



## DEP15597 – Morgan Mine Road (Burkey) Mine Fire Design Expression of Interest

### Prepared for:

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



### Point of Contact:

Mr. Mikel Lutman, RPF  
Tetra Tech NUS, Inc.  
241 Kanar Drive  
Morgantown, West Virginia 26508  
(304) 241-5460  
Email: [mike.lutman@tetrattech.com](mailto:mike.lutman@tetrattech.com)

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WV PURCHASING  
DIVISION



TETRA TECH



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  
 DEP15597

PAGE  
 1

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

RFQ COPY  
 TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

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

DATE PRINTED 09/28/2011	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: 10/25/2011 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		
MORGAN MINE ROAD (BURKEY) MINE FIRE DESIGN  EXPRESSION OF INTEREST  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 MORGAN MINE ROAD (BURKEY) MINE FIRE PROJECT IN PRESTON COUNTY, WEST VIRGINIA PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.  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.  ***** THIS IS THE END OF RFQ DEP15597 ***** TOTAL:						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Mark Sperry</i>	TELEPHONE (412) 921-7090	DATE 10/25/2011
TITLE OFFICE MANAGER	FEIN 95-466-0169	ADDRESS CHANGES TO BE NOTED ABOVE

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



TETRA TECH

October 25, 2011

Mr. Chuck Bowman  
State of West Virginia  
Purchasing Division  
2019 Washington Street, East  
P.O. Box 50130  
Charleston, West Virginia 25305-0130

Subject: RFQ #DEP15597 – Morgan Mine Road (Burkey) Mine Fire Design

Dear Mr. Bowman:

Tetra Tech is pleased to submit our Expression of Interest to perform design services in reply to RFQ #DEP15597 for the State of West Virginia. As outlined in our Expression of Interest, Tetra Tech, our project team, and its personnel have completed work on *hundreds of mine reclamation projects*. These projects have included services that will be needed for this project such as mine fire mitigation, erosion and sediment control, and revegetation.

This project will be managed out of Tetra Tech's Morgantown office. Our firm also has office locations in Pittsburgh, Pennsylvania and Charleston, West Virginia, which can provide local support if needed. Tetra Tech is joined on this project by:

- **TRIAD Engineering (TRIAD)**, which will provide drilling services if required. Our firms have previously worked together. The TRIAD office for this project is located in Morgantown, WV.

Our experienced team is led by Mikel Lutman, RPF, the manager of our Morgantown location. Mr. Lutman has more than 20 years of Abandoned Mine Land related design experience and has completed a variety of mining projects throughout his career including mine fires, coal reserve evaluations, permitting, development of mine plans, hydrological studies, acid mine drainage treatment plans, involvement with start-up operations and daily mining activities, and the supervision of drilling and exploratory options.

Mr. Thomas Gray, PE will support this project as an advisor. Mr. Gray is a licensed Professional Engineer in five states including West Virginia and has participated in over *100 mining projects* throughout his career.

As requested by the RFP we have provided one original submittal, one copy, and one copy on CD-ROM. We appreciate this opportunity to provide this proposal, and look forward to answering any questions you may have. If you should require any additional information, please contact me at (412) 921-7090.

Very truly yours,

Mr. Mark Speranza, PE  
Pittsburgh Office Manager

Enclosures



# Attachment B



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

**Attachment "B"**

PROJECT NAME Morgan Mine Road (Burkey) Mine Fire Design		DATE (DAY, MONTH, YEAR) 25, October, 2011	FEIN 95-4660169
1. FIRM NAME Tetra Tech NUS, Inc.	2. HOME OFFICE BUSINESS ADDRESS 241 Kanar Drive Morgantown, West Virginia 26508	3. FORMER FIRM NAME NUS Corporation NUS Environmental Corporation Brown & Root Environmental	
4. HOME OFFICE TELEPHONE (304) 241-5460	5. ESTABLISHED (YEAR) 1960	6. TYPE OWNERSHIP Corporation	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) No
7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE  Foster Plaza 7, 661 Andersen Drive, Pittsburgh, PA 15220 / (412) 921-7090 / Mark Speranza, PE / 4 AML Design Teams in this office (4 Design Engineers and 4 CADD Professionals) and 4 additional CADD Professionals in this office			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Mr. Mark Perry, PE - President Mr. Mark Speranza, PE - Pittsburgh Office Manager			
9. PERSONNEL BY DISCIPLINE			
35 ADMINISTRATIVE — ARCHITECTS	2 ECOLOGISTS — ECONOMISTS	— LANDSCAPE ARCHITECTS 3 MECHANICAL ENGINEERS	— STRUCTURAL ENGINEERS 3 SURVEYORS
8 BIOLOGIST	1 ELECTRICAL ENGINEERS	6 MINING ENGINEERS	— TRAFFIC ENGINEERS
8 CADD OPERATORS	39 ENVIRONMENTALISTS	— PHOTOGRAMMETRISTS	55 OTHER
14 CHEMICAL ENGINEERS	2 ESTIMATORS	— PLANNERS: URBAN/REGIONAL	
24 CIVIL ENGINEERS	20 GEOLOGISTS	— SANITARY ENGINEERS	234 TOTAL PERSONNEL (IN THIS OFFICE)
3 CONSTRUCTION INSPECTORS	— HISTORIANS	2 SOILS ENGINEERS	13,000+ Personnel company-wide
4 DESIGNERS	5 HYDROLOGISTS	— SPECIFICATION WRITERS	
— DRAFTSMEN			
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 3			
*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"/> N/A			

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

<p>NAME AND ADDRESS:          TRIAD Engineering          219 Hartman Run Rd          Morgantown, West Virginia 26505</p>	<p>SPECIALTY:          Drilling</p>	<p>WORKED WITH BEFORE  <input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE  <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>

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

**YES** Description and Number of Projects: Tetra Tech and its consultants have completed **over 300 abandoned mine land projects** - Attachment C is only a partial listing. Our Project Manager and Project Advisor have been working on abandoned mine reclamation projects for the past 24 years, with many in West Virginia. Tetra Tech has been involved with mine reclamation for many years throughout the western U.S. and is providing similar services in the Appalachian coal fields. The project will be managed by our Morgantown office and our Pittsburgh, PA and Charleston, WV offices will provide local support as needed.

