence	Fairmont	Subsidence Investigation, Drilling
	Glen Dale (Goddard) Subsidence	Glen Dale	Subsidence Investigation, Drilling
	Buckhannon (Swecke) Subsidence	Buckhannon	Subsidence Investigation, Drilling
	Fairmont (King) Subsidence	Fairmont	Subsidence Investigation, Drilling
	Bolyard Well Bond Forfeiture Site	Preston Co.	Well Abandonment, Design & Performance
	Colliers (Stevens) Subsidence	Colliers	Subsidence Investigation, Drilling
	Wheeling (Hanna) Subsidence	Wheeling	Subsidence Investigation, Drilling
Wheeling (Witsberger) Subsidence	Wheeling	Subsidence Investigation, Drilling	
Fairmont (JHEK) Subsidence	Fairmont	Subsidence Investigation, Drilling	
Fairmont (Greene) Subsidence	Fairmont	Subsidence Investigation, Drilling	
Fairmont (Mercer) Subsidence	Fairmont	Subsidence Investigation, Drilling	

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<b>YEAR</b>	<b>PROJECT NAME</b>	<b>LOCATION</b>	<b>SERVICES PROVIDED</b>
<b>1 9 9 6</b>	Fairmont (Bionti) Subsidence	Fairmont	Subsidence Investigation, Drilling
	Thomas (Bible) Subsidence	Thomas	Subsidence Investigation, Drilling
	Thomas (Simmons) Subsidence	Thomas	Subsidence Investigation, Drilling
	Thomas (Rhodes) Subsidence	Thomas	Subsidence Investigation, Drilling
	Fairmont (Crowe) Subsidence	Fairmont	Subsidence Investigation, Drilling
	Bland (AML)	Monongalia Co.	Subsurface Investigation, Geotechnical, Drainage, Deep Mine
	Commodore (AML)	Monongalia Co.	Subsurface Investigation, Geotechnical, Drainage, Deep Mine
	Stephenson (Mills) Subsidence	Wyoming Co.	Subsidence Investigation, Drilling
	Cedar Grove (Ramsey) Landslide	Kanawha Co.	Subsurface Investigation, Drilling, Geologic Investigation
	Logan (Ross) Landslide	Logan	Engineering, Drilling
	Beckley (Davis) Subsidence	Raleigh Co.	Subsidence Investigation, Drilling
	Oak Hill (Slates) Subsidence II	Oak Hill	Subsidence Investigation, Drilling
	Welch (Coleman) Subsidence	Welch	Subsidence Investigation, Drilling
	Black Wolfe Refuse Pile	McDowell Co.	Surveying & Mapping, CADD
	Shannon Branch Refuse Pile	McDowell Co.	Surveying & Mapping, CADD
	Lower Burning Creek Complex	Mingo Co.	Surveying & Mapping, CADD
	Duo Refuse Piles	Greenbrier Co.	Surveying & Mapping, CADD
	Mullins Landslide	Wyoming Co.	Drilling, Surveying, Engineering
	Crab Orchard (Mullins) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	Williamson (Brown) Landslide	Williamson	Drilling & Sampling
Thaxton Landslide II	Kanawha Co.	Drilling, Engineering, Geologic Investigation	
Dingess Street (Jemerison) Landslide	Logan	Drilling & Sampling	
Cedar Grove (Bass) Landslide	Kanawha Co.	Drilling, Surveying, Engineering	
Campbell's Creek (Stone) Drainage	Kanawha Co.	Surveying & Mapping	
Crab Orchard (Zickafoose II)	Raleigh Co.	Drilling & Sampling	

