Hatch Mott MacDonald

Expression of Interest
for
Professional Engineering Design Services and Construction Monitoring Services for the MacArthur Subsidence Phase 2
Raleigh County, WV

RFQ # DEP16030

West Virginia
dep department of environmental protection

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

Solicitation

NUMBER	PAGE
DEP16030	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
FRANK WHITTAKER
304-558-2316

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE
Hatch Mott MacDonald
2601 Cranberry Square
Morgantown, WV 26508

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

DATE PRINTED
12/17/2012

BID OPENING DATE: 01/23/2013 BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		

MACARTHUR SUBSIDENCE PHASE 2 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 MACARTHUR SUBSIDENCE PHASE 2 PROJECT IN RALEIGH COUNTY, WV, PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.

****** THIS IS THE END OF RFQ DEP16030 ****** TOTAL:

SIGNATURE	TELEPHONE	DATE
Timothy M. Rice	304.212-4390	01-21-13
TITLE Office Manager	FEIN 16-1006700	ADDRESS CHANGES TO BE NOTED ABOVE

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

RFQ No. DEP16030

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, 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: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. 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.

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.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"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.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Hatch Mott MacDonald

Authorized Signature: _____ Date: 1/21/2013

State of West Virginia

County of Monongalia, to-wit:

Taken, subscribed, and sworn to before me this 21 day of January, 2013.

My Commission expires March 28, 2022.

AFFIX SEAL HERE

Official Seal
Notary Public, State of West Virginia
Steve I. Elliffe
Hatch Mott MacDonald
2001 Cranberry Square
Morgantown WV 26508
My commission expires March 28, 2022

NOTARY PUBLIC _____

Table of Contents

Hatch Mott MacDonald

2601 Cranberry Square
Morgantown, WV 26508
T 304.212.4390 F 304.594.2814
www.hatchmott.com

January 21, 2013

Mr. Frank Whittaker
West Virginia Department of Environmental Protection
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

RE: RFQ # DEP 16030
Expression of Interest for Professional Engineering Design Services and Construction Monitoring Services for MacArthur Subsidence Phase 2 Design
Raleigh County, WV

Dear Mr. Whittaker:

Hatch Mott MacDonald (HMM) is pleased to submit this proposal to provide professional engineering design services and construction monitoring services for the West Virginia Abandoned Mine Lands (AML) and Reclamation Program. This project focuses on the development of a subsidence control/ prevention plan which is a core discipline for our Morgantown office. Our managers have successfully completed numerous designs to address similar issues throughout the region.

HMM has several staff members that collectively have more than 100 years of direct design and management experience with AML design projects of all kinds. The Morgantown office employs a total staff of 25 with 2 separate mine subsidence stabilization design teams. These design teams consist of an AML experienced lead project manager, a CADD designer, and the necessary support staff to effectively complete this project on time and within budget.

HMM has recently provided design services on several projects for WVDEP that are very similar in scope to this project including Montana Mines, Bethlehem (Toothman), Fairmont (Pallotta), and Shinnston (Osbourn). We presently have experience and back up data of the most current and up to date design details and specifications being used on your projects. Our experienced staffs are knowledgeable with pricing and construction, trained in e-permitting, and are prepared to provide our services right through the design and bidding phases as needed. The many years of staff experience on AML projects makes it easy for us to provide support during the construction phases as well.

We appreciate the opportunity to submit this Expression of Interest and look forward to continuing our working relationship.

Respectfully submitted,

Hatch Mott MacDonald

Richard L. Steinhart, PE
Vice President
T 412.497.2910 F 412.497.2940
richard.steinhart@hatchmott.com

Timothy M. Rice
Senior Associate
T 304.212.4388 F 304.594.2814
timothy.rice@hatchomott.com

[corporate history & experience]

Introduction

With a lineage stretching back over a century, involvement in the design and construction of the most ambitious infrastructure projects and a multi-disciplined staff with comprehensive engineering skills, Hatch Mott MacDonald (HMM) possesses the practical knowledge and experience needed to meet the technical challenges of any given project. Our approach is strictly client-focused – with a corporate commitment to engineering excellence. HMM provides services for all aspects of engineering projects, from feasibility studies and surveys through design, to project and program management, construction management and supervision, start-up and operations.

Local Offices

HMM is headquartered in Millburn, New Jersey and has many offices throughout North America. Regionally, our offices are located at:

405 Capitol Street
Suite 601
Charleston, WV 25301
T:304.356.3010
F: 304.357.9222

2601 Cranberry Square
Morgantown, WV 26508
T 304.212.4390
F 304.594.2814

Gateway View Plaza
1600 West Carson Street
Pittsburgh, PA 15219
T 412.497.2900
F 412.497-2901

Consulting Areas

The resources of HMM are available through the following consulting areas:

- Construction Engineering Services
- Contract Operations
- Environmental Compliance & Remediation
- Environmental Site Assessment & Remediation
- Geographical Information Systems
- Hazardous Waste Management
- Hydraulic Infrastructure Evaluation & Rehabilitation
- Hydrogeological Services
- Industrial Wastewater Management
- Information Technology & Management
- Mining Environmental Services
- Municipal Engineering and Planning
- Pipeline Services
- Rails-To-Trails Projects
- Recreational Facilities
- Recycling/Solid Waste Management
- Site Development Engineering
- Storage Tank Management
- Stormwater & Watershed Management
- Transportation Engineering
- Wastewater Engineering and Management
- Water Supply Management
- Wetland / Ecological Studies

STAFFING

Hatch Mott MacDonald was formed as a joint venture between Hatch Associates of Canada, a leading design engineering firm, and Mott MacDonald, headquartered in London, an infrastructure and education consulting engineering firm. The combined resources of Hatch Associates and Mott MacDonald offer a worldwide engineering staff of over 20,000 people. In 2001, HMM acquired the environmental consulting firm of Killam Associates to offer water, wastewater and environmental services throughout North America. Our total US staff is now approximately 2,400 engineers, scientists and technical support personnel.

MANAGEMENT STRATEGIES

HMM uses the "Project Team" approach to efficiently manage and complete projects on time and within specified budgets. A Project Manager directs the team and interfaces with the client to ensure an uninterrupted flow of information. Capable managers draw upon the versatile personnel at HMM to provide pertinent technical knowledge relative to a particular project.

Hatch Mott MacDonald's engineering professionals are fully supported by extensive computer resources (CADD, graphics, and an Information Technology staff), and highly trained field crews for surveying and environmental sampling and monitoring.

From the analysis stage to project implementation, the professional staff of HMM provides clients with cost-effective engineering and planning solutions for their environmental problems. HMM's outstanding reputation is based upon dedicated service to clients and demonstrated technical abilities.

Hatch Mott MacDonald is proud of its established reputation, which is based on efficient project management, technical expertise, and knowledge of regulatory requirements. These features are reflected in HMM's success at maintaining long-term client relationships. Experienced staff and an organizational approach make HMM extremely competent in meeting a client's needs, now and in the future.

The Morgantown office able to provide four to five different design teams simultaneously, and the Charleston office is currently staffed to provide one design team. These teams generally consist of a Project Engineer and the necessary design, drafting, and support staff.

EXPERIENCE AND QUALIFICATIONS

Hatch Mott MacDonald (HMM) is a full-service consulting engineering firm offering both public and private clients a complete range of services from conceptual, feasibility/ planning studies and environmental assessment through preliminary and detailed design to procurement, construction engineering inspection and project and construction management services, as well as operations and maintenance. Headquartered in New Jersey, HMM has hundreds

of staff located in the northeast and Mid-Atlantic regions. More than 2,400 employees in 70+ offices throughout the U.S. and Canada will support the local staff. This project will be performed from our Morgantown, WV office.

Our resources in the Appalachian Coal region have grown steadily over the past few years. HMM's focus on mining services has led to a staff of over 60 individuals in this service area. More specifically, the Charleston and Morgantown offices have over 35 staff members dedicated directly to the mining and energy service area, including engineers, geologists, biologists, scientists, and support staff. This growth is attributed to our corporate commitment to the industry and the values established by HMM. Hatch, one of our parent companies, has been in business for 50 years and focuses on mining services on an international level.

Mining Environmental Services

HMM offers a full spectrum of mining and mining-related environmental and design engineering services. Successfully completed projects range from reserve analyses, permitting and feasibility studies to complex mining and reclamation plans for surface and underground mining installation, prep plants and refuse handling facilities. Versatility is demonstrated by a proven ability to work with large and small operators. Personnel are accustomed to communicating effectively with both multi-department international companies and sole proprietors.

Surface Mining

- Surface Mining Permits
- Auger Mining Permits
- Feasibility Studies
- Land Reclamation & Remediation
- Permit Transfers
- Pre-Blast Surveys
- Acid Mine Discharge (AMD) Remediation

Underground Mining

- Deep Mine Permits
- Mine Design & Mapping
- Ventilation Plans
- Subsidence Plans
- Surface Support Plans
- Air Shaft Design & Coordination
- Incidental Boundary Revisions (IBR)
- Pre-Subsidence Surveys

Support Facilities

- Preparation Plant Permits
- Coal Yard & Loadout Permits
- Refuse Pile Reprocessing Permits
- Site Planning
- Air Quality Permits
- Coal Refuse/Fly Ash Permits
- Coal Refuse/Fresh Water Impoundments
- Portal Facilities Design & Construction Management

Mine Planning

- Geological Exploration
- Reserve Studies
- Economic Evaluations
- Aerial Mapping
- Drilling
- Environmental Site Assessment
- Natural Stream Design
- Stream Mitigation

Professional Surveying

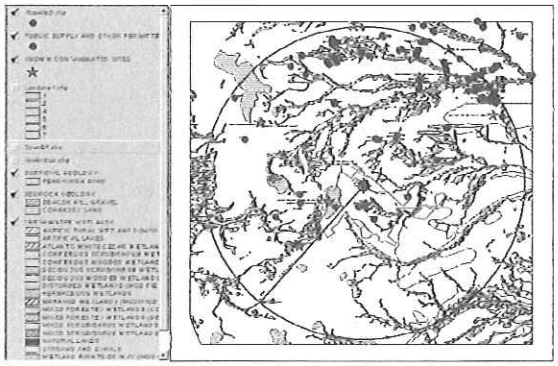
- Underground Coal Mine Surveys
- Stockpile Volumetric Surveys
- Construction Surveys
- Boundary Retracement
- Topographic Surveys
- Horizontal & Vertical Control Networks
- GIS/GPS Surveys

Operations Support

- Small Operator Assistance Program (SOAP) Preparation
- Thermal-graphic Equipment Analyses
- Machine & Equipment Appraisal & Analyses
- Conveyor System Analyses
- Electrical System Analyses

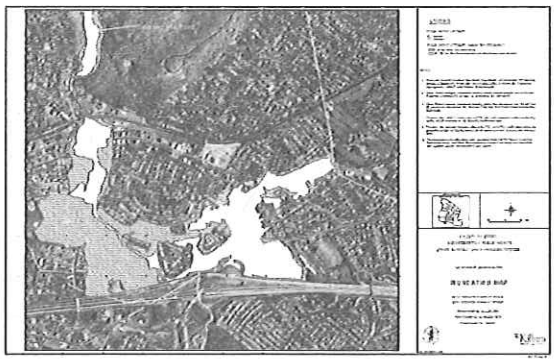
Geographic Information Systems

Over the last decade, HMM has responded to its clients' growing needs for Geographical Information System (GIS) through investments in software, hardware and employee training. The ability of GIS to integrate central databases with mapping that can be shared throughout an organization is making this information technology a standard for government agencies, utilities and private companies. HMM provides a full range of GIS services in the areas of: water/wastewater utility, stormwater utility, municipal government, hydrology and hydraulics, and natural resources.