B. **Are your firm's personnel experienced in Soil Analysis?**

**YES** Description and Number of Projects: Tetra Tech has conducted **thousands of soil investigations** worldwide that included sampling and analysis. Along with this site work, we have provided thousands of reports presenting the results of the investigations. We have extensive specialized experience and technical competence in providing soil sampling and analysis services, including **more than 6,000 environmental site characterizations (including at mining sites) and more than 1,000 geotechnical investigations**. We have trained and experienced field sampling crews available to support this project.

C. **Are your firm's personnel experienced in hydrology and hydraulics?**

**YES** Description and Number of Projects: Tetra Tech has over **three decades of experience** in hydrology and hydraulics with **hundreds of projects**. Our expertise and knowledge in evaluating hydrologic systems is applied to specific water resource project types including water resource and flood damage assessment, flood control designs (including channels, levees, detention basins and bank protection, hydraulic structure design, erosion and sedimentation studies, stream restoration and wetland design, dam and levee safety evaluations, reservoir operation/optimization studies, flood-control and flood management studies and mapping, development of flood warning systems, dam break flood studies and contingency planning, stormwater drainage design, surface and groundwater supply analysis. The basis of these hydrologic studies is the application of HEC software such as HEC-HMS, GeoHMS, HECFFA, HEC-SSP, HEC-DSSVue, HEC-ResSim, CWMS and legacy software such as HEC-1, HEC-5, HEC-DSS, and COED.

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

**YES** Description and Number of Projects: Tetra Tech employs 15 GIS and CADD personnel in its Pittsburgh office and has all necessary software for map development. Our firm hires subcontractors when necessary for aerial photography to develop contour maps. Tetra Tech has completed aerial photography and/or contour mapping for **over 100 projects**.

E. **Are your firm's personnel experienced in domestic waterline design? (Include any experience in evaluation of aquifer degradation as a result of mining.)**

**YES** Description and Number of Projects: Tetra Tech has extensive expertise in modeling, designing, and building reliable, save and cost-effective water transmission and distribution systems. Our experience encompasses all aspects of transmission and distribution systems, including large diameter water mains, distribution piping, booster pumping stations, storage tanks and metering facilities. We have performed **hundreds of domestic water line design projects** nationwide for many municipalities and water authorities.

F. **Are your firm's personnel experienced in Acid Mine Drainage Evaluation and Abatement Design?**

**YES** Description and Number of Projects: Tetra Tech and its personnel have extensive acid mine drainage evaluation and abatement design experience. Our firm has **recently completed 13 acid mine drainage evaluation/abatement design projects** and our personnel, including Project Manager Thomas Gray, PE, have completed **more than 30 acid mine drainage and abatement projects** at other firms. Mr. Gray also managed an open-end contract for the Maryland Bureau of Mines, which included over 16 projects relating to mining, acid mine drainage treatment, and mine reclamation.

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.) Lutman, Mikel, K, RPF Project Manager	YEARS OF AML DESIGN EXPERIENCE: 15	YEARS OF AML RELATED DESIGN EXPERIENCE: 20	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 25
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Brief Explanation of Responsibilities

Mr. Lutman is the Manager of Tetra Tech's new Morgantown office. He has more than 33 years of professional experience including more than 25 years in management or supervisory roles. Mr. Lutman has more than 20 years of Abandoned Mine Land related design experience and has completed a variety of mining projects throughout his career including mine fires, coal reserve evaluations, permitting, development of mine plans, hydrological studies, acid mine drainage treatment plans, involvement with start-up operations and daily mining activities, and the supervision of drilling and exploratory options.

EDUCATION (Degree, Year, Specialization)  
MS, 1977, Forest Hydrology / BS, 1975, Forest Resources Management

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

West Virginia Forestry Association  
Society of American Foresters

REGISTRATION (Type, Year, State)  
Registered Professional Forester  
American Tree Farm Inspector  
Registered Wastewater Treatment Plant Operator  
Certified Nuclear Densometer Operator/Handler

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.) Gray, Thomas, A., PE Project Advisor	YEARS OF AML DESIGN EXPERIENCE: 25	YEARS OF AML RELATED DESIGN EXPERIENCE: 37	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19
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Brief Explanation of Responsibilities

Mr. Gray recently managed the Paint Branch, Tunnelton, and Posey/Fisher Run AML projects for WVDEP. He previously worked at GAI, managing their Charleston, WV office in the 1990s. Since 2000, Mr. Gray has participated in more than 50 AMR projects and has managed 30 projects for the OSM, including mine fires. He also has participated in more than a dozen mine fire projects and has managed contracts for PADEP and the MD BOM. He has also consulted to the WVDOH on mining issues. WVDEP projects include the Omega mine grouting project, Owings mine reclamation, Majesty mine reclamation, Godby branch water supply extension, and Left Hand Fork Refuse fire control. He has published over 30 articles related to mining and reclamation, including the chapter entitled, 'Mine Closure, Sealing, and Abandonment' in SME's Mining Engineering Handbook.

EDUCATION (Degree, Year, Specialization)  
BS, 1973, Mining Engineering / MBA, 1977, Business Administration

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Society of Mining Engineers - Distinguished Member  
Society of American Military Engineers  
Engineering Society of Western Pennsylvania

REGISTRATION (Type, Year, State)

Professional Engineer in five states including, West Virginia (1988); Pennsylvania (1978); Virginia (1980); Ohio (2009); and Maryland (1989)