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<b>1 9 9 6</b>	Glen Jean Subsidence	Glen Jean	Drilling, Subsidence Investigation
	MacArthur (Green) Subsidence	Raleigh Co.	Drilling, Subsidence Investigation
	East Oak Hill (Tincher) Subsidence	Oak Hill	Drilling, Subsidence Investigation, Engineering
	Football Stadium Subsidence	Mt. Hope	Drilling, Surveying, Engineering
	Shrewsbury (Burgess) Landslide	Kanawha Co.	Drilling, Surveying, Engineering
	Clarksburg (McGinnis) Subsidence	Clarksburg	Drilling, Subsidence Investigation
	Fairmont (Retton) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Fairmont (Golden) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Wheeling (Zambito) Subsidence	Wheeling	Drilling, Subsidence Investigation
	Wellsburg (Fillinger) Subsidence	Wellsburg	Drilling, Subsidence Investigation
	MeMechen (Schmitt) Subsidence	Moundsville	Drilling, Subsidence Investigation
	Stillhouse Run Refuse	Galloway	Investigation, Design, Refuse Re-grade, Drainage
	Wellsburg (Ohler) Subsidence	Wellsburg	Drilling, Subsidence Investigation
	Gypsy (Abruzzino) Drilling	Gypsy	Subsurface Investigation for In-house Design
	Fairmont (Levine) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Wayne Shreve Portals	Harrison Co.	Investigation, Design, Drainage, Portals, Deep Mine, AMD
	Pumpkintown, Kingsville, & Mabie Waterline Feasibility Study	Randolph Co.	Feasibility Study, Deep Mine, Surface Mines, Water Lines, AMD Contamination
	AML Surveying & Mapping	Various	Surveying & Mapping, CADD
	Fairmont (Cross) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Fairmont (Delovich) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Fairmont (Orisini) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Morgantown (Amos) Subsidence	Morgantown	Drilling, Subsidence Investigation
	Karickhoff Mine Drainage	Monongalia Co.	Subsurface Investigation for In-house Design
	Fairmont (Danko) Subsidence	Fairmont	Drilling, Subsidence Investigation

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1996	Fairmont (Bosley) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Fairmont (Neely) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Thomas (Heasley) Subsidence	Thomas	Drilling, Subsidence Investigation
	Thomas (Paugh) Subsidence	Thomas	Drilling, Subsidence Investigation
	Fairmont (Pitsy) Landslide	Fairmont	Drilling, Subsidence Investigation
	Turkey Run Slide & Drainage	Upshur Co.	Subsurface Investigation for In-house Design
1997	Tunnelton (Myers) Subsidence	Tunnelton	Drilling, Subsidence Investigation
	Fairview (Weaver) Subsidence	Fairview	Drilling, Subsidence Investigation
	Monongah (Longfellow) Subsidence	Monongah	Drilling, Subsidence Investigation
	Fairmont (Kiser) Confirmation Drilling	Fairmont	Confirmation of Deep Mine Stabilization
	Pine Bluff Tipple and Portal	Harrison Co.	Subsurface Investigation for In-house Design
	Thomas (Uchic) Subsidence	Thomas	Drilling, Subsidence Investigation
1997	Rivesville (Miller) Subsidence	Rivesville	Drilling, Subsidence Investigation
	Fairmont (Christ Temple) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Fairmont (Dukich) Subsidence	Fairmont	Drilling, Subsidence Investigation
	AML Surveying and Mapping	Various	Surveying & Mapping, CADD
	Fairmont (Renner) Subsidence	Fairmont	Drilling, Subsidence Investigation
	Hiawatha Mine Dump	Hiawatha	Surveying & Mapping, CADD
	Booths Hollow Highway	Bramwell	Surveying & Mapping, CADD
	Turkey Wallow Refuse Pile	Wolf Pen	Surveying & Mapping, CADD
	Sophia (Hayworth) Subsidence	Sophia	Drilling, Subsidence Investigation
	Dan's Branch (Cline) Landslide	Williamson	Drilling, Engineering, Geologic Investigation
Spring Branch Burning Refuse	Milburn	Surveying & Mapping, CADD	