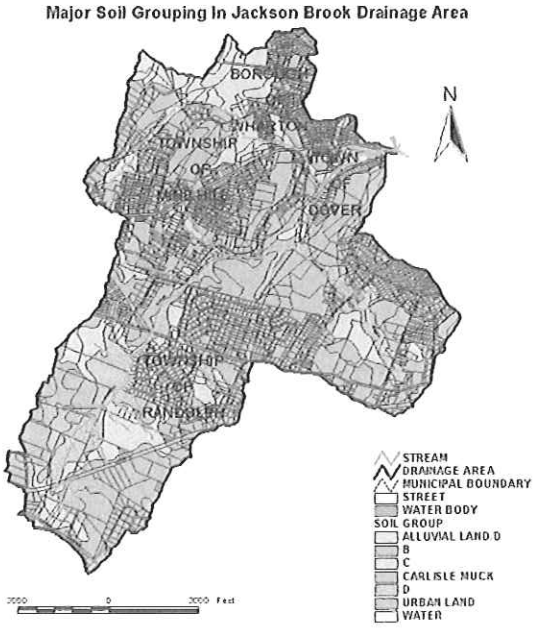
Software Applications

- ARC/INFO©
- ArcView©
- ArcCAD
- ArcFM
- AutoCAD/AutoCAD Map
- Microstation



Software Capabilities

- Infrastructure Modeling
- Document Management
- Hydrologic/Hydraulic Modeling
- Groundwater Modeling
- Coordinate Geometry (COGO)
- Geographical Positioning Systems (GPS)
- Digital Elevation/Terrain Modeling
- Integration of Third Party Modeling Software
- Internet/Intranet

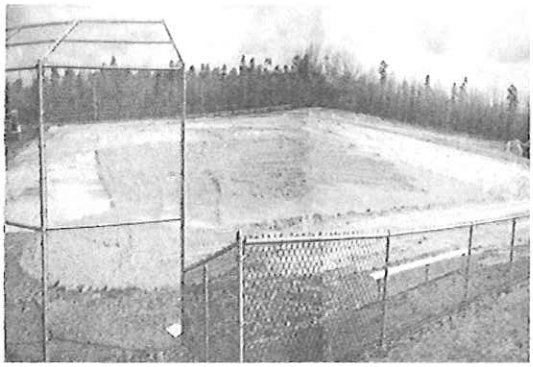


Hardware Resources

- Hewlett-Packard 1055 & 755 Design Jet Plotters
- Dell Precision Workstation (750 MHz Processors with 256K RAM)
- Network through a 6300 Dell PowerEdge Server
- RAID-5 Array for Data Storage
- XEROX 8830 Scanners & Printers

Construction Engineering Services

HMM's established reputation in providing construction observation and project management services is based upon the firm's experienced professionals' technical expertise and knowledge of the construction field. Interaction with the firm's various design teams is undertaken so that the latest technologies will be implemented with the highest efficiency. State-of-the-art laser and computerized surveying equipment and techniques are employed for data gathering, processing, reporting and construction control.

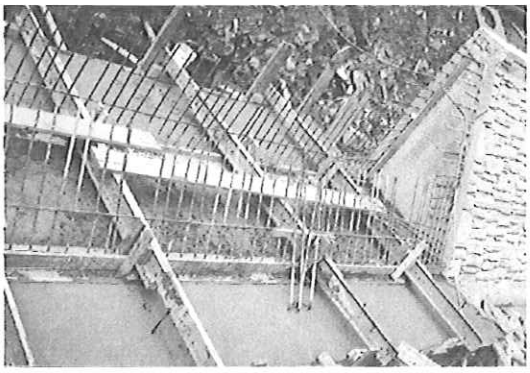


Facilities

- Wastewater & Water Treatment Facilities
- Mining Facilities
- Biosolids Removal Facilities
- Pumping Stations
- Dams & Dikes
- Materials Recycling Facilities
- Solid Waste Transfer Stations
- Vehicle Maintenance Facilities
- Parking Garages
- Storage Facilities
- Airport Hangars & Terminals
- Office & Administration Buildings
- CSO & SSO Rehabilitation
- Sanitary Sewers & Water Mains
- Recreational Facilities

Project Management

- CPM Scheduling Review
- Cost Controls
- Shop Drawing Review
- Payment Requests Processing
- Change Order Management
- Record Plan Preparation
- Claims Avoidance/Dispute Resolution
- Progress Meetings
- Information Management

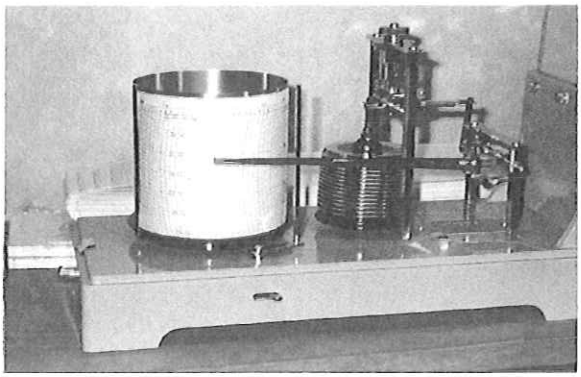


Resident Engineering

- Construction Surveys
- Construction Observation
- Concrete Testing & Inspection
- Safety Monitoring

Hydrogeological Services

HMM's hydrogeological specialists are employed on a wide range of projects, from small urban properties to entire watersheds. The majority of our staff holds advanced degrees and are registered professionals. They evaluate and develop groundwater resources; delineate contamination and predict impacts on human and ecological receptors; provide the technical basis for the design of subsurface wastewater disposal, construction dewatering and aquifer remediation systems; generate hydrogeologic models, frame computer simulations and perform statistical analyses for risk assessments and resource prospecting; provide full technical assistance in permitting in all these areas; provide peer review for the work of outside hydrogeologists; advise legal counsel and provide expert testimony.



Groundwater Resources

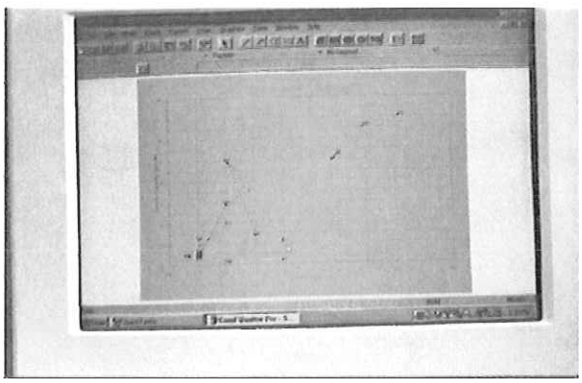
- Resource Evaluations
- Water Allocation Permits
- Well-Head Protection Area Delineation
- Diversion Impact Assessments

Dewatering

- Dewatering System Design
- Temporary Water Allocation Permits
- Dewatering Permits-by-Rule

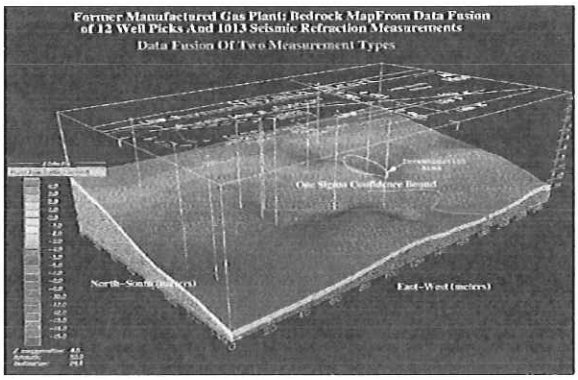
Discharge to Groundwater

- Hydraulic Mounding Analysis
- Discharge to Groundwater Permits
- Dilution Modeling



Remedial Design

- Plume Control
- Treated Wastewater Disposal System Design
- Contaminant Fate & Transport Modeling
- Technical Support for Natural Remediation
- Aquifer Reclassification
- Ground Water Chemistry
- Expert Testimony
- Peer Review



Landfill Investigations

- Leachate Generation & Control Modeling
- Landfill Gas Venting System Design
- Aquifer Impact Assessments

Aquifer Investigations

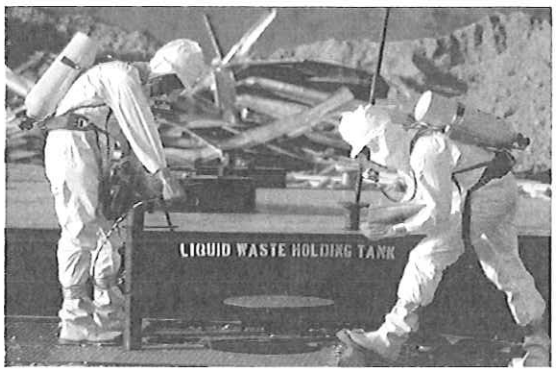
- Pumping Test Design & Analysis
- Aquifer Modeling
- Simulation of Groundwater Flow
- Aquifer/Surface Water Interaction Analyses

Environmental Compliance Services

Effective management of ongoing environmental compliance issues is often difficult, especially as many companies continue to cutback on non-production personnel. As a result, many EH&S managers find themselves overloaded with multiple tasks. HMM can be a valuable resource that EH&S managers can use to more effectively and efficiently manage their company's environmental obligations, stay up-to-date with current state and federal regulatory trends, identify areas where cost-effective waste reduction measures can be implemented, and receive an objective third-party review of the company's environmental compliance level and/or liabilities. HMM can add value to the company's bottom line and help the management team to refocus resources on product quality and customer service, while staying abreast of regulatory changes and compliance issues.

Periodic Reporting

- Annual SARA Reports (312/313)
- Annual Air Emission Reports
- Monthly DMR Sampling / Reports
- POTW Pretreatment Sampling / Reports
- Hazardous Waste Biennial Reports
- Residual Waste Biennial Reports
- Chemical Analysis of Wastes
- Source Reduction Strategies
- Storage Tank Registrations / Inspections



Contingency Planning

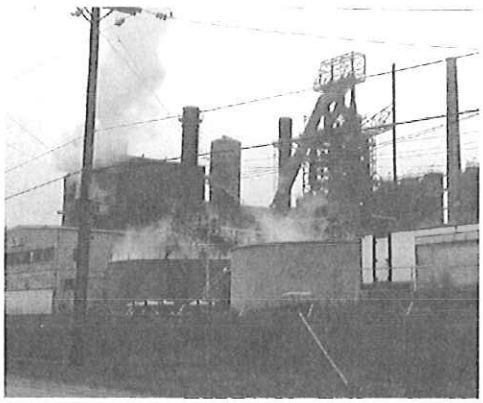
- Environmental Compliance Audits
- SPCC Plan Preparation / Recertification
- PPC Plan Preparation / Recertification
- Environmental Emergency Response Plans
- Storm Water Pollution Prevention Plans
- Hazard Communication Plans
- Risk Management Plans
- Training

Wastewater Management

- NPDES Part I/ Part II Permit Applications
- POTW Permit Applications
- Storm Water Runoff Permit Applications
- Treatment Plant Troubleshooting
- Toxicity Reduction Evaluations

Air Quality

- RFD Applications
- Plan Approval Applications
- Title V Permit Applications
- PSD / Permit Modifications
- System Testing / Balancing



Ecological Services

Hatch Mott MacDonald provides a wide range of scientific and environmental expertise needed to successfully address complex environmental problems and to design practical, cost-effective solutions. HMM is committed to assisting its clients by guiding projects through both the regulatory process and the construction phase utilizing cost effective design and engineering while protecting and enhancing the environment. We have provided ecological services to many types of clients including public and private utilities, state and municipal authorities and agencies, commercial site developers, energy companies, residential and other private property owners, municipalities and institutions. Our scientists and field technicians have the necessary technical expertise required to design and execute ecologically-focused surveys and studies and the capability to set a strategic course of action for projects to be successfully licensed and permitted at all regulatory levels.