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.) Cummings, Biff, D., PE Project Engineer		YEARS OF AML DESIGN EXPERIENCE: 17	YEARS OF AML RELATED DESIGN EXPERIENCE: 17	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 17
Brief Explanation of Responsibilities				
Mr. Cummings is a registered Professional Engineer in West Virginia and five additional states. His expertise includes <b>work on several mine fire projects</b> . It was contended by a homeowner that mine subsidence led to a landslide that was damaging his home and the coal company hired ICF Kaiser to support its defense. Mr. Cummings developed plans for the installation of slope monitors, supervised long-term data collection, analyzed data, evaluated seasonal hydrogeologic conditions, and provided documentation for use in court. He completed a variety of mine reclamation projects including the West Virginia Mark Mine Acid Drainage Abatement and various home subsidence investigations. He also performed AML related activities under contracts in WV, OH, MD, and VA, and subsidence evaluations for private firms and OSM in WV, PA, OH, and MD.				
EDUCATION (Degree, Year, Specialization)				
BS, 1978, Civil Engineering				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS				
American Society of Civil Engineers				
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.) Hoppe, Ben CAD Designer		YEARS OF AML DESIGN EXPERIENCE: 2	YEARS OF AML RELATED DESIGN EXPERIENCE: 17	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 17
Brief Explanation of Responsibilities				
Mr. Hoppe is a CAD Designer with over six years of relevant experience. He has performed design work on a variety of AML projects for the WVDEP including the Tunnelton Abandoned Mine Portals Closure Project, the Posey/Fisher Run AML project, and the Paint Branch AML project. His CAD design experience includes all phases of civil design work including but not limited to, site grading, proposed roadway geometry layout and utility layout. Mr. Hoppe is experienced in subdivision design, landfill design, and utility work and capable of providing accurate earthwork volumes for designs, layout of sewer and storm sewer systems (gravity and low pressure) using 3D models and complex grading designs using 3D civil software ensuring accuracy.				
EDUCATION (Degree, Year, Specialization)				
AAS, 2004				
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.) Strakal, Carl, J. Project Engineer	YEARS OF AML DESIGN EXPERIENCE: 8	YEARS OF AML RELATED DESIGN EXPERIENCE: 8	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0
	Brief Explanation of Responsibilities  Mr. Strakal has more than eight years of mining experience. He has performed water quality monitoring per DEP compliance regulations. His experience includes completing and submitting various surface (SMP) and deep mine (CMAAP) permitting modules. He has also completed and submitted surface mining related permits to the WVDEP utilizing the e-permitting process.		
EDUCATION (Degree, Year, Specialization)  BS, 2002, Civil Engineering Technology MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  REGISTRATION (Type, Year, State) Certified Pre-Blast Surveyor			
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.) Whitney, Josh, EIT Project Engineer	YEARS OF AML DESIGN EXPERIENCE: 3	YEARS OF AML RELATED DESIGN EXPERIENCE: 3	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0
	Brief Explanation of Responsibilities  Mr. Whitney has more than three years of environmental, geologic, and mining-related experience including mine design, operation permitting, environmental impact analyses, low seam surface and underground coal mine planning, open pit aggregates, underground salt mining, and slope/highwall stability analysis. His experience also includes collaboration with federal and state regulatory agencies. His software expertise includes AutoCAD, Auto Desk Land Desktop, Carlson, ArcGIS, Colorado Rockfall Simulation Program, NIOSH ARMPS, Rock Pack III, REAME Stability Analysis, Microsoft Office, Golden Software Surfer and Voxler, Culvert Master and HY-8, SEDCAD, SEDIMOT, and Flowmaster.		
EDUCATION (Degree, Year, Specialization)  MS, 2009, Mining and Minerals Engineering BS, 2007, Mining and Minerals Engineering MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  REGISTRATION (Type, Year, State) Engineer-In-Training			



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

<p>NAME &amp; TITLE (Last, First, Middle Int.) Kimmel, Thomas, W., PLS Surveyor</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</p> <p>Mr. Kimmel has more than 38 years of survey work experience including the public sector transportation including highway, railroad, and airport surveys; private sector industrial, commercial and residential survey and land development work; in heavy construction survey work; and post-accident nuclear QA/QC inspection work and USNRC regulations at Three Mile Island. Mr. Kimmel is a member of the American Congress on Surveying and Mapping and the National Society of Professional Surveyors. He is also on the Board of Directors for the Pennsylvania Society of Land Surveyors.</p>			
<p>EDUCATION (Degree, Year, Specialization)</p> <p>BS, 1995, Applied Science and Technology with Surveying Specialization AS, 1973, Engineering and Surveying Technology</p>			
<p>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</p> <p>American Congress on Surveying and Mapping National Society of Professional Surveyors Pennsylvania Society of Land Surveyors</p> <p>REGISTRATION (Type, Year, State)</p> <p>Professional Land Surveyor: 1994, WV; 1975, PA; 1993, VA; 1990, MD; 1993, DE; 1994, NC; 1996, NJ; 1996, NY; 2003, OH</p>			

14. PRO. E A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AM  
DESIGN SERVICES

TR-55, STABL5, HEC-HMS, GeohMS, HECFFA, HEC-SSP, HEC-DSSVue, HEC-ResSim, CWMS and legacy software such as HEC-1, HEC-5, HEC-DSS and COED

Microsoft Office Professional and Microsoft Project

Adobe Photoshop

Adobe Acrobat Version 9.0

AutoCAD Map 3D 2008 / AutoCAD 2008

AutoDesk Civil 3D 2007

ESRI ArcGIS 9.2

ESRI ArcView 3.3

Bentley PondPack (Haestad Methods) Version 9.0

Bentley Flow Master (Haestad Methods)

Bentley HEC-Pack

STABL5M

Hydrologic Evaluation of Landfill Performance (HELP)

Groundwater Vistas Version 3.5 (MODFLOW based 3D finite difference model, including MT3D, RT3D, MODPATH, MODFLOWT, and SWIFT Components)

GMS (MODFLOW based 3D finite difference model, including MT3D, RT3D, MODPATH, and 3-D spatial analysis components)

Visual MODFLOW (MODFLOW based 3D finite difference model, including MODPATH)

SWANFLOW (3D finite difference model specializing in 3-phase fluid flow in porous media - water, NAPL, air)

Several analytical-based software packages including BIOCHLOR, BIOSCREEN, and SESOIL

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
WVDEP Abandoned Mine Land Source Tracking and Acid Mine Drainage Water Quality Modeling, West Virginia	WVDEP Office of Abandoned Mine Lands and Reclamation 105 S. Railroad Street Phillippi, WV 26416	Abandoned Mine Land Source Tracking and Assessment / Acid Mine Drainage Water Quality Modeling	\$4,100,000	Ongoing
WVDEP Total Maximum Daily Load Program, West Virginia	WVDEP Office of Abandoned Mine Lands and Reclamation 105 S. Railroad Street Phillippi, WV 26416	Development of TMDLs	\$500,000	Ongoing
TOTAL NUMBER OF PROJECTS: 2 (Only WVDEP projects are shown)		TOTAL ESTIMATED CONSTRUCTION COSTS: \$4,600,000		