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<b>1 9 9 7</b>	Whitby (Lilly) Clogged Stream/Portals	Whitby	Surveying & Mapping, CADD
	Ennis Complex	Maybeury	Surveying & Mapping, CADD
	Carswell Hollow (Smith) Refuse	Kimball	Surveying & Mapping, CADD
	MacArthur (Kinsley) Vertical Opening	MacArthur	Drilling, Subsurface Investigation
	Stanford (Vira) Subsidence	Beckley	Drilling, Subsurface Investigation
	Logan AML	Logan	Drilling & Sampling
	Norton Waterline	Randolph Co.	Surveying, Mapping, Subsurface Investigation, Design
	Kelly's Creek (Jones) Landslide	Kanawha Co.	Drilling, Surveying & Mapping, Engineering
	Crab Orchard (Rye) Subsidence	Raleigh Co.	Drilling, Subsurface Investigation
	Marmet (Willis Drive) Landslide	Marmet	Drilling & Sampling
	Peter Street (Bragg) Landslide	Williamson	Drilling, Engineering, Geologic Investigation
	Pinnacle Creek Refuse Pile	Wyoming Co.	Drilling, Surveying, Engineering
	Clarksburg (Felts) Subsidence	Clarksburg	Drilling, Subsurface Investigation
	Fairmont (Tibbs) Subsidence	Fairmont	Drilling, Subsurface Investigation
	Farmington (Tassone) Subsidence	Farmington	Drilling, Subsurface Investigation
	Fairmont (Morgan) Subsidence	Fairmont	Drilling, Subsurface Investigation
	Farmington (Knoble) Subsidence	Farmington	Drilling, Subsurface Investigation
	Shinnston (Bell) Subsidence	Shinnston	Drilling, Subsurface Investigation
	Zickefoose Burning Refuse	Marion Co.	Subsurface Investigation for In-house Design
	Thomas (D. Bacco) Subsidence	Thomas	Drilling, Subsurface Investigation
Thomas (Nelson) Subsidence	Thomas	Drilling, Subsurface Investigation	
Thomas (Shoemaker) Subsidence	Thomas	Drilling, Subsurface Investigation	
Thomas (Nelson) Subsidence	Thomas	Drilling, Subsurface Investigation	
Fairmont (St. Joseph) Subsidence	Fairmont	Emergency, Subsidence Investigation	

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YEAR	PROJECT NAME	LOCATION	SERVICES PROVIDED
<b>1 9 9 7</b>	Thomas (Lambert) Subsidence	Thomas	Drilling, Subsidence Investigation
	Left Fork of Little Sandy Reclamation	Preston Co.	Investigation, Design, Portals, Drainage, AMD, Re-grade
	Demarco Mine Drainage	Monongalia Co.	Subsurface Investigation for In-house Design
	Summit Park (Seftick) Slide	Clarksburg	Investigation and Design, Slopes, Drainage, Deep Mine
	Thomas (Stanley) Subsidence	Thomas	Drilling, Subsidence Investigation
	Morgantown (Horrell) Subsidence	Morgantown	Drilling, Subsidence Investigation
	Morgantown (Malone) Subsidence	Morgantown	Drilling, Subsidence Investigation
	Core (Swiger) Subsidence	Core	Drilling, Subsidence Investigation
	Shinnston (Brown) Landslide	Shinnston	Subsurface Investigation for In-house Design
	Delmar Complex	Monongalia Co	Subsurface Investigation for In-house Design
	Morgantown (McVickers) Subsidence	Morgantown	Drilling, Subsidence Investigation
	Moundsville (Marling) Subsidence	Moundsville	Drilling, Subsidence Investigation
	Wheeling (Tridigo) Subsidence	Wheeling	Drilling, Subsidence Investigation
	Barrickville (Vennis) Subsidence	Barrickville	Drilling, Subsidence Investigation
	Clarksburg (Ray) Subsidence	Clarksburg	Drilling, Subsidence Investigation
	Fairmont (Toothman) Subsidence	Fairmont	Drilling, Subsidence Investigation
Grant Town (Haller) Subsidence	Grant Town	Drilling, Subsidence Investigation	
Monongah (Dumas) Subsidence	Monongah	Drilling, Subsidence Investigation	