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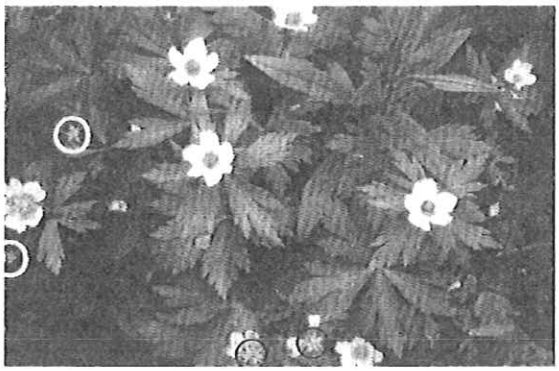


Regulatory Compliance

- Agency Consultation and Coordination
- Ecological Resources Policy Development
- Environmental Audits
- Environmental Compliance Inspection
- Environmental Impact Statements and Assessments
- Environmental Monitoring
- Environmental Risk Assessment
- Expert Testimony and Litigation Support
- Federal, State and Local Permitting

Environmental Technology

- Bioengineering
- Bioremediation and Phytoremediation
- Engineered Wetlands for Water Treatment
- Ecological Restoration

Ecological Resource Surveys/Studies

- Biota and Ecosystem Baseline Surveys
- Ecological Resource Management
- Ecological Risk Assessment
- Habitat Evaluation and Assessment
- Rare, Threatened and Endangered Species Assessment
- Soils, Sediments and Water Quality Investigations
- Wetland Delineation and Assessment
- Wetland Mitigation, Replication and Monitoring

Other Related Services

- Erosion and Sedimentation Control Plans
- GPS Survey
- GIS Applications
- Stormwater Management Plans
- Vegetation Management Plans
- Landscape Planting Plans

Environmental Site Assessment and Remediation

For nearly two decades, HMM has performed Phase I/Phase II environmental site assessments at hundreds of sites. They have consulted with multi-national and local buyers of property, assisting them with their due diligence efforts prior to acquisition of new companies or properties. On properties where contamination is present in excess of acceptable levels, HMM has designed and implemented remediation measures. Such remediation projects have been completed under a variety of environmental programs, including CERCLA (Superfund), RCRA Corrective Action, ISRA, Pennsylvania Act 2 and other state Brownfield programs. Projects have been completed on numerous sites that have soil and/or groundwater contaminated with chlorinated solvents, petroleum from leaking storage tanks, heavy metals, PCBs, and other organic compounds. Our design engineers are specialists in groundwater collection and treatment, waste removal and facility closure design, and our field staff is fully equipped and instrumented, and appropriately trained and medically monitored.

Environmental Site Assessments

- Phase I Site Assessments (ASTM)
- Transaction Screening Assessments
- Phase II Site Investigations
- Geophysical Surveys
- Monitoring Well Installations/Borings
- Soil, Air & Water Sampling
- Waste Sampling & Characterization
- Groundwater Flow Modeling
- Contaminant Transport Modeling
- QA/QC Plans

Remedial Design

- Feasibility Studies / Alternatives Analysis
- Physical/Chemical Treatment
- Biological Treatment
- Thermal Treatment
- Recovery Well Designs
- Soil Vapor Extraction
- Air Sparging
- Hydraulic Containment
- Closure Plans
- Pilot & Demonstration Programs
- Cost Estimating
- Risk Based Corrective Action
- Natural Remediation Compliance Plans
- Permitting

Site Remediation

- Contract Administration
- Construction Oversight Services
- System Operations & Maintenance
- Closure Reporting
- Post-Remediation Monitoring
- Expert Testimony

Water Supply Management

HMM has demonstrated a unique combination of talent and experience in meeting hydraulic and water supply engineering challenges for over 60 years. The firm has demonstrated particular strength and developed broad experience in water system planning, hydraulic analysis, design, rehabilitation and implementation. We can provide a full range of water supply management services including hydraulic analyses, planning and feasibility studies, preliminary and final designs, preparation of contract drawings and specifications, construction cost estimates, time schedule outlines, bid analyses, complete resident engineering services during project construction and development of operation and maintenance manuals, as well as start-up assistance and operator training.

Planning

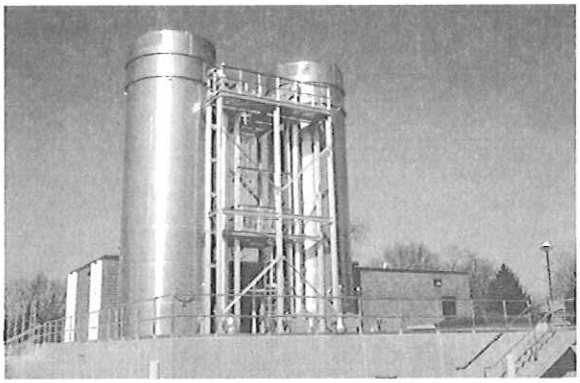
- Master Planning for Water Supply & Treatment
- Resource Management
- Resource Inventories
- Grant & Loan Application Assistance

Construction Services

- Field Services
- Liaison Representation
- Construction Management
- Contract Administration

Investigative Studies

- Hydraulic Analysis
- System Pressure & Fire Flow Analysis
- Water Quality Treatability
- Rate Studies
- Feasibility Studies
- Valuations
- Expert Testimony



Design

- Water Supply
- Water Treatment
- Air Stripping
- Pumping Stations
- Transmission & Distribution Pipelines
- Storage Facilities
- Rehabilitation
- Treatment Plant Optimization & Management

[CCQQ – Attachment "B"]

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

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
Macarthur Subsidence Phase 2 Design	**01/21/13**	**16-1006700**

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
Hatch Mott MacDonald LLC	**27 Bleeker Street** **Milburn, NJ 07041**	**Hatch Associates Consultants, Inc. (Est. 1955)** **Mott MacDonald Group (Est. 1902)**

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
973-379-3400	**1972**	Individual **Corporation** Partnership Joint-Venture	YES **NO**

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

2601 Cranberry Square, Morgantown, WV 26508, 304-212-4390, Timothy M. Rice, Area Manager/ Morgantown - 25

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS
Richard L. Steinhart, PE, Senior Vice President	**Timothy M. Rice, Morgantown Office Area Manager (304)212-4390**

9. PERSONNEL BY DISCIPLINE

— 26ADMINISTRATIVE	— 4ECOLOGISTS	— 7LANDSCAPE ARCHITECTS	— 65STRUCTURAL ENGINEERS
— 14ARCHITECTS	— 0ECONOMISTS	— 23MECHANICAL ENGINEERS	— 100SURVEYORS
— 3BIOLOGIST	— 35ELECTRICAL ENGINEERS	— 2MINING ENGINEERS	— 0TRAFFIC ENGINEERS
— 273CADD OPERATORS	— 17ENVIRONMENTALISTS	— 0PHOTOGRAMMETRISTS	— 0OTHER
— 8CHEMICAL ENGINEERS	— 26ESTIMATORS	— 5PLANNERS: URBAN/REGIONAL	
— 216CIVIL ENGINEERS	— 30GEOLOGISTS	— 24SANITARY ENGINEERS	
— 142CONSTRUCTION INSPECTORS	— 0HISTORIANS	— 0SOILS ENGINEERS	
— 31DESIGNERS	— 1HYDROLOGISTS	— 0SPECIFICATION WRITERS	— 828TOTAL PERSONNELL
— 0DRAFTSMEN			

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.**

Rich Steinhart is a WV-PE and is the "Engineer in Charge" for the Morgantown office. James Fetty and Bill Buckel are also a WV-PE in the Morgantown office. Gary Facemyer is a WV Registered Professional Engineer and is the Charleston, WV office manager.

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO **N/A**

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

NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
Blue Mountain Aerial Mapping 11023 Mason Dixon Highway Burton, WV 26562	Aerial mapping	X Yes ____ No
NAME AND ADDRESS: Triad Engineering 4980 Teays Valley Road St. Albans, WV 25177	SPECIALTY: Geotechnical Drilling/Surveying	WORKED WITH BEFORE X Yes ____ No
NAME AND ADDRESS: Highland Engineering 1426 Memorial Drive Oakland, MD 21550	SPECIALTY: Surveying	WORKED WITH BEFORE X Yes ____ No
NAME AND ADDRESS Pennsylvania Drilling Company 281 Route 30 Imperial, PA 15126	SPECIALTY: Geotechnical Drilling	WORKED WITH BEFORE X Yes ____ No
NAME AND ADDRESS: Test Boring Services, Inc. 142 Mong Road Scenery Hill, PA 15360	SPECIALTY: Geotechnical Drilling	WORKED WITH BEFORE X Yes ____ No
NAME AND ADDRESS: Sturm Environmental Services P.O. Box 650 Bridgeport, WV 26330-0650	SPECIALTY: Laboratory Analysis	WORKED WITH BEFORE X Yes ____ No
NAME AND ADDRESS: Industrial Lab Analysis, Inc. 65 – 36th Street Wheeling, WV 26003	SPECIALTY: Laboratory Analysis	WORKED WITH BEFORE X 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: Several members of the WV office have a combined 100 years of AML design experience. They also have completed over 300 AML design projects.

NO

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: Our experienced staff routinely provides expertise to our mining and municipal projects. We have and continue to provide revegetation and reforestation (ARRI) design on AML, permitting, and municipal projects in West Virginia and surrounding states. HMM also has multiple staff with strong wetland delineation backgrounds and skills.

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: Our current projects include the study of hundreds of streams and drainage structures over a 1,400 square mile area in southwestern PA and north central WV. This work includes sampling, flow monitoring, modeling, mitigation, remediation, hydrologic and hydraulic analyses, and mapping

NO

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

YES Description and Number of Projects: _____

NO- We subcontract the aerial photography; however, in-house we provide GPS, surveying and development of the mapping as needed.

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

YES Description and Number of Projects: We have completed numerous waterline design projects and our in-house staff has more than 50 years of combined experience with aquifer degradation. James Fetty, PE, located in our Morgantown office, has over 20 years of waterline design and project management experience. Jim served as the Fairmont City Engineer for over 20 years. Gary Facemyer, Charleston Office Manager, has over 30 years of waterline design and management experience

NO

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

YES Description and Number of Projects: Our staff has personnel experience of over 50 AML projects related to AMD Design and Evaluation. Our staff has performed watershed analysis, doser design, passive system design, and chemical treatment facility planning.

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 EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Rice, Timothy M. **Project Engineer/ Project Director**	24	33	28

Brief Explanation of Responsibilities

Mr. Rice presently serves as Area Manager for the Hatch Mott MacDonald Morgantown, WV office.

Mr. Rice is experienced in project management, coordination and supervision for permitting, design, drafting, surveying and drilling projects. His expertise is in reclamation design; mining permits; design of acid mine drainage abatement plans; water resources studies; pre/post mining surveys; hydraulic and hydrological analysis; pre-blast surveys; slope stability analysis; geotechnical design; Phase I environmental audits; storm water management analysis and design; civil site designs; and commercial and residential inspections.

Mr. Rice has also received Levels I – IV of Natural Stream Channel Design Certification. He coordinated mitigation, remediation, and restoration projects for several clients in close proximity to the Morgantown office.