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)
WVDEP Fisher Run (Posey) Mine Reclamation, West Virginia	WVDEP Office of Abandoned Mine Lands and Reclamation 105 S. Railroad Street Philippi, WV 26416	\$292,600	2010	Yes
WVDEP Paint Branch Abandoned Mine Land Project, West Virginia	WVDEP Office of Abandoned Mine Lands and Reclamation 105 S. Railroad Street Philippi, WV 26416	\$74,000	2010	Not yet constructed
WVDEP Tunnelton Mine Portal Closure Design, West Virginia	WVDEP Office of Abandoned Mine Lands and Reclamation 105 S. Railroad Street Philippi, WV 26416	\$62,300	2010	Yes
Western Pennsylvania Abandoned Mine Fire, Pennsylvania	Confidential Oil & Gas Client	N/A	2011	N/A
Clear Creek Central City Superfund Site Remediation of Mine Waste Pile with Acid Mine Drainage, Colorado	Colorado Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246	\$1,400,000	2007	Yes
Bear Run Acid Mine Drainage Passive Treatment System, Pennsylvania	Indiana County Conservation District in conjunction w/PADEP 1432 Route 286 Hwy. E Indiana, PA 15701	\$250,000	2010	Yes
Gladden Mine Site Grading Plan and Acid Mine Drainage Treatment System, Pennsylvania	South Fayette Conservation Group in conjunction w/PADEP 515 Millers Run Road Morgan, PA 15064	\$3,600,000	2009	Yes
Sunrise Mine Abandoned Mine Land Monitoring, Wyoming	Wyoming Department of Environmental Quality, Abandoned Mine Land Division	N/A	2006	N/A

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)	
Ohio Valley Coal Company Mine Seal Closure Designs, Ohio	Ohio Valley Coal Company 56854 Pleasant Ridge Road Alledonia, OH 43902	N/A	2008	N/A	
Report on Current Mine Rescue Practices in China, Report, China	Center for Disease Control, NIOSH	N/A	2008	N/A	
West Elk Mine Subsidence Evaluation and Report, Colorado	Mountain Coal Company 5174 Highway 133 Somerset, CO 81434	N/A	2008	N/A	
Marjol Battery Plant RFI Oversight and Mine Subsidence Investigation, Pennsylvania	EPA Region III 1650 Arch Street Philadelphia, PA 19103	N/A	2009	N/A	
Colorado Springs Mine Subsidence Abatement, Colorado	Colorado Department of Natural Resources, Division of Reclamation, Mining, and Safety	N/A	2009	N/A	
Bandy and King Subsidence Project, Virginia	Department of Mines, Minerals & Energy 3405 Mountain Empire Road Big Stone Gap, VA 24219	N/A	2011	N/A	
Water Balance Study, Ohio	Confidential Client	N/A	2010	N/A	
Casselman Mine AMD Prevention and Response Plan, Maryland	Maryland Energy Resources, LLC 6015 Ferguson Road Indiana, PA 15701	N/A	2010	N/A	



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	
N/A						
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. Only a sample of projects are shown in this attachment.						
20. The foregoing is a statement of facts. Signature: <u>Mark P. Speranza</u> Title: <u>Pittsburgh Office Manager</u> Printed Name: <u>Mark Speranza, PE</u> Date: <u>October 25, 2011</u>						



# Attachment C



**AML and RELATED PROJECT EXPERIENCE MATRIX**

PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS														PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional																												
			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/Management	Water Treatment Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Thomas Gray, PE	Mikel Lutman, RPF	Biff Cummings, PE	Josh Whitney, EIT	David Hallman, PE	Other Tetra Tech or Team Personnel																							
<b>WVDEP PROJECTS</b>																																													
WVDEP Tunnelton Mine Portal Closure for Drainage	C		X	X											X						M								M																
WVDEP Fisher Run (Posey) Mine Portal Closure	C			X	X							X				X					M								M											P					
WVDEP Paint Branch Mine Portals Design	C			X	X										X						M								M											P					
WVDEP Hydrology and Water Quality Modeling	C		X	X	X								X			X								X																M					
WVDEP TMDL Water Quality Project	C		X	X	X											X								X																M					
WVDEP Grout Injection Research Project	P												X																																
WVDEP Water Supply Extension Project	P																																												
WVDEP Godby Branch Water Supply Extension	P		X																																										
WVDEP Gauley River Heizer/Manila Water Line	P																																												
WVDEP Lefthand Fork Burning Refuse	P		X										X																																
WVDEP Coal Refuse Pile Reclamation Projects	P																																												
WVDEP Majesty Mine Complex Restoration	P		X																																										
WVDEP Owings Mine Grouting Design	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

PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (s)	PROJECT EXPERIENCE REQUIREMENTS															PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional																																			
			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/Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Thomas Gray, PE	Mikel Lutman, RPF	Biff Cummings, PE	Josh Whitney, EIT	David Hallman, PE	Other Tetra Tech or Team Personnel																														
MINE DRAINAGE																																																					
OSM Little River Mine Reclamation / Drainage	P		X													X																M																					
Thompson Run Watershed Mine Drainage Assessment	P																X															M																					
Chartiers Creek Mine Opening and Discharge	P		X													X															M																						
OSM Hogskin Branch Mine Drainage Project	P		X					X								X															M																						
OSM Rabusseau Mine Drainage Evaluation/Design	P		X										X			X														M																							
Mark Mine Acid Mine Drainage Abatement	P								X																																						P						
Turtle Creek Interbasin Transfer of Mine Drainage	P																X														M																						
OSM Argenas Residential Mine Drainage	P		X															X												M																							
Glenn Springs Acid Mine Drainage Treatment Design	P																	X												M																							
BethEnergy Acid Mine Drainage Treatment Design	P																	X												M																							
Lowber/Marchand Mine Design Project	P																						X									P																					
Chartiers Deep Mine Discharges Assessment	P											X																			M																						
Bear Run Acid Mine Drainage Treatment Design	C		X																	X										M																							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**