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YEAR	PROJECT NAME	LOCATION	SERVICES PROVIDED
<b>1998</b>	Chauncey (Vance) Drainage	Logan Co.	Drilling, Surveying, Engineering
	Skin Creek Refuse Pile	Wyoming Co.	Surveying & Mapping, CADD
	Riffe Branch Impoundment	Raleigh Co.	Surveying & Mapping, CADD
	Holden (Paggett) Landslide	Holden	Drilling, Surveying, Engineering
	Sycamore Camp Subsidence	Holden	Drilling, Engineering
	Gerath Landslide	Weston	Surveying & Mapping, CADD
	Carswell Hollow Design	McDowell Co.	Drilling, Engineering, CADD
	Spruce Laurel Fork	Clothier	Drilling, Surveying, Engineering
	Red Jacket Refuse	Mingo Co.	Subsurface Investigation
	Nitro (Taylor) Landslide	Nitro	Drilling, Engineering
	Georges Creek (Holmes) Landslide	Rand	Drilling, Engineering
	Dog Hollow AML	Boone Co.	Drilling & Sampling
	Adkins Drainage	Boone Co.	Drilling & Sampling, Geologic Investigation
	Rumble (Smith) Drainage	Rumble	Drilling, Engineering, Geologic Investigation
	MacArthur AML	Raleigh Co.	Drilling & Sampling
	Chief Logan AMD	Logan Co.	Drilling, Surveying, Design, Engineering
	Davis Creek Emergency AML	Kanawha Co.	Drilling, Surveying, Design, Engineering
	Holden Drainage	Holden	Drilling, Engineering
Bloomingrose (Milam) Drainage	Bloomingrose	Drilling, Surveying, Engineering	
Webster (Jerryville) AML	Webster Co.	Drilling & Sampling	
Thompson Gas Complaint	Williamson	Drilling & Sampling	
Glasgow Subsidence	Glasgow	Drilling, Subsidence Investigation	
AML Surveying & Mapping	Various	Surveying & Mapping, CADD	
Wheeling (Upper Stroch) Subsidence	Wheeling	Drilling, Subsidence Investigation	

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<b>1999</b>	Clarksburg (Post) Subsidence	Clarksburg	Drilling, Subsidence Investigation
	Thomas United Methodist Church	Thomas	Drilling, Subsidence Investigation
	Bridge Run Refuse	Upshur Co.	Geotechnical Investigation & Evaluation
	Kanes Creek South	Preston Co.	Reclamation Design
	Riffe Refuse Pile	Raleigh Co.	Drilling & Sampling, Temperature Probes
	Turkey Gap Burning Refuse	Oak Hill	Surveying & Mapping, CADD
	Hotcoal Mine Dump	Raleigh Co.	Surveying & Mapping, CADD
	Laurel Creek Subdivision Subsidence	Raleigh Co.	Surveying & Mapping, CADD
	Kelly's Creek Burning Refuse	Kanawha Co.	Drilling & Sampling
	WV Tech Tennis Courts	Montgomery	Drilling, Surveying, Engineering
	Holden (Alshire) AML Slide	Holden	Drilling, Surveying, Engineering
	Ragland (Kirk) Subsidence	Ragland	Drilling, Subsidence Investigation
	Beckley Exhibition Coal Mine	Beckley	Surveying & Mapping, CADD
	Kilsyth Drainage	Kilsyth	Drilling, Surveying, Engineering, Design
	Borderland Portals	Mingo Co.	Drilling & Sampling, Piezometer Installation
	Dille-Widen Feasibility Study	Clay Co.	Engineering, Geology, Hydrology
Mullens Water Feasibility Study	Mullens	Engineering, Geology, Hydrology	
Mileground Stabilization	Morgantown	Stabilization Investigation & Design	
Tunnelton Mine Drainage	Tunnelton	AMD Drainage Investigation	
AML Surveying and Mapping	Various	Surveying & Mapping, CADD	
Brown Street Drainage	Marshall Co.	AMD Drainage Design	
Davis (Warren) Subsidence	Davis	Drilling, Subsidence Investigation	
Turkey Run III	Upshur Co.	Drainage/Landslide Investigation	
Benwood Refuse	Marshall Co.	Refuse Investigation	