EDUCATION (Degree, Year, Specialization)

B.S., 1982 Civil Engineering
Level I, II, III, and IV Natural Stream Design, 2004

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	EIT, West Virginia

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		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Law, Jeffrey L. **Project Engineer/Project Manager**	20	28	22

Brief Explanation of Responsibilities

Mr. Law is a Project Engineer/Manager for Hatch Mott MacDonald. His experience includes design of AML reclamation plans, permit for 1,000-acre deep mine, barge loading facility, highway entrance permits, mine subsidence evaluations, impoundments, hydrology studies for refuse sites and public water supplies, and has designed storm water management plans for residential and commercial projects. His expertise is in mine subsidence remediation and design; mine facility layout and design; reclamation design; mining permits; design of acid mine drainage abatement plans; pre/post mining surveys; hydraulic and hydrological analysis; pre-blast surveys; slope stability analysis; geotechnical design; storm water management analysis and design; civil site designs; and commercial and residential inspections. Mr. Law has also conducted floodplain evaluations and construction inspection of commercial properties. Mr. Law has experience in project management, coordination and supervision for construction and design of various mining related projects.

EDUCATION (Degree, Year, Specialization)

B.S., 1983 Mining Engineering
A.A., 1980 Mining Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete da' ›ut keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Fetty, James W. **Project Engineer**	3	23	22

Brief Explanation of Responsibilities

Mr. Fetty's background is in the Municipal Engineering field. He was the City Engineer for the City of Fairmont, West Virginia for 21 years. He has been a Project Manager for numerous water distribution, storm sewer and sanitary sewer system projects. He has experience in the design, preparation of plans and specifications and construction monitoring for water distribution, storm drainage and sanitary sewer collection system projects. Mr. Fetty is also an experienced Project Manager for multiple AML projects including Heather Run #4, Whispering Woods and Rupert to Rainelle recently.

EDUCATION (Degree, Year, Specialization)

B.S., 1982 Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
National Society of Civil Engineers Water Environment Federation	PE, West Virginia & Pennsylvania

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		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Rogers, Richard M. **Project Engineer/ Project Manager**	8	12	0

Brief Explanation of Responsibilities

Mr. Rogers has experience in project management, coordination and supervision for construction and design of various mining and geotechnical related projects, including several AML projects. His experience includes management of one hundred plus geotechnical projects, including transportation, commercial development, public schools and a variety of public and private clients. His responsibilities have included schedule and cost control and overall submittal quality. He has managed field drilling activities, field classification of soil, rock, field and laboratory safety procedures, a laboratory testing program and geotechnical evaluations. Engineering evaluations include foundation recommendations, settlement analysis, slope stability analysis, earth pressure coefficients and report preparation. In addition, Mr. Rogers has served as Project Manager for several construction testing projects.

EDUCATION (Degree, Year, Specialization)

B.S., 1998, Chemical Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	EIT, West Virginia

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		
Buckel, William D. **Project Manager**	YEARS OF AML DESIGN EXPERIENCE: **1**	YEARS OF AML RELATED DESIGN EXPERIENCE: **11**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **2**

Brief Explanation of Responsibilities

Mr. Buckel is a Project Manager at Hatch Mott MacDonald (HMM). Mr. Buckel's work experience has been primarily in the land surveying and civil engineering design areas. He has considerable experience in property, engineering and construction surveying, heavy construction administration, project engineering, inspection and supervision. He also has some sewer, water and surface mining design experience; AML project lay-out, supervision and execution, including start-up, post audit and compliance assurance. He has also done various permitting and project designs for many construction, coal mining and energy clients. Mr. Buckel has been the owner of his own consulting firm for over 23 years and has also worked for different construction companies, an electric utility, mining companies and design firms as well, on projects of various sizes and types.

EDUCATION (Degree, Year, Specialization)

BS Civil Engineering, University of Maryland 1980, Geotechnical

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
ASCE, Past Chairman and state representative of the Western Chapter of the Maryland Society of Surveyors, West Virginia Association of Land Surveyors	PE, 1983, MD, PA, WV LS, 1982, MD, 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.)	YEARS OF EXPERIENCE		
Yurchick, Charles W. **Project Geologist**	YEARS OF AML DESIGN EXPERIENCE: **7**	YEARS OF AML RELATED DESIGN EXPERIENCE: **32**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **0**

Brief Explanation of Responsibilities

Mr. Yurchick is experienced in project management, coordination and supervision of coal exploration projects, coal and non-coal surface and deep mine permitting activities, hydrologic studies pertaining to surface and under-ground mine activities, geologic and geo-technical drilling projects, natural and man-made slope failure and mine subsidence investigations, site development geo-technical evaluations, deep mining in-seam geologic disruption evaluations, bore hole grouting, under-ground mine grouting plans and drilling, management of field operations for exploration and geo-technical projects and property damage evaluations due to geologic hazards.

EDUCATION (Degree, Year, Specialization)

BS, Geo Sciences, The Pennsylvania State University, 1973

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society for Mining, Metallurgy and Exploration, SME of the AIME, Founding Registered Member of the Society for Mining, Metallurgy and Exploration, American Institute of Professional Geologists	Professional Geologist, 1995, PA Certified Professional Geologist- AIPG, CPG-5117

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		
Facemyer, Gary D. **Professional Engineer** **Professional Surveyor**	YEARS OF AML DESIGN EXPERIENCE: **20**	YEARS OF AML RELATED DESIGN EXPERIENCE: **32**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **32**

Brief Explanation of Responsibilities

Mr. Facemyer has been responsible for planning, design, permitting, construction management and construction of numerous abandoned mine land reclamation projects over a 20 year period. Projects included mine portal closures, high wall reduction or elimination, refuse piles, burning refuse, burning seams, landslides, stream restoration, drainage correction, acid mine drainage, water feasibility studies and water system designs.

This work also included Special Reclamation (bond forfeiture) assessment, water testing, and AMD treatment.

EDUCATION (Degree, Year, Specialization)

B. S. Civil Engineering WV Institute of Technology 1975

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers – Past President WV American Council of Engineering Companies – WV WV Society of Professional Surveyors	Professional Engineer, WV OH PA MD VA KY Professional Surveyor, 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.)	YEARS OF EXPERIENCE		
Moore, Brian K. **Project Engineer**	YEARS OF AML DESIGN EXPERIENCE: **2**	YEARS OF AML RELATED DESIGN EXPERIENCE: **8**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **8**

Brief Explanation of Responsibilities

Mr. Moore has served as a Project Engineer and Task Manager for various water and wastewater conveyance projects. He has an extensive background in the development and quality control of hydrologic and hydraulic dynamic computer models using various computer programs. He has also generated base maps and plan-profile sheets for various infrastructure projects using automated computer methodologies. Mr. Moore also has site design experience including drainage and parking facilities for several different facilities.

EDUCATION (Degree, Year, Specialization)

B.S., Civil/Environmental Engineering, 1998, Pennsylvania State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer, 2003, Ohio

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Roderick, Clayton K. **Geologist**	YEARS OF AML DESIGN EXPERIENCE: 3	YEARS OF AML RELATED DESIGN EXPERIENCE: **11**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **0**

Brief Explanation of Responsibilities

Mr. Roderick is experienced in coordination and supervision of coal exploration projects, coal and non-coal surface and deep mine permitting activities, hydrologic studies pertaining to surface and under-ground mine activities, geologic and geo-technical drilling projects, management of field operations for exploration and geo-technical projects and property damage evaluations due to geologic hazards.

EDUCATION (Degree, Year, Specialization)

Earth Sciences, 1997, California University of Pennsylvania

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 EXPERIENCE		
Green, John L. **Surveyor**	YEARS OF AML DESIGN EXPERIENCE: 2	YEARS OF AML RELATED DESIGN EXPERIENCE: **32**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **0**

Brief Explanation of Responsibilities

Mr. Green is a Registered Professional Surveyor with over 30 years of experience in the engineering industry in surveying or survey related capacities and as an engineering design technician. He is expertly qualified in most conventional types of surveying with some experience in newer non-conventional types such as GPS surveying. He is also expertly qualified in the right-of-way plan process.

EDUCATION (Degree, Year, Specialization)

Civil Engineering Technology, 1976

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Congress on Surveying & Mapping West Virginia Society of Professional Surveyors National Society of Professional Surveyors CGIS/LIS Association	Professional Surveyor, 1991, WV - 901

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Reese, Jason S. **CADD Designer**	YEARS OF AML DESIGN EXPERIENCE: **8**	YEARS OF AML RELATED DESIGN EXPERIENCE: **12**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **5**

Brief Explanation of Responsibilities

Mr. Reese serves as CADD Designer at Hatch Mott MacDonald. His past experience includes AML design projects for the State of West Virginia. He is also knowledgeable with various forms of mine permitting in West Virginia and Pennsylvania. Mr. Reese is familiar with basic surveying techniques, storm water design, hydraulic and hydrologic computations, erosion and sediment control plans, and 3D Modeling using ACADD.

EDUCATION (Degree, Year, Specialization)

CADD, 1998, Monongalia County Vocational Center

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 EXPERIENCE		
Yanero, David L. **Designer**	YEARS OF AML DESIGN EXPERIENCE: **9**	YEARS OF AML RELATED DESIGN EXPERIENCE: **37**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **3**

Brief Explanation of Responsibilities

Mr. Yanero serves as Designer at Hatch Mott MacDonald. His past experience includes AML design projects for the states of West Virginia, Maryland and Ohio, as well as all aspects of mine permits applications and design for West Virginia. He is also knowledgeable with storm water applications and design related to commercial and residential development, subsidence investigation and pre-blast surveys. Mr. Yanero is also familiar with design, operation and maintenance of AMD facilities, West Virginia Division of Highways entrance permits, Department of Health and Human services permits for sanitation and waterline feasibility studies. Mr. Yanero's expertise is in surveying and AutoCAD 3D.

EDUCATION (Degree, Year, Specialization)

AS, 1974, Engineering Technology

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 EXPERIENCE		
Chambers, Ricardo A. **Engineer**	YEARS OF AML DESIGN EXPERIENCE: **1**	YEARS OF AML RELATED DESIGN EXPERIENCE: **3**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **0**

Brief Explanation of Responsibilities

Mr. Chambers joined Hatch Mott MacDonald in July of 2006 and is now working as an Engineer in the Morgantown office. His experience includes extensive fieldwork in environmental projects, data analysis and report compliances, groundwater monitoring, and hydrologic flow studies. He is proficient in operating numerous pieces of equipment including, but not limited to: a Trimble GeoXT GPS, a Marsh-McBirney Model T2000 Flow Meter and various other groundwater and surface water sampling instrumentation.

EDUCATION (Degree, Year, Specialization)

MS, 2006, Environmental Engineering
BS, 2004, Civil Engineering
AS, 1999, Mathematical Science

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers	EIT, West Virginia

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		
Cline, Jeremiah C. **Engineer**	YEARS OF AML DESIGN EXPERIENCE: **2**	YEARS OF AML RELATED DESIGN EXPERIENCE: **4**	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: **0**

Brief Explanation of Responsibilities

Mr. Cline is experienced in ASTM Standard materials testing, construction and environmental inspection services, monitoring the many different physical parameters of streams, and GPS surveying. He is capable of making keen observations with respect to the effects of longwall mining to surface features above ground. At this time he is creating estimates for several large scale stream monitoring projects. Mr. Cline is also managing equipment and people in a dynamic schedule that he created to track all monitoring tasks for each of nearly 30 persons at 5 deep mine sites, on a daily basis. He has had several classes in natural stream design and stream restoration that includes Rosgen Level One – Fluvial Geomorphology for Engineers and other classes hosted by Canaan Valley Institute.