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<b>MINE DRAINAGE</b>																																															
OSM Clyde Mine Drainage Project	P			X	X	X			X																			M																			
Clear Creek Mine Waste Pile with AMD & Waste/Tailings	C				X				X																																	M					
Powderly Creek Mine Drainage Feasibility Study	C				X						X												X																			M					
CTC Valley No. 2 Acid Mine Drainage Mitigation	P										X																M																				
MD DOE Bureau of Mines AMD Open End Contract	P				X																						M																				
MAX Environmental Effluent Runoff/AMD Treatment	P												X														M																				
Fishing Run / Gladden Discharge Project	C		X	X	X																	X																					P				
Webster Mine Discharge Feasibility Study	P											X																																	M		
PADEP Acid Mine Drainage Treatment Research	P																																													M	
McDonald Mine Discharge Evaluation	P		X		X						X												X						M																		
Kempton Mine Drainage Feasibility Study	P																																														
Nanty Glo Acid Mine Drainage Treatment	P																								X																						
Bullion Mine Acid Mine Drainage Monitoring/Reclam.	C																																														M

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Attachment "C"









### AML and RELATED PROJECT EXPERIENCE MATRIX

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### MINE PERMITTING / PLANS / REPORTS

NIOSH Mine Rescue Practices Report in China	C																M						
PADEP AMR Program Business Plan	P																						M
PADEP Abandoned Mine Reclamation Comp. Plan	P																						M
PADEP Surface Mining Permit Policy Development	P																						M
Maryland DNR Guidelines for Mine Coal Ash Disposal	P																M						
Cannelton Mine Operator Permitting Evaluation	P																M						
South, Ohio Coal Longwall Mine Extension Permitting	P																M						
MD DOE Bureau of Mines Permitting Assist. Open End	P							X									M						
Eastern Utah Conceptual Underground Mine Plan	C																						M
Colorado Mining for Oil Shale Scoping Report	C																						M
Colorado Room and Pillar Mine Plan and Cost Analysis	C																						M
Colorado Demonstration Mine Plan and Cost Estimate	C																						M
Printer Boy Mine Permitting and Plan Development	P																						P

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

**AML and RELATED PROJECT EXPERIENCE MATRIX**

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**MINE WATER-RELATED PROJECTS**

Kempton Mine Water Treatment Facility	P											X				M									
MD DOE Bureau of Mines Hydrogeology Open End	P									X						M									
BOM Raynor/Kinsinger Water Supply Investigation	P									X						M									
MDDOE Bureau of Mines Mill Run Water Quality Impacts	P									X						M									
Upper St. Clair Underground Mine Pool Storage	P									X						M									
Jonathan Run Stream Restoration Plan	C/P				X							X		X		P									
Shelocta Hydrology Evaluation w/Mining Impacts	C/P				X											M									
Abandoned Mine Storage of Sewer Overflow	P				X							X		X		M									
Left Hand Creek Loading to Abandoned Mine Sources	P																							P	
Shannopin Deep Mine Water Migration Evaluation	P																								
Coeur D'Alene Mines Make-Up Water Requirements	P				X																			P	
Central Valley Mine Waste TML Reduction	C																							M	
USFS Relief Hill Hydraulic Mine Sampling/Mapping	C				X																				M

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\*\* 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**

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<b>OTHER MINING PROJECTS</b>																																																										
Sand Spring Gob Pile Abatement Plan	P																											M																														
VA DMLR Little Short Creek Reclamation	P	X							X											X																																						
VA DMLR Robin Coal Reclamation	P																																																									
VA DMLR Clifton Mine Reclamation	P																																																									
US Steel Abandoned Mine Shaft Closure Re-opening	P										X																																															
ANR Coal Company Mining Facility Study	P																																																									
PADEP Ninevah Mine ABD Abatement Project	P																																																									
PennDOT Acid Rock Mitigation Evaluation	P											X																																														
OSM Hazardous Mine Entries Shaft Inventory	P																																																									
Ohio Valley Coal Company Mine Seal Closure Designs	C																																																									
Cannelton Industries Mining Mountaintop Removal	P																																																									
Canterbury Mine Pump Station Design	C/P																																																									

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 \*\* 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.





# Personnel



## MIKEL LUTMAN, RPF

*Project Manager*

Mr. Lutman has more than 33 years of professional experience in coal, mining, and civil engineering and is the manager of Tetra Tech's Morgantown location. He has more than 20 years of Abandoned Mine Land related design experience and has completed a variety of mining projects throughout his career including mine fires, refuse removal/stabilization, coal reserve evaluations, permitting, development of mine plans, hydrological studies, acid mine drainage treatment plans, involvement with start-up operations and daily mining activities, and the supervision of drilling and exploratory options.

<b>EDUCATION</b>
MS, Forest Hydrology BS, Forest Resources Management
<b>REGISTRATIONS</b>
Registered Professional Forester
<b>YEARS EXPERIENCE</b>
33

**Staff Member; Everettville Refuse Reclamation; WVDEP – AML Division; Monongalia County, WV.** Mr. Lutman was a member of the design team responsible for developing plans and specifications for the reclamation of the abandoned refuse pile and impoundment located near Everettville, WV. Plans included impoundment and refuse stabilization, mine seal units, drainage control and a revegetation plan. The community of Everettville was located immediately downstream of this project which posed a level of concern for safety.

**Staff Member; Mine Fire Plan; Maryland Bureau of Mines; Garrett County, MD.** Member of the design team responsible for developing a plan to determine the extents and condition of a coal seam mine fire located near the community of Lonaconing, Maryland. A follow up plan for abatement of the fire was later developed to address the situation.

**Project Manager; Removal and Stabilization of Coal Refuse; American Bituminous Power Partners; Marion County, WV.** Mr. Lutman provided services to assist with the removal and stabilization of coal refuse materials from various abandoned disposal sites as a result of previous mining activities. Additional services included developing plans for several AMD collection/treatment systems and related agency permits (WVDEP-DWWM/"UIC" Permit).

**Project Manager; Acid Mine Drainage Treatment Abatement; Friends of Cheat; Preston County, WV.** As a Project Manager, Mr. Lutman was involved with various projects in the Cheat River Watershed Basin that focused on Acid Mine Drainage (AMD) abatement. Scope of services for these projects included devising various passive treatment systems that were matched to the existing site conditions. Steel slag leach bed units were also incorporated into several of the projects to supply additional alkalinity for extended treatment.