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2000	Shinnston (Wentz) Subsidence	Shinnston	Drilling, Subsidence Investigation
	Kingwood 52/6 Project	Kingwood	Water Line Feasibility Study
	Van Burning Refuse	Van	Drilling & Sampling, Temperature Probes
	Witcher Creek (Evans) Portals	Kanawha Co.	Surveying & Mapping, CADD
	Newton (Hatfield) Landslide	Mingo Co.	Surveying & Mapping, CADD
	Northfork Refuse Pile	McDowell Co.	Surveying & Mapping, CADD
	Red Jacket Portal	Mingo Co.	Surveying & Mapping, CADD
	Matoka (WV Rt. 10) Subsidence	Matoka	Drilling & Sampling, Geologic Investigation
	Montgomery (Grey) Landslide	Montgomery	Drilling & Sampling, Geologic Investigation
	Davis Water Tanks	Davis	Subsidence Investigation, Drilling
	Kingsville Water Line	Kingsville	Water Line Feasibility Study
	AML Surveying & Mapping	Various	Surveying & Mapping, CADD
	Horner Run Portal, Highway & Landslide	Harrison Co.	Portal, Highway & Landslide Investigation, Remediation Design
	2001	Clarksburg Landslide	Clarksburg
North 8 <sup>th</sup> Street Refuse & Portals		Warwood	Design, Re-grade & Drainage
Livengood Highway & AMD		Preston Co.	Design, Re-grade & Drainage
Layton Mine Drainage		Harrison Co.	Drainage, Slope Investigation
Rocklick (Blethem) Drainage		Minden	Drilling & Sampling, Geologic Investigation
Leslie (Nelson) Drainage		Greenbrier Co.	Surveying & Mapping, CADD
Mullins Mine Drainage		Mingo Co.	Drilling & Sampling
North Matewan (Gooslin) Landslide		Matewan	Drilling, Surveying, Engineering
Helen Mine Drainage		Raleigh Co.	Drilling, Surveying, Engineering
Newton (Hatfield) Landslide		Mingo Co.	Drilling, Surveying, Engineering
Prong Fork (Hughart) Landslide		Kanawha Co.	Drilling, Surveying, Engineering

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<b>YEAR</b>	<b>PROJECT NAME</b>	<b>LOCATION</b>	<b>SERVICES PROVIDED</b>
<b>2 0 0 1</b>	Mullens (McNeely) Landslide	Mullens	Drilling, Surveying, Engineering
	Mullens (Dixon) Landslide	Mullens	Drilling, Surveying, Engineering
	Early Refuse Pile	Boone Co.	Drilling, Surveying, Engineering
	AML Surveying & Mapping	Various	Surveying & Mapping, CADD
	Philip Thorn Highway	Preston Co.	Design, Re-grade, & Drainage
	Sandy Creek Waterline	Taylor Co.	Waterline Feasibility Study
	Davis Waterline Extension	Davis	Waterline Feasibility Study
	Dayton Park AML	Philippi	Drainage/Portal Investigation
	Stillhouse Run Refuse	Barbour Co.	Design, Drainage & Refuse Re-grade
	Bethlehem (Sinclair) Subsidence	Wheeling	Drilling, Subsidence Investigation
	Blaser Highway	Preston Co.	Design, AMD, Re-grade & Drainage
	Cross Street	Warwood	Drainage Investigation
	Lundale (Dickerson) Drainage	Logan Co.	Surveying & Mapping, CADD
	Ned's Branch Refuse	Mingo Co.	Surveying & Mapping, CADD
<b>2 0 0 2</b>	Wheatley Branch (Gooden) Landslide	Logan Co.	Drilling & Sampling, Engineering
	Squire Landslide	McDowell Co.	Drilling & Sampling, Piezometer Installation, Engineering
	County Route 27 Landslide	Mt. Hope	Drilling & Sampling, Engineering
	Delbarton (Curry) Landslide	Delbarton	Drilling & Sampling, Engineering
	Sugar Branch Burning Refuse	Logan Co.	Drilling & Sampling, Geologic Investigation
	Thacker Subsidence	Crab Orchard	Drilling & Sampling, Subsidence Investigation
	AML Surveying & Mapping	Various	Surveying & Mapping, CADD
	Rosemont Highway & Portals 2	Barbour Co.	Design, Re-grade & Drainage
	Clarksburg (Bailey) Mine Drainage	Clarksburg	Drainage Investigation
	Morgantown Airport Subsidence II	Morgantown	Drilling & Sampling, Subsidence Investigation