EDUCATION (Degree, Year, Specialization)

BS, 2003, Civil Engineering
Rosgen Level 1 – Fluvial Geomorphology for Engineers
Rosgen Level 2 – River Morphology and Applications
Rosgen Level 3 – River Assessment and Monitoring

Natural Stream Design Construction Management Workshop
Introduction to Stream Surveying
10-Hour OSHA Training Course in Construction Safety & Health

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
ASCE – WV Northern Branch (President)	EIT, West Virginia

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

FIELD EQUIPMENT

Sampling Equipment (water/solid)
Ponar Dredge (solids underwater)
Automatic Water Samplers
Hand Augers (soil)
EnCoreTM Samplers
Disposable Field Filters, 0.45 micron
Bailers (disposable Polyethylene, PVC, Teflon)
Groundwater Pumps

Safety Equipment
O2, LEL, H2S, CO Meter
Hazmat Kit/Draeger Tubes
Tripod Confined Space Entry System
Personal Protective Equipment (PPE)

General Equipment
Air Compressor (electric powered, 110V)
Digital Camera
Electric 110V-220V Generator (gas powered)
Jar Test Apparatus
Settling Column
Field Kits (HACH)
Metering Pumps (0-500 ml/min)

Measuring Instruments
Marsh McBirney T2000 Flow Meter (open channel)
Fluorometer (water flow open channel)
Polysonics Flow Meter (closed pipe)
Water Level Recorder
Water Level Indicator (wells, tanks)
Interface Layer Probe (wells, tanks)
Recording Rain Gauge
pH/Conductivity/Temp Meter
pH/Temp Meter
ORP Meter
Specific Conductivity/Temp Meter
Photoionization Detector

Surveying Equipment
Portable Rangefinder
Brunton Compass
Total Station with Data Collector
GPS Submeter Unit
GPS RTK (Portable Base + Rover)
GPS RTK (Complete Unit)

General Office
Microsoft Word
Microsoft Excel
Microsoft PowerPoint
Microsoft Project
Microsoft Outlook
Adobe CS2 Suite

Design and Modeling
AutoCAD 2007
AutoDesk Land Desktop 2007 (civil/site)
Autodesk Civil 3D 2007 (civil/site)
MicroStation V8 2004
FlowMaster 2005 (flow design)
InfoWorks CS (hydraulic modeling)
XP-SWMM (hydraulic modeling)
InfoSewer (hydraulic analysis)
HEC-RAS (open channel modeling)
PENTOXSD for Windows (effluent limits)
WQM 7.0 (BOD/NH3 wasteload allocation)

GIS and Database
ArcGIS (GIS mapping and database mgmt.)
SQLServer (database management)
Oracle (database management)
Microsoft Access (simple databases)

OFFICE EQUIPMENT
Oce TDS 450 B/W Plotter (high speed, wide format)
Oce TCS 500 Color Plotter (high speed, wide format)
Oce Wide Format Color Scanner

15. CU[illegible]NT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNAT[illegible]ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED DESIGN SERVICES COST	PERCENT COMPLETE
Montana Mines Subsidence Marion County, WV	West Virginia Division of Environmental Protection	Subsidence Stabilization Plan	$79,085	100%
Shinnston (Osbourn) Subsidence Harrison County, WV	West Virginia Division of Environmental Protection	Subsidence Stabilization Plan	$7,898	100%
Fairmont (Pallotta) Subsidence Marion County, WV	West Virginia Division of Environmental Protection	Subsidence Stabilization plan	$10,000	100%
Bethlehem (Toothman) Subsidence Harrison County, WV	West Virginia Division of Environmental Protection	Subsidence stabilization plan	$10,058.00	100%
Hilderbrand Highwall Monongalia County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Mine Closures, Highwall Reduction, Regrade/Revegetation	$37,919.40	95%
Dale R. Trasher Gilmer County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Mine Closures, Highwall Reduction, Regrade/Revegetation	$49,248	100%
Winona Complex Fayette County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Mine Closures, Highwall Reduction, Regrade/Revegetation	$54,743	95%
Wheeling (15th Street) Mine Drainage Ohio County, WV	West Virginia Division of Environmental Protection	Mine Drainage Remediation, Investigation and Design	$29,495	100%
Dotson Tipple Monongalia County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Mine Closures, Highwall Reduction, Regrade/Revegetation	$120,000	100%
Barker Portals & Strip Barbour County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Mine Closures, Highwall Reduction, Regrade/Revegetation	$149,000	100%
Heather Run No. 2 Preston County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Mine Closures, Highwall Reduction, Channel Design	$102,000	100%
Pendleton Creek Strip Tucker County, WV	West Virginia Division of Environmental Protection	Reclamation Design, Natural Stream Channel Design, ARRI Reforestation Plan	$153,000	100%

Rupert to Rainelle Feasibility Study Greenbrier County, WV	West Virginia Division of Environmental Protection	Water feasibility study	$30,960	100%
Whispering Woods Feasibility Study Monongalia County, WV	West Virginia Division of Environmental Protection	Water feasibility study	$22,375	100%
Douglas Avenue (Kingsland Mine Pool) Allegany County, MD	Maryland Department of Environment	Mine Pool Evaluation and Recommendations	$22,602.50	100%
Stream Mitigation/ Restoration Project Southwestern, PA	Confidential Coal Client	Stream Mitigation and Restoration of approximately 50,000 lineal feet of stream affected by longwall mining.	$4,000,000	On-going
Stream Monitoring Southwestern, PA	Confidential Coal Client	Stream monitoring of approximately 25,000 lineal feet of stream affected by longwall mining.	$11,000,000	On-going
TOTAL NUMBER OF PROJECTS:17		TOTAL ESTIMATED COSTS: $15,840,464.50		

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
East Side Access, New York, NY	Program Management. Design review and expert advise on the tunnel design and construction including ventilation systems and other fire/life safety issues. LIRR service into Grand Central Terminal. The new line will utilize the partially completed 63rd Street tunnel and construct approximately 5,000 feet of new tunnel into Grand Central Terminal.	Long Island Rail Road 469 7th Ave., 11th Floor New York, New York 10018	2009	$4,300,000	$17,000
Market Street Elevated Reconstruction Project, Philadelphia, PA	The aerial structure on the west side of SEPTA's Blue Line is being rebuilt where the at-grade track begins. The project spans over two miles and will be accomplished while SEPTA continues to operate service on the line.	Southeastern Pennsylvania Transportation Authority (SEPTA) 1234 Market Street, 11th Floor Philadelphia, Pennsylvania 19107	2008	$200,000 (fee)	$200
Dulles Airport People Mover Tunnels, Virginia/Washington DC	Design of the people mover, baggage and tug tunnel, including mechanical and electrical systems, ventilation systems and fire/life safety for all tunnels on the project. Involves 50,000 ft of tunnels ranging from 18-ft diameter to 40-ft diameter constructed by NATM and TBM, running beneath the airport operating area.	Metropolitan Washington Airports Authority 1 Aviation Circle Washington, D.C. 20001-6000	2007	$900,000	25,800

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)
Stream Mitigation/Restoration Project Southwestern, PA Stream mitigation and restoration of approximately 21,000 lineal feet of stream affected by longwall mining.	Confidential Coal Client	$5,000,000	2007	Yes
Stream Monitoring Southwestern, PA Stream monitoring of approximately 13,000 lineal feet of stream affected by longwall mining.	Confidential Coal Client	$4,600,000	2007	N/A
Pond Restoration and Sealing Project Mannington, WV Restoration and liner installation on pond affected by longwall mining.	Confidential Coal Client	$30,730	2007	Yes
Program Management Services Providing overall program management of the water distribution system including planning, engineering design and engineering design management services, Master Plan and Operations review and update in support of DCWASA's on-going capital improvement program in excess of $500m. Washington DC	District of Columbia Water & Sewer 5000 Overlook Avenue, SW, 5th Floor Washington DC 20032-5397	$9,500,000	2006	N/A
Crow's Nest Wash Plant Hatch Mott MacDonald (HMM) was retained by the client to develop a permit for the re-processing of coal waste products at a site in Westmoreland County, Pennsylvania. The site was part of an abandoned surface mine and coal waste pile.	Donald F. Dargie Palmer Management Group 13 Elm Street, Suite 300 Cohasset, MA 02025	$300,000	2006	Yes
Tampa Bay Seawater Desalination Facility Modifications Serving as the Engineer of Record for the project. Responsible for structural, architectural, electrical, mechanical and site related design and review of process design for the planned modifications. Also providing construction engineering services Appollo Beach, FL	American Water Pridesa, LLC 13041 Wyandotte Road Gobsonton, FL 33534	$24,000,000	2007	Yes
Lost Creek Flood Study Project involved performing a FEMA flood study to revise the floodplain boundaries along Lost Creek. Services included creation of a hydraulic model based on new survey data and completion of all necessary FEMA documentation to support the floodplain revision Lost Creek, WV	Harrison County Planning Commission 301 West Main Street Clarksburg, WV 26301	$60,000 (fee)	2005	No
Harrison County Trail (McWhorter to Clarksburg) Preparation of design plans, specifications, and bid documents for the conversion of an abandoned 14-mile CSX Railroad grade to a hiking/biking trail. Services included stormwater drainage design; trail surface design; wetland delineation; and bridge decking/rehabilitation. Harrison County, WV	Harrison County Planning Commission 301 West Main Street Clarksburg, WV 26301	$655,000	2006	Yes

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)
Storm Drainage & Flood Control Improvements Storm sewers, stream improvements, an earth dike & a pump station and installation of streamflow and rainfall gauging station equipment on the East and West Branches of the Rahway River. Services also included: Field Surveys, Wetlands Assessment, Hydrologic / Hydraulic Investigations, Cost Estimates, Cost Benefit Analysis, Flood Warning System, Flood Preparedness Plan. Essex County, NJ	Millburn Township 375 Millburn Avenue Millburn, NJ 07041	$2,000	On-going	Yes
Norfolk Southern Heartland Corridor Project, Various Locations Inspection and evaluation of clearances, condition, and geotechnical characteristics for 30 railroad tunnels. Laser car measurements, geotechnical borings, liner samples, and visual inspections were used to establish the existing baseline conditions and to evaluate the potential for tunnel modifications to provide additional clearances.	Norfolk Southern James N. Carter 404.529.1408	$180,000,000	2005	N/A
Emergency Services Contract for Route 70 Bridge Over Friendship Creek HMM provided emergency design and construction consultation services for the replacement of a collapsed bridge on NJ Rt. 70 due to scour. Developed diversionary road alignment and profile and foundation design for a 130' temporary Acrow Bridge maintaining all lanes of traffic, which was opened to traffic in five days after the collapse. Ultra fast-tracked the design and developed detailed design sketches in advance of full design drawings for use by contractor and fabricators in accordance with the NJDOT Procedures Manual, NJDOT Roadway & Bridge Manuals and AASHTO Standard Specifications for the permanent replacement structure.	New Jersey DOT 1035 Parkway Avenue Trenton, NJ Brian Strizki 609.530.6363	$3,000,000	2004	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE 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
Columbus Crossover Taxiway, Port Columbus International Airport, Columbus, OH: Preliminary structural design engineering for the taxiway bridge(s) including an investigation of bridge types, structural systems, de-icing systems, costing and development of structural design considerations for final design.	Columbus Airport Authority 4600 International Gateway Columbus, OH 43219	$30.87 M (Construction)	2006	Yes	RWA Associates
Westport Railroad Station, Westport, CT As part of an ADA compliance upgrade, a pedestrian tunnel had to be constructed under four live Metro-North Railroad tracks, which also carry the East Coast Main Line service between Boston and New York. HMM completed a feasibility study and subsequently designed and provided on site supervision for the construction of a 75 ft long jacked tunnel.	Connecticut Department of Transportation 2800 Berlin Turnpike, P.O. Box 317546 Newington, CT 06131-7546	$2.5 M (Construction)	2003	Yes	TAMS Consultants
Easterly Advanced Facilities Plan, Cleveland, OH QA/QC of geotechnical data collection and reporting, feasibility and selection of tunnel and shaft excavation and lining systems. 30% design of tunnel linings and construction cost estimates for all tunnel construction contracts. This project involved 16-mi of CSO tunnels, from 20 to 27-ft in finished diameter and as deep as 200 feet traversing primarily through Chagrin Shale.	Northeast Ohio Regional Sewer District 3826 Euclid Ave. Cleveland, OH 44115-2504	$166,000 Fee	2003	Yes	Haley & Aldrich, Inc.