**Project Manager; Mine Development, Permitting and Planning Activities; Shafer Brothers Construction Company; Monongalia County, WV.** Mr. Lutman served as the Project Manager responsible for development and permitting activities involving the coal industry. Services consisted of procurement of reserves, drilling activities and evaluation of results, mine planning and environmental permitting involving stream and wetland resources, mitigation and restoration planning. Mr. Lutman was



responsible for the overall project management which included client interface, managing environmental and cultural resources field staff, threatened and endangered species coordination and overseeing the preparation of the USACE Nationwide 14 permit and section 401 Water Quality Certification permits.

**Project Manager; Mine Evaluation Study; Summit At Cheat Lake (Residential Housing); Monongalia County, WV.** Mr. Lutman was responsible for the development of a 120 acre residential housing development complex located near Morgantown, WV. Initial duties involved conducting a mine evaluation study to determine the extents and conditions of previously deep and surface mined areas within the project area. A follow up grouting and stabilization program was devised for the various sections of the development property. "High-End" residential dwellings are currently being built on the areas that have been stabilized.

**Project Manager; Mine Evaluation Study and Grouting/Stabilization Program; Grove Park Place; Monongalia County, WV.** Mr. Lutman was responsible for the development of a *mixed-use* Commercial/Residential Complex located near Morgantown, WV. Initial duties involved conducting a mine evaluation study to determine the extents and conditions of previously deep mined areas within the project area. A follow-up grouting and stabilization program was devised for the subject property tract. This site is currently supporting several commercial office complex buildings and a section of residential townhouse units.

**Project Manager; Mining Due Diligence Services; Blue Ridge Development; Monongalia County, WV.** Mr. Lutman was responsible for providing *due-diligence* services involving the evaluation of a 700-acre land tract that was subject to historic surface and deep mining activities. Services provided for this project included research and reconnaissance of historic mining information and mapping for the area of interest, development of an exploratory drilling plan to establish existing mining extents and to evaluate existing conditions of the abandoned deep mining activities. A preliminary grouting and stabilization plan was developed to assist the potential owners with an estimated costing model.



## THOMAS GRAY, PE

*Project Advisor*

Mr. Gray has more than 39 years of professional mining experience and has completed more than 100 mining projects in his career. He is a technical expert in mine engineering, mine reclamation, mine fire mitigation, and mine subsidence. Mr. Gray specializes in active and abandoned mining projects and with infrastructure projects that have mining-related concerns. He has managed various AML projects for the WVDEP including the Fisher Run Mine Drainage Portal Closure and the Tunnelton Mine Drainage Portal Closure. He is a member of many industry organizations and is recognized as a Distinguished Member in the Society for Mining, Metallurgy, and Exploration. In addition to authoring over 25 mining-related publications, Mr. Gray has made presentations at mining conferences around the U.S.

<b>EDUCATION</b>
MBA BS, Mining Engineering
<b>REGISTRATIONS</b>
Professional Engineer: WV, PA, MD, VA, OH
<b>YEARS EXPERIENCE</b>
39

**Senior Project Manager; Dolph Mine Fire; OSM; Lackawanna County, PA.** The Dolph mine fire was burning in coal refuse and two underground abandoned anthracite coal mines. A site investigation was completed to define the limits of fire and to recommend fire control methods. A cut-off trench was selected, plans and specifications were prepared and a contractor was selected. Construction was successfully completed and the fire is under control.

**Project Manager; Abandoned Coal Mine Fire Remediation; Confidential Private Client; PA.** Mr. Gray managed this project where Tetra Tech provided environmental consulting and engineering services to a confidential natural gas drilling client in southwestern Pennsylvania. During the development of a well pad in Fayette County, some elevated temperatures in the excavated materials were discovered due to a burning abandoned coal mine. Tetra Tech investigated the subsurface conditions of the mine fire and developed a Mine Fire Remediation Plan, coordinated drilling, and performed surveying and permitting services.

**Project Consultant; Percy Mine Fire Control Project; PADER; Fayette County, PA.** Provided consultation for this mine fire control project that involved mine grouting to contain an underground mine fire. The fire was successfully controlled.

**Senior Project Manager; Maiolie Mine Fire; OSM; Washington Township, PA.** Provided surveying and consultation for this small underground abandoned coal mine fire.

**Senior Project Manager; Cohen Mine Fire; OSM; Baldwin Borough, PA.** Provided surveying and consultation for this small underground abandoned coal mine fire.

**Senior Project Manager; Surface Coal Mine Fire Abatement; OSM; Elk County, PA.** Managed the surveying during the abatement of a 1.5 acre surface coal mine fire. Quantity surveys were initiated within 24 hours of request by OSM.



Project Advisor; World Bank Mine Fire Appraisal; Dhanbad, State of Bihar, India. Assisted in the mine fire appraisal project to assess the fires in 17 coal seams of the 450 sq. km. coalfield for the world's largest complex of above-ground and underground mine fires.

Project Consultant; Reclamation Design of Abandoned with Mine Portals and Refuse Piles; West Virginia Division of Environmental Protection; Charleston, WV. Reclamation design of an abandoned mine site comprising old mine structures, open mine portals, refuse piles and numerous acid mine drainage (AMD) producing discharges. Evaluated water quality and designed a passive AMD treatment system design at the Owings Mine Complex site. Awarded: James E. "Pete" Pitsenbarger Abandoned Mine Land Award North, 1999 West Virginia Reclamation Awards.

Project Manager; Fisher Run Mine Portal Design Closure; West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation; Weston, WV. Project Manager for the investigation and design for the closure of seven mine portals on private property. Prepared construction specifications and construction cost estimate.

Project Manager; Tunnelton Mine Portal Closure Design for Acid Mine Drainage; West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation; Tunnelton, WV. Project Manager for the investigation and design for the closure of two mine portals on separate property parcels. Prepared construction specifications and construction cost estimate.

Project Manager; Paint Branch Mine Project; West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation; Kanawha, WV. Project Manager for this project involving the installation of splash pads and metal bat gates on three abandoned mine portals and the removal of approximately 48 abandoned bridge piers in Paint Branch.