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<b>2003</b>	Thomas (Wolfe Welding) Subsidence	Tucker Co.	Drilling & Sampling, Subsidence Investigation
	Duffy Street/Van Rufus Subsidence	Shinnston	Reclamation Design
	Brownston Landslide	Barbour Co.	Reclamation Design
	Clarksburg (A. Davis) Subsidence	Clarksburg	Drilling & Sampling, Subsidence Investigation
	Mt. Clare (Strader) Landslide	Harrison Co.	Drilling & Sampling, Subsidence Investigation
	White Park Bus Garage PCB Site	Monongalia Co.	Environmental Investigation
	White Park	Monongalia Co.	Environmental Investigation
	Collins Ferry Road B.P. Station	Monongalia Co.	Drilling & Sampling
	Bull Run Emergency Drilling	Preston Co.	Drilling & Sampling
	Enterprise (Swiger) Subsidence	Harrison Co.	Drilling & Sampling, Subsidence Investigation
	Saul's Run Strip and Slide	Lewis Co.	Landslide Investigation, Drilling & Sampling, Engineering
	Whitehair Landslide	Monongalia Co.	Landslide Investigation, Drilling & Sampling, Engineering
	Ragland (Caudill) Subsidence	Mingo Co.	Drilling & Sampling, Subsidence Investigation
<b>2004</b>	WVU Tech Drainage	Montgomery	Design, Drilling & Sampling, Piezometer Installation, Surveying & Mapping, Portals, Re-grade, Dewatering
	Ring Hollow (Meadows) Portals	Hernshaw	Drilling & Sampling, Piezometer Installation
	Coal Hollow Refuse "A"	Putnam Co.	Design, Refuse, Re-grade, Portals
	DNR Office Subsidence	Beckley	Drilling & Sampling, Subsidence Investigation
	Alspaugh Landslide	Mount Hope	Drilling & Sampling, Geologic Investigation
	Mon County (Rockley Road)	Monongalia Co.	Drilling & Sampling, Geotechnical Investigation
	Long Run (Adkins) Landslide	Taylor Co.	Landslide & Subsidence Investigation, Drilling & Sampling
	Hawkins AMD	Lambert Run	AMD/Reclamation
	Jimtown Tipple	Harrison Co.	Subsurface Investigation, Slide Repair
	Ven Runs Landslide Maintenance	Lewis Co.	Subsurface Investigation, Slide Repair

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<b>2 0 0 5 THRU 2 0 0 9</b>	Blankenship Subsidence	Beckley	Drilling & Sampling, Subsidence Investigation
	Mabscott (Houck) Subsidence	Mabscott	Drilling & Sampling, Subsidence Investigation
	Spicer Subsidence	Maidsville	Drilling & Sampling, Subsidence Investigation
	Everettsville Burning Refuse	Monongalia Co.	Drilling, Geotechnical Investigation
	Union Prong (Carpenter) LS Project	Kanawha Co.	Drilling & Sampling, Piezometer Installation, Well Abandonment
	Rawl (Pigman) Portals	Mingo Co.	Drilling & Sampling, Piezometer Installation
	Whitman (Williams) Drainage	Logan Co.	Drilling & Sampling, Piezometer Installation
	Varney (Justice) Drainage	Mingo Co.	Drilling & Sampling, Piezometer Installation
	Brounland (Holstein) Drainage	Kanawha Co.	Drilling & Sampling, Piezometer Installation
	Musick (Brewer) Subsidence	Mingo Co.	Drilling & Sampling, Subsidence Investigation
	Elk Creek Portals	Mingo Co.	Design, Surveying & Mapping, Portals, Re-grade, Section 404 Permit, Demolition of Structures
	Chapmanville (Henry) Portals/Lake (Winkler) LS/Stone Branch (Adkins) LS 1/Mud Fork (Baisden)	Logan Co.	Drilling & Sampling, Piezometer Installation
	Rumble (Stevens) Refuse & Portals	Boone Co.	Design, Surveying & Mapping, Portals, Re-grade, Section 404 Permit, Demolition of Structures
	Campbells Creek (Miller) Drainage	Kanawha Co.	Drilling & Sampling, Piezometer Installation
	Rich Fork (Spells) Portals	Kanawha Co.	Drilling & Sampling, Piezometer Installation
	Mullens Portals	Wyoming Co.	Design, Drilling & Sampling, Piezometer Installation, Surveying & Mapping, Portals, Re-grade, Dewatering
Belington Portals & Drainage	Barbour Co.	Design, Drilling & Sampling, Piezometer Installation, Surveying & Mapping, Portals, Re-grade, Dewatering	
Beckley (St. John's) Subsidence	Raleigh Co.	Drilling & Sampling, Mining Determination	



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2010	Chauncey (Miller) Drainage	Logan Co.	Drilling & Sampling, Mining Determination
	Morris Creek (Jackson) Drainage	Fayette Co.	Drilling & Sampling, Mining Determination
	Little Laurel Run Highwall Design	Preston Co.	Engineering Design, Portals, Re-grade, Demolition of Structures, Refuse, Drainage, Surveying & Mapping