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.

Hatch Mott MacDonald's talented staff and years of experience in meeting deadlines and delivering a quality product has made us a leader in mining/ mining related field. ENR's April 2009 Top 500 Design Firm List has Hatch Mott MacDonald (HMM) listed as 51, up from 59 in 2008 (and 63 in 2007). Additionally our current staff has over 100 years of AML experience in six different states and gives us the knowledge and understanding of project management and cost control to complete this project on time and within budget. We recently expanded with the opening of our Charleston, WV office to better serve WVDEP-AML and southern West Virginia.

20. The foregoing is a statement of facts.

Date: January 21, 2013

Signature: _____ Title: Area Manager

Printed Name: Timothy M. Rice

[RPEM – Attachment "C"]

Hatch Mott MacDonald

Montana Mines Subsidence

Location
Marion County, WV

Client
West Virginia Department of Environmental Protection

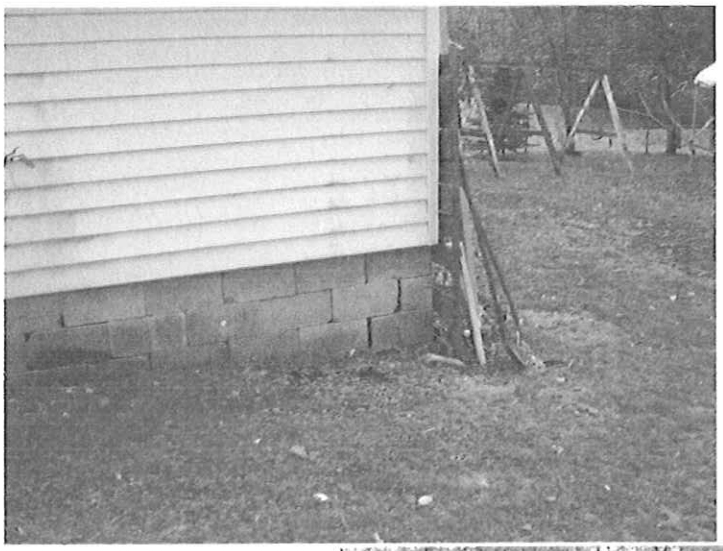
Services
- Surveying
- Geotechnical Investigations
- Mapping
- Grout Stabilization Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the stabilization of an abandoned deep mine in Marion County, WV.

This project included the stabilization of six residential structures and several garages. There were also three sinkhole features that were stabilized using geosynthetics and aggregate. HMM was responsible for geotechnical investigation, additional mapping to augment the provided aerial mapping provided, and the preparation of a stabilization design, bid plans and specifications, engineers estimate, and construction services. The sinkholes were stabilized using encapsulated aggregate plugs.

The work performed under this design included approximately 7800 linear feet of vertical and angled injection borings, placement of 5000cubic yards of grout material, installation of 3 encapsulated aggregate plugs, site restoration, and revegetation. The engineers estimate for this project was $1.1M.



Hatch Mott MacDonald

Shinnston (Osbourne) Subsidence

Location
Harrison County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Stabilization Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the stabilization of an abandoned deep mine in Harrison County, WV.

This project was performed under the WVDEP-Emergency Program and consisted of a single family residence which had experienced subsidence damages. The abandoned Pittsburgh coal workings were located approximately 40 feet beneath the structure. HMM provided the initial site assessment, historical data search, geotechnical investigation, and developed a grout stabilization plan. Design plans, construction specifications, engineers estimate, and a pre-bid meeting were performed. This fast tracked project was delivered to client within two weeks of initial contact and notification of emergency.

HMM's work included all design documents necessary for construction. Work included approximately 650 linear feet of vertical and angled injection borings and the placement of 700 cubic yards of grout. Engineers estimate was in excess of $150,000.00.

Hatch Mott MacDonald

Bethlehem (Toothman) Subsidence

Location
Harrison County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Mine Stabilization Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the stabilization of a shallow, abandoned deep mine in Harrison County, WV.

This project was performed under the WVDEP-Emergency Program and consisted of a single family residence which had experienced subsidence damages. Multiple sinkhole features had appeared in the surrounding lawn area and adjacent properties. The abandoned Pittsburgh coal workings were located approximately 35 feet beneath the structure. HMM provided the initial site assessment, historical data search, geotechnical investigation, and developed a grout stabilization plan. HMM prepared design plans, construction specifications, engineers estimate, and a pre-bid meeting was performed. This fast tracked project was delivered to client within two weeks of initial contact and notification of emergency.

Construction required by this design included in excess of 500 feet of vertical and angled injection borings and the placement of approximately 500 cubic yards of grout. Site restoration and revegetation was also performed. Construction estimate was approximately $75,000.00.

Hatch Mott MacDonald

Fairmont (Pallotta) Subsidence

Location
Marion County, WV

Client
West Virginia Department of Environmental Protection

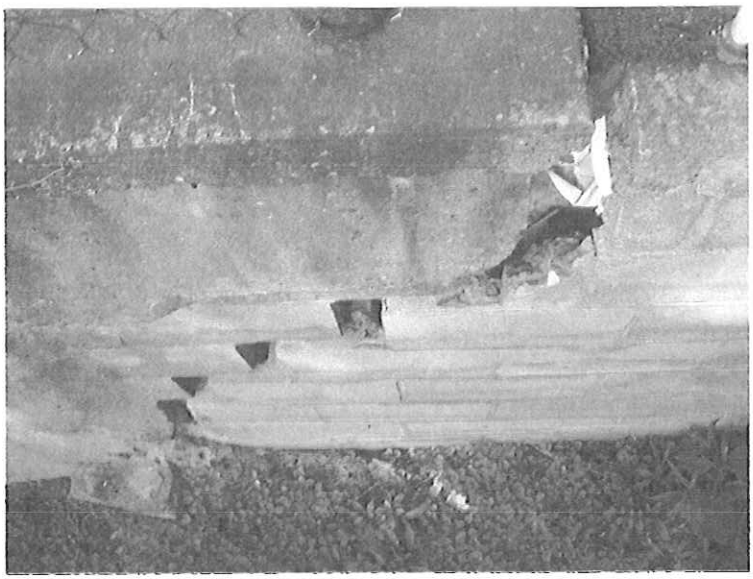
Services
- Surveying
- Geotechnical Investigations
- Mapping
- Grout Stabilization Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the stabilization of an abandoned, deep surface mine in Marion County, WV. This project was performed under the WVDEP- Emergency Program and was completed within two weeks of initial notification.

This project involved the subsidence investigation and stabilization of a multi-unit apartment complex in downtown Fairmont, WV. An abandoned deep mine in the Pittsburgh coal seam was causing damage to the structure and had caused numerous water main leaks in the past. A previous geotechnical study had been performed and the drilling information was used to develop a stabilization plan. HMM was responsible for a site review, mapping, historical records search, development of a stabilization plan, bid plans and specifications, and a pre-bid meeting. Traffic control and pavement protection plans were part of this project.

Construction estimates included in excess of 1,500 linear feet of drilling and the placement of 900 cubic yards of grout. Estimated cost of project was $225,000.00.



Hatch Mott MacDonald

Dale R. Trasher

Location
Gilmer County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Reclamation Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

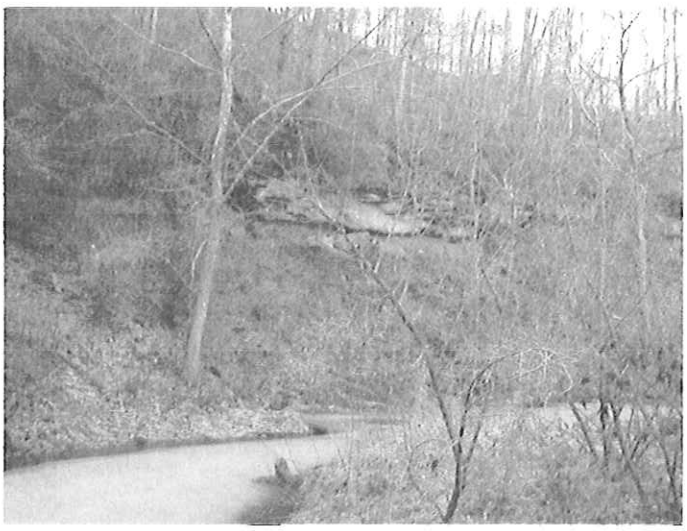
On-going

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the reclamation of an abandoned surface mine in Gilmer County, WV. This area consisted of approximately 2,700 linear feet of highwall ranging in height from 25-30 feet., two collapsed portals with mine drainage, remains of a 12'W x 10'H x 85'L coal load out, 5 mine cars, and miscellaneous trash. The highwall was mostly vertical and unvegetated with large pieces of overhanging rock that are actively slipping from the face. Four mine cars were underwater and the collapsed mine portals were submerged due to beavers building dams on the bench. The portals were the source of mine drainage flowing from the site.

HMM's work included the preparation of design documents that included the regrading of the area to eliminate or reduce the highwall and associated impounded water, reestablishing original contours, and reconnecting drainways that have been interrupted by mining activities. The design also included installing wet mine seals at the two portal locations that will direct the drainage safely off site. The dilapidated, unstable coal load out structure and the abandoned mine cars were razed and properly disposed of. A revegetation plan was established to ensure revegetation of all disturbed areas of the project.

HMM assisted the WVDEP with all necessary permitting requirements, regulatory meetings, the pre-bid meeting, the pre-construction meeting, and quality assurance during construction.



Hatch Mott MacDonald

Winona Complex

Location
Fayette County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Reclamation Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the reclamation of an abandoned surface mine and coal loadout facility in Fayette County, WV. Pre-1977 surface and deep mining activities created an environmental impact along Keeney Creek. Steep refuse slopes were encroaching on the stream and threatening to cause blockage. Outslopes were unvegetated and allowing toxic runoff to occur. Design included stabilizing the streambanks along Keeney Creek, regrading steep outslopes to a stable configuration, designing stable drainage structures to eliminate erosion, and revegetating the impacted area. The loadout area was regraded to provide positive drainage, divert runoff away from potentially toxic areas, and revegetate. Four bat gates were installed in the mine openings along the highwall located above these areas.

HMM's work included all design documents necessary for construction and the project specific Corps of Engineers permits.

Hatch Mott MacDonald

Dotson Tipple

Location
Monongalia County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Reclamation Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

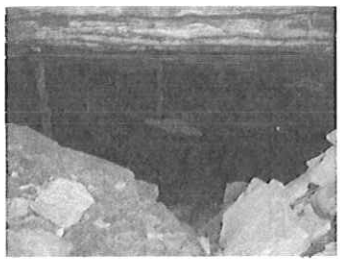
Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the reclamation of an abandoned surface mine in Monongalia County, WV. This abandoned mine land reclamation project consisted of three separate sites.