Project Manager; Abandoned Mine Workings Injection Project to Reduce Acid Mine Drainage; West Virginia Division of Environmental Protection; Monongalia County, WV. This research and demonstration project injected coal combustion byproduct based grout into 25 acres of abandoned mine workings to reduce the generation of acid mine drainage and to reduce subsidence potential. Responsible for R&D investigation, construction plans and specifications, monitoring construction, and preparing a research report. Sponsors included Allegheny Energy, the DOE, Consol Inc. and the Electric Power Research Institute.

Project Advisor; Water Line Extension; West Virginia Division of Environmental Protection; Nicholas County, WV. Evaluated construction documents for the Gauley River and Heizer/Manila Creek water line extension projects.

Project Advisor; Water Supply System; West Virginia Division of Environmental Protection; Chapmanville, Logan County, and WV. Designed a water supply system to service approximately 800 residents of the Mill Creek-Isom Community along Godby Branch watershed.

Project Advisor; Water Supply Extension; West Virginia Division of Environmental Protection; Logan County, WV. Prepared construction documents for a water supply extension project.





## BIFF CUMMINGS, PE

*Project Engineer*

Mr. Cummings has more than 33 years of professional experience in the engineering civil, geotechnical, and geo-environmental engineering in design, consulting, construction and project management. He has particular expertise with and abandoned mine land reclamation (mine and spoil fires, mine drainage and seals, regrading and vegetation of spoil piles, landslide investigation and abatement, subsidence abatement, and stream channel restoration), geotechnical engineering, mine subsidence, and slope stability.

<b>EDUCATION</b>
BS, Civil Engineering
<b>REGISTRATIONS</b>
Professional Engineer: WV, PA, OH, IN, IL, NCEES
<b>YEARS EXPERIENCE</b>
33

**Senior Project Manager; Barton Mine Fire with Coordination from Maryland Bureau of Mines; Barton, MD.** Design of the abatement plan for a fire within an existing deep mine using a cutoff trench. The site is located approximately 2.5 miles east of Barton, Maryland. The area was initially strip mined approximately 6,000 feet along the outcrop with the deep mine entries developed in the coal seam at the base of the highwall. The mine fire has extended about 200 feet into the deep mine at various locations along the strip mine highwall. Present preliminary designs and associated quantities and cost estimates for comment by MD Bureau of Mines personnel. Develop final construction design drawings and technical specifications. Prepare final construction cost estimates.

**Project Engineer; Jewell Smokeless Harpers Branch Refuse Fire; Vansant, VA.** Mr. Cummings participated on this reclamation project for a refuse fire in Vansant, VA.

**Project Engineer; Barnabus Refuse Piles Mine Sealing; WV.** Sealing of five (5) deep mine openings and development of reclamation plans. Site contained unstable, eroding refuse piles and open abandoned portals with attendant drainage. Provide detailed field reconnaissance, collection and laboratory analysis of refuse and soil samples, ground control survey, reclamation designs, hydrologic and hydraulic analyses, designs for wet and dry mine seals, and evaluation of areas as direct-seeded growth medium due to limited borrow areas.

**Project Engineer; Bradshaw Coal Refuse Pile Reclamation; WV.** Performed reclamation of four (4) abandoned refuse piles. Provided Aerial photography, topographic mapping, surficial and subsurface investigations, laboratory testing, design engineering, construction drawings, technical specifications, construction cost estimates and construction monitoring.

**Project Engineer; Mark Mine Acid Mine Drainage Abatement Project; Kermit, WV.** Mr. Cummings served as a Project Engineer on this acid mine drainage project. He performed the mine seal and design.





## CARL STRAKAL

*Project Engineer*

Mr. Strakal has more than eight years of mining experience. He has performed water quality monitoring per DEP compliance regulations. His experience includes completing and submitting various surface (SMP) and deep mine (CMAP) permitting modules. He has also completed and submitted surface mining related permits to the WVDEP utilizing the e-permitting process.

**Project Engineer; Loveridge Mine Permitting; Consolidation Coal Company; Loveridge; Marion County, WV.** Completed and submitted various WVDEP IBR, AML and Degasification pad permits utilizing E-permitting per Loveridge Mine in Marion County, WV. Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

**Project Engineer; Robinson Run Permits; Consolidation Coal Company; Harrison County, WV.** Completed and submitted various WVDEP IBR, AML and Degasification pad permits utilizing E-permitting per Robinson Run Mine in Harrison County, WV. Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

**Project Engineer; 13-West Airshaft CMAP Modules; Consolidation Coal Company; Pine Bank, PA.** Completed and submitted various PADEP CMAP Modules per Airshaft site for the Blacksville Number 2 mine. Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

**Project Engineer; 13-Degas CMAP Modules; Consolidation Coal Company; Pine Bank, PA.** Completed and submitted various PADEP CMAP Modules per degasification pads and access roads. Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

**Project Engineer; Stone Quarry SMP Modules; Haydentown, PA.** Completed and submitted various PADEP SMP Modules per Stone Quarry (Limestone). Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

**Project Engineer; Prime Air Shaft CMAP Modules; MEPCO; Mt. Morris, PA.** Completed and submitted various PADEP CMAP Modules per Prime Air Shaft. Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

**Project Engineer; Four West CMAP Modules; MEPCO; Mt. Morris, PA.** Completed and submitted various PADEP CMAP Modules per Prime Air Shaft. Generated base mapping for all associated Modules. Conducted all necessary field work per Module requirements.

<b>EDUCATION</b>
BS, Civil Engineering Technology
<b>REGISTRATIONS</b>
Certified Pre-Blast Surveyor
<b>YEARS EXPERIENCE</b>
8



## JOSH WHITNEY, EIT

*Project Engineer*

Mr. Whitney has more than three years of environmental, geologic, and mining-related experience including mine fire remediation, mine design, operation permitting, environmental impact analyses, low seam surface and underground coal mine planning, open pit aggregates, underground salt mining, and slope/highwall stability analysis. His experience also includes collaboration with federal and state regulatory agencies. His software expertise includes AutoCAD, Auto Desk Land Desktop, Carlson, ArcGIS, Colorado Rockfall Simulation Program, NIOSH ARMPS, Rock Pack III, REAME Stability Analysis, Microsoft Office, Golden Software Surfer and Voxler, Culvert Master and HY-8, SEDCAD, SEDIMOT, and Flowmaster.