The first site included two dilapidated, unsafe coal tipple structures and the remains of a coal load out structure that were designed to be demolished and removed from the site. The site also included three sections of abandoned, unsafe highwall, four open mine portals, and approximately five acres of coal refuse material. The site was designed to be regraded such that the highwall areas were eliminated and original contours were reestablished. The mine portals were closed through installation of dry seals, wet seals, and bat gate seals, depending on the conditions of each portal. The refuse was regraded, covered, and amended to promote vegetation.

The second site consisted of approximately 2,500 feet of highwall. The highwall face ranged from vertical with overhanging rocks to sloughed in and vegetated. An existing local high school is located less than 500 feet from the top of the highwall. The site also include seven open mine portals. HMM's design consisted of eliminating the dangerous highwall and reestablishing the original contours. The mine portal locations were sealed using dry, wet, and bat gate mine seals where appropriate.

The third site consisted of the stabilization of a roadway and utility corridor that had been impacted due to the subsidence of the underground mine workings. HMM was responsible for geotechnical investigation, additional mapping to augment the provided aerial mapping, and the preparation of a stabilization design, bid plans and specifications, engineers estimate, and construction services for all three sites.

HMM's work included all design documents necessary for construction and the project specific Corps of Engineers permits. The abandoned mine entries were sealed utilizing dry mine seals, wet mine seals, and bat gates. The area was regraded to eliminate surface irregularities and provide positive drainage. Drainage channels were designed to safely carry surface water as well as mine discharges utilizing limestone drains and channels as a form of alkaline treatment. All disturbed areas will be soil covered and revegetated.



Hatch Mott MacDonald

Barker Portals and Strip

Location
Barbour County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Reclamation Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

On-going

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the reclamation of an abandoned surface mine in Barbour County, WV. Pre-1977 surface and deep mining activities have created an environmental impact on this site that is situated along the Tygart River. Approximately 6,000 lineal feet of highwall ranging in height from 30-45 feet was left un-reclaimed. Four deep mine portals were left unsealed. Scattered coal refuse and mine spoil are contributing to the production of acid mine drainage (AMD) on this site. This AMD is discharging directly into the Tygart River.

HMM's work included all design documents necessary for construction and the project specific Corps of Engineers permits. The abandoned mine entries were sealed utilizing dry mine seals, wet mine seals, and bat gates. Drainage channels were designed to safely carry surface water as well as mine discharges utilizing limestone drains and channels as a form of treatment. A wetland is being designed to intercept and treat some of the AMD being generated on-site. All disturbed areas will be soil covered and revegetated.

Hatch Mott MacDonald

Heather Run #2

Location
Preston County, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Reclamation Plan
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the reclamation of an abandoned surface mine in Preston County, WV. Pre-1977 surface and deep mining activities are creating an environmental impact on the headwaters of Heather Run. Sixteen (16) deep mine entries were left unsealed. Of these entries, only 6 are partially collapsed. Some entries are situated such that surface water drainage is allowed to enter the abandoned mine. Others are discharging acid mine drainage (AMD) at an approximate rate of 200 gpm. This AMD discharge is of poor quality, pH 2.6 and Fe > 10 mg/L. Also, approximately 2,000 linear feet of highwall was left abandoned; coal refuse and spoil was left un-covered, and scattered mine debris was left on the site. This site is generating AMD and discharging directly into Heather Run, a tributary of the Cheat River.

HMM's work included all design documents necessary for construction and the project specific Corps of Engineers permits. The abandoned mine entries were sealed utilizing dry mine seals, wet mine seals, and bat gates. The area was regraded to eliminate surface irregularities and provide positive drainage. Drainage channels were designed to safely carry surface water as well as mine discharges utilizing limestone drains and channels as a form of alkaline treatment. All disturbed areas will be soil covered and revegetated.

Hatch Mott MacDonald

Pendleton Creek Strip

Location
Tucker County, Thomas, WV

Client
West Virginia Department of Environmental Protection

Services
- Surveying
- Geotechnical Investigations
- Mapping
- Reclamation Plan
- Natural Stream Design
- ARRI Reforestation
- Construction Plans and Details
- Construction Specifications
- Engineering Cost Estimate

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to provide engineering design documents for the reclamation of an abandoned surface mine in Tucker County, WV. Pre-law mining activities intercepted Pendleton Creek and has forced the stream flow to be directed into an abandoned deep mine complex that lies under the community of Thomas, WV. The introduction of this flow is causing deterioration of the coal pillars that support the mine roof and is also generating acid mine drainage (AMD) on the waters of the Blackwater River. Portions of the un-reclaimed surface mine are also generating AMD throughout the project site.

Pendleton Creek is a pristine, Tier III stream which flows southward for less than 2 miles before entering Pendleton Lake in Blackwater Falls State Park. Blackwater Falls is one of the most popular of West Virginia's thirty-four state parks, with Pendleton Lake being one of its many attractions. This lake is used for recreation by thousands of visitors each summer, and much of the land between the project's construction limits and the lake is U.S Fish and Wildlife designated wetlands.

HMM's work included all design documents necessary for construction and the project specific Corps of Engineers permits. Portions of the highwall were reclaimed to provide positive drainage of surface waters. Two separate streams were designed utilizing natural stream design techniques and geosynthetic liners to control losses and maintain stability. Regrading was proposed for selected portions of the abandoned surface mine to reduce the impact of AMD. All disturbed areas were revegetated using ARRI reforestation procedures and native species. The Pendleton Creek Strip project has been selected as the "Excellence in Reforestation" regional award winner for 2011. Also, the Pendleton Creek project has been nominated for the Office of Surface Mining National Reclamation Award, to be determined in the fall of 2012

Hatch Mott MacDonald

Crow's Nest Washplant

Location
Westmoreland, PA

Client
Crow's Nest Synfuels, L.P.

Services
- PADEP Permit
- MSHA Permit
- Erosion and Sediment Control Plan
- Mapping
- Surveying
- Surface and Groundwater Monitoring
- Annual Certification
- Reclamation Plan
- Closure Permits
- Construction Monitoring
- Channel Design
- Construction Inspection

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to develop a permit for the re-processing of coal waste products at a site in Westmoreland County, Pennsylvania. The site was part of an abandoned surface mine and coal waste pile.

Work included all design and permitting associated with the initial opening of this facility. HMM was also retained to monitor the operations and perform quarterly certifications. Annual renewals, modifications and compliance was also part of HMM's duties. The project was successfully followed through the reclamation and bond release stages of all state and federal regulatory agencies.

Hatch Mott MacDonald

Hoffman Alberter Mine

Location
Somerset County, PA

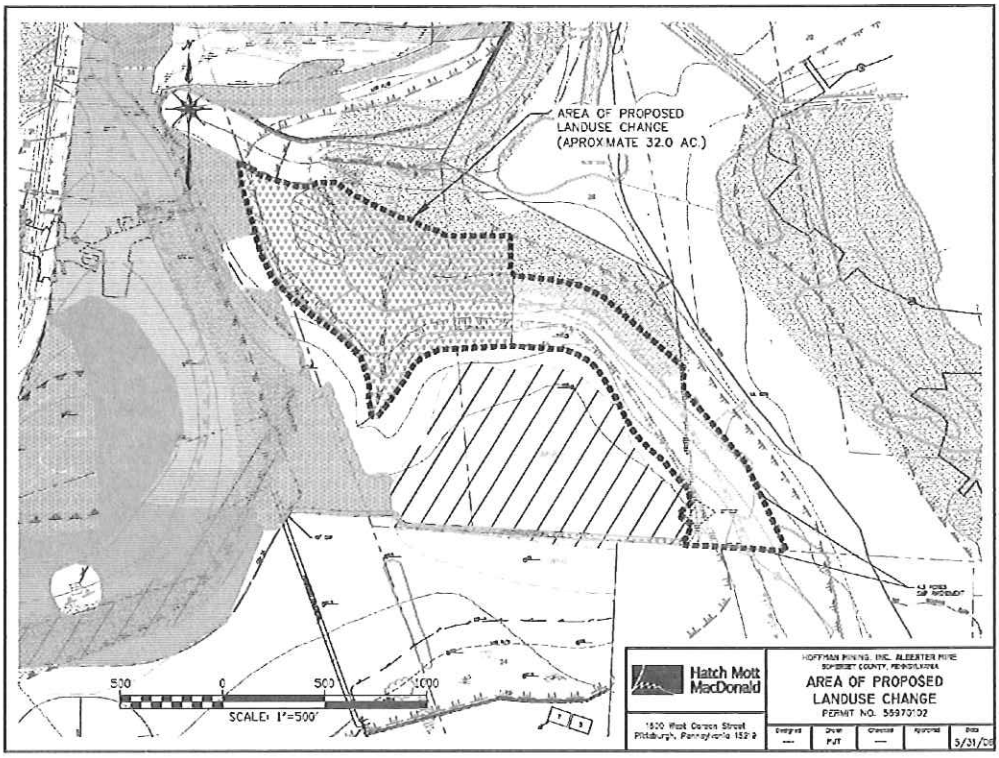
Client
Hoffman Mining Company

Services
- PADEP Permit
- Erosion and Sediment Control Plan
- Mapping
- Surveying
- Surface and Groundwater Monitoring
- Annual Certifications
- Reclamation Plan
- Closure Permits
- Construction Monitoring
- Channel Design
- Construction Inspection
- Bond Release

Project Description

Hatch Mott MacDonald (HMM) was retained by the client to develop a surface mine permit for a site in Somerset County, Pennsylvania. The site included several land use changes.

Work included all design and permitting associated with the initial opening of this surface mine. HMM was also retained to monitor the operations, perform quarterly certifications, annual renewals, modifications, and compliance. The project was successfully followed through the reclamation and bond release stages of all state and federal regulatory agencies.



Hatch Mott MacDonald

North Branch Drainage Study

Location
Bayard, WV

Client
Confidential Mining Client

Project Type
Hydraulic Analysis

Services
Hydraulic Analysis Study

Duration
September 2004 – February 2005

Project Description

The client had an inactive mine site where they were operating a treatment plant to treat acid mine drainage. During large storm events, the steep slopes of the site caused rapid increases in the flow conveyed through the onsite drainage network. These increases in flow resulted in sudden spikes in the flow rates entering the treatment plant. This project was conducted to provide an evaluation of alternatives for reducing the peak flow rates during storm events that would allow the treatment plant to maintain operation within a preferred flow range during.

HMM Role

HMM was tasked with performing a hydraulic and hydrologic study of the site and providing specific alternatives for reducing peak flows at the treatment plant. These alternatives included additional detention basins and the application of real time controls to better utilize storage available within the existing drainage network. HMM also provided supplementary services including collecting the necessary flow monitoring and rainfall data to calibrate the hydraulic model. In addition, HMM provided survey services of the various drainage paths throughout the site that forms the basis of the hydraulic model.

Highlights

- Performed GPS surveying of open drainage channels and various culverts throughout the site
- Collected flow monitoring data using both weirs (open channel) and area-velocity meters (culverts) in an aggressive chemical environment.
- Utilized the calibrated hydraulic model to evaluate various alternatives to reduce peak flows entering the treatment plant in addition to reducing the overall operational costs of the plant.

Hatch Mott MacDonald

Stream Monitoring and Data Collection

Location
Washington and Greene Counties, PA

Client
Confidential Mining Client

Project Type
Market/Discipline area

Services
- Stream Data Collection and Management
- GIS and GPS Data Collection
- Landowner Contacts
- Area Logistics
- Project Scheduling
- Secure Information Exchange
- Integrated Web-based Project

Duration
2003-present

Construction Cost
$4,000,000 annually

Project Description

This confidential coal mining client is among the nation's top energy companies. They mine more high-Btu bituminous coal than any other producer in the United States, and is the nation's leader in underground coal mining. The client has operations located throughout major US coal-producing regions. They are the largest producer of coal bed methane in the US. For 140 years, the client and its predecessor companies have been industry leaders in production, profitability, safety, and environmental stewardship. Hatch Mott MacDonald (HMM) is currently assisting this client in managing, and developing an extensive study of the streams that overlie longwall coal mines. The study involves studying and documenting the streams' flow; geomorphology, hydrology and noting any changes in streams or the surrounding ecosystem. The accurate and consistent, collection of the data is critical to the integrity and quality of the study. The end result is a significant amount of field data that accurately portrays the streams and watersheds of the mining surface areas.