<b>EDUCATION</b>
MS, Mining/Minerals Engineering BS, Mining/Minerals Engineering
<b>REGISTRATIONS</b>
Engineer-In-Training
<b>YEARS EXPERIENCE</b>
3

**Project Engineer; Abandoned Coal Mine Fire Remediation; Confidential Private Client; PA.** Mr. Whitney participated on this project where Tetra Tech provided environmental consulting and engineering services to a confidential natural gas drilling client in southwestern Pennsylvania. During the development of a well pad in Fayette County, some elevated temperatures in the excavated materials were discovered due to a burning abandoned coal mine. Tetra Tech investigated the subsurface conditions of the mine fire and developed a Mine Fire Remediation Plan, coordinated drilling, and performed surveying and permitting services.

**Project Engineer; Total Maximum Daily Load (TMDL) Study; Confidential Client.** Developed spreadsheet for entering continuous depth data from in-stream monitors in order to determine stream flow for open channels and weirs. Data was used to determine total dissolved solids and total suspended solids.

**Project Engineer; Highwall Stability Analysis; A & G Coal Corporation.** Utilization of NIOSH ARMPS, Rockpack III, and Colorado Rockfall Simulation Program to develop a detailed report for submission to the Mine Safety and Health Administration (MSHA) in order to gain approval for operations.

**Project Engineer; Virginia DMLR Renewal Reports; Several Virginia Massey Operations.** Mr. Whitney was tasked with the completion of permit renewal for several of Massey's surface and underground operations. These renewals include the completion of a public notice and filing, analysis of surface and ground water data, and completion of NPDES forms. The completion of the NPDES form involves a review of the mine site sediment control plan to determine drainage area delineation and ground conditions.

**Project Engineer; Reclamation Costing Analysis; Cumberland Resources Corporation; Appalachia, VA.** Volume calculations utilizing AutoCAD were performed and subsequent costing of material and vegetation needed were estimated to determine total reclamation cost.



## BEN HOPPE

*Lead CADD Professional*

Mr. Hoppe has more than seven years of professional CADD experience. He has conducted work for several abandoned mine land reclamation projects, including those for the West Virginia Department of Environmental Protection's Office of AML, and erosion and sediment control plans.

CAD Designer; Fisher Run Portal Closure; West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation; Weston WV. Mr. Hoppe's responsibilities included creating existing conditions plans and sections along with mine void information to adequately design structures to seal mine and convey mine water discharge. Also performed design of multiple piping and ditch conveyance systems to allow mine water to discharge to existing streams.

CAD Designer; Tunnelton Mine Portal Closure Design for Acid Mine Drainage; West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation; Tunnelton, WV. Mr. Hoppe's responsibilities included creating existing conditions plans and sections along with mine void information to adequately design structures to seal mine and convey mine water discharge. Also performed design of multiple piping and ditch conveyance systems to allow mine water to discharge to existing streams.

CAD Designer; Paint Branch Mine Project; West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation; Kanawha, WV. Mr. Hoppe performed design services on this project, which included the installation splash pads and metal bat gates on three abandoned mine portals and removal approximately 48 abandoned bridge piers in Paint Branch.

CAD Designer; Gladden Mine Discharge Passive Treatment System (in association with PADEP); South Fayette Conservation Group; South Fayette Township, PA. Design required creation of existing conditions plans and sections along with design of 2 ½ acre pond separated into 3 chambers using earthen berms. Pond required berm with graded access road into pond area and along perimeter. Sections and profiles were created along pond and access road. Access road required horizontal and vertical geometry to be included on plan and profiles.

CAD Designer; Erosion and Sediment Pollution Control Plan; East Monongahela Sportsman's Club; Elizabeth, PA. Responsibilities included creating existing contours and existing site plan from information provided by surveyor. Design of proposed grading plan including sections, volume calculations and erosion and sediment pollution control measures.

EDUCATION
AAS
REGISTRATIONS
N/A
YEARS EXPERIENCE
7



## THOMAS KIMMEL, PLS

*Surveyor*

Mr. Kimmel has more than 38 years of survey work experience including the public sector transportation including highway, railroad, and airport surveys; private sector industrial, commercial, and residential survey and land development work; in heavy construction survey work; and post-accident nuclear QA/QC inspection work and USNRC regulations at Three Mile Island. Mr. Kimmel is a member of the American Congress on Surveying and Mapping and the National Society of Professional Surveyors. He is also on the Board of Directors for the Pennsylvania Society of Land Surveyors.

**Survey Manager; GTS Technologies, Inc.; Harrisburg, PA.**

Responsibilities included management and coordination and planning of survey work, cost estimation, record research, and calculations within many of the states currently licensed. Responsible for coordinating survey information between field and office as well as implementing specific quality control measures to ensure accuracy of plans and data with experience extending to GPS, EDM data collection, and AutoCAD.

**Surveyor; LSC, Inc.; York, PA.** Supervision of property, topographic, and title surveys; flood and mortgage certifications; land subdivisions; residential, commercial, and industrial site development plans from conceptual phase to final approval, including as-built surveys in Maryland and Pennsylvania.

**Surveyor; Stewart & March, Inc.; York PA.** Responsible for all construction layout for a large site/heavy industrial construction contractor. Some boundary retracement, land subdivision, road design, and stormwater calculations.

**Site Manager and Testing Lab Supervisor; CEC, Inc. at TMI Nuclear Generating Station; Middletown, PA.** Responsible for Quality Assurance Program, site activities, and personnel for contracted post accident inspection services to GPU Nuclear. Work included soils and concrete testing, equipment calibration, and supervision of technicians including the certification of outage inspectors. ANSI certified for civil/structural, mechanical, structural welding, and receipt inspections. Boundary retracements and land subdivision surveys were conducted privately.

**Senior Project Surveyor; Navarro & Wright, Inc.; New Cumberland, PA.** Responsible for the creation of the transportation survey section to better meet the client's needs and PennDOT's requirements. This was done by purchasing of new equipment, invoking appropriate procedures, and the hiring of surveying personnel.

### EDUCATION

BS, Applied Science & Technology  
AS, Engineering/Surveying  
Technology

### REGISTRATIONS

Professional Land Surveyor: WV,  
PA, VA, MD, DE, OH, NY, NJ, NC

### YEARS EXPERIENCE

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