HMM Role

Hatch Mott MacDonald (HMM) is currently assisting the client in managing, and developing an extensive study of the streams that overlie longwall coal mines. The study involves studying and documenting the streams' flow; geomorphology, hydrology and noting any changes in streams or the surrounding ecosystem. The accurate and consistent, collection of the data is critical to the integrity and quality of the study. The end result is a significant amount of field data that accurately portrays the streams and watersheds of the mining surface areas.

Project Highlights

- **Project Development** – The project development was undertaken by client and HMM teams. The data collection and entry as well as data management are critical to the success of the study. Additional areas of development include
  - Stream data collection techniques and equipment evaluation
  - GIS and GPS data collection and organization
  - Landowner contacts and area logistics
  - Project Scheduling and Information Exchange
  - Web based access to data
- **Data Collection** – Work included setting up flow monitoring stations along designated sections of streams within the study areas being long-wall mined. Over 600 different flow-monitoring stations and more than 144 miles per month of stream morphology are uploaded into Trimble Geo XH sub-foot GPS units and traversed every month. These units were then used to navigate to each individual site of study. Once sites were located, stream flow measurements, water samples and digital photos were taken. Any changes along the length of stream in the geologic rock structures, stream channel conditions or stream flow were documented photographed, and filmed and entered into the GPS. The stream flow measurements were taken using a Marsh-McBirney Flo-mate 2000. All flow-monitoring sites are monitored monthly at a minimum and daily on a maximum basis. All field data collected is entered into a large data base where the data can be queried and printed for the clients at any given time for regulatory agencies, historical record, or research for expansion in new permit areas.
- **Landowner Contacts and Logistics** – Managing the landowner contacts, issues, and incidents is essential to the continuity and success of the project. HMM coordinated this activity with the client's land agents and many other consultants being used by the client.
- **Project Scheduling and Information Exchange** – All HMM field teams and other field teams are scheduled using an open web based system developed by HMM called File Share. Mapping, documents and data can be shared and exchanged using the File Share system.
- **Web Based Access to Data** –HMM assisted the Client in developing an extensive web based data access system.

Hatch Mott MacDonald

Stream Mitigation & Remediation

Location
Greene and Washington Counties, PA

Client
Confidential Coal Client

Services
- Augmentation Work Plans
- Grout Injection Work Plans
- Subsurface Investigation Plans
- Stream Surveying
- Flow Monitoring
- Surface and Groundwater Monitoring
- GIS Mapping
- Hydrologic Modeling
- Channel Design
- Report Preparation
- Construction Inspection

Duration
On-going

Project Description

Hatch Mott MacDonald (HMM) was retained by a private coal client to assist in the mitigation and remediation of over 13,000 lineal feet of streams that have been affected by longwall mining.

Work includes surface and groundwater monitoring, hydrologic modeling, and subsurface investigations to determine minimum base flows for development of augmentation plans. Geologic conditions assessments are used to prepare mitigation plans and develop a grout injection design for remediating the loss segments of the affected streams. This grout injection design consists of a shallow, low-pressure injection of portland and bentonite to seal fractures and reduce water loss. Stream surveying of the remediation sites and control streams was used to establish a stable stream geometry that would effectively carry bankfull flows. Trimble GPS units and GIS software were used to develop maps showing the flow advancement downstream as construction progressed.

HMM performs the construction inspection and construction management of the project. This work includes full-time inspection, evaluation of contractor performance and work product, and approval of contractor quantities.

Hatch Mott MacDonald

Impoundment Mitigation and Restoration Project

Location
Wetzel County, WV

Client
Confidential Coal Client

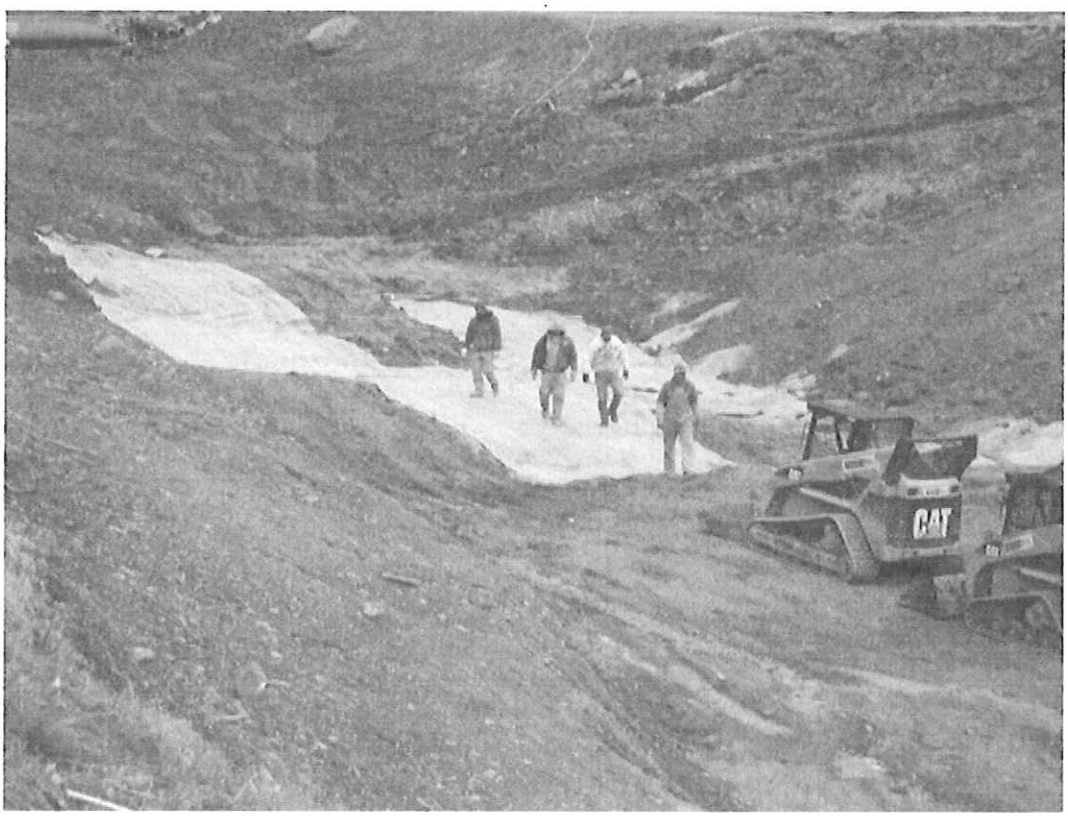
Services
- Grout Injection Work Plans
- Subsurface Investigation
- Surveying
- Utility camera survey
- GIS Mapping
- Liner Design
- Cost Analysis
- Construction Inspection

Project Description

Hatch Mott MacDonald (HMM) was retained by a private coal client to assist in the mitigation and remediation of an existing private impoundment that had been affected by longwall mining.

Work included investigation of subsurface data, groundwater monitoring, hydrologic modeling, and flow loss analysis. HMM developed a combination grout injection plan and geosynthetic liner design. This grout injection plan consisted of a shallow, low-pressure injection of a mixture of Portland cement and bentonite to seal fractures and reduce water loss. The geosynthetic liner design utilized an impermeable bentonite mat at select locations within the pond bottom. A utility camera was used to observe infiltration and leakage of the pipe principal spillway.

HMM performed the construction inspection and construction management of the project. This work included full-time inspection, evaluation of contractor performance and work product, and approval of contractor quantities.



Hatch Mott MacDonald

Lost Creek Floodplain Investigation

Location
Harrison County, WV

Client
Harrison County Commission, WV

Project Type
Flood Modeling/Mapping

Services
Site Characterization
Hydrologic/Hydraulic Evaluations

Duration
July 2004 - March 2005

Project Description

The Lost Creek Floodplain Investigation provided the Harrison County Commission with detailed floodplain information for Lost Creek between the Town of Lost Creek corporate limit and Lost Creek's downstream confluence with the West Fork River. Prior to this investigation, Lost Creek was characterized as approximate Zone A on the Harrison County, WV (Unincorporated Areas) Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs). A final report was prepared for the Harrison County Planning Commission with all necessary documentation and analysis to support a revision to the Flood Insurance Rate Map for the Town of Lost Creek, WV.

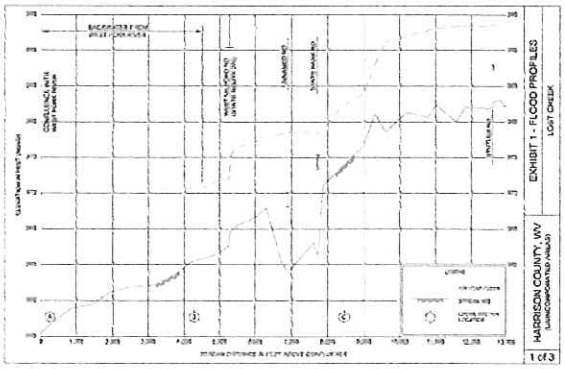
HMM Role

Site Characterization - HMM prepared the detailed flood hazard mapping for Lost Creek by conducting field investigations and performing detailed hydraulic evaluations within the project study area. A combination of traditional land surveying and GPS surveying were used to identify cross sections of Lost Creek at set intervals. HMM combined the new cross section survey data with USGS DEM data to create a new Triangular Irregular Network (TIN) in ArcView. Cross sections were automatically extracted from the GIS TIN using HEC-GeoRAS and imported into HEC-RAS for performing the hydrologic and hydraulic evaluations.

Hydrologic/Hydraulic Evaluations - HMM used HEC-RAS to establish the peak flow for the 100-year storm using current US Geological Survey (USGS) regression equations for rural watersheds. The resulting floodplain and floodway boundaries for the 100-year storm event were mapped on digital topographic maps overlaid with color aerial photographs. A water surface profile was established for the 100-year storm for the establishment of Base Flow Elevations along Lost Creek.

Project Highlights

- Development of hydrologic/hydraulic models
- Site characterization and delineation of Waterway flood elevation
- Deterioration of floodway boundaries and development of Flood Insurance Rate Map updates.



Hatch Mott MacDonald

Harrison County Trail - McWhorter to Clarksburg Trail

Location
Harrison County, WV

Client
Harrison County

Services
- Stormwater Drainage Design
- Trail Head/Parking Layout
- Precast Arch Culvert Design
- Bridge Rehabilitation
- Construction Contract Administration
- Construction Inspection

Reference
Terry Schulte, Executive Director
304-624-8690

Project Description

Hatch Mott MacDonald was retained by the Harrison County Commissioners to prepare design plans, specifications, and bid documents for the conversion of the abandoned 14-mile CSX Railroad grade to a hiking/biking trail.

Work included digitizing existing railroad right-of-way maps into AutoCAD format; evaluation of existing drainage structures; design of drainage rehabilitation; design of new drainage structures; trail surface design; preparation of clearing, grubbing, and tree pruning specifications; design of trail entrances, gates and fencing; design of access barriers (to prevent unauthorized motor vehicles from gaining entry to the trail); wetland delineation; and bridge decking/rehabilitation.

HMM will also perform the construction inspection and construction management of the project. This work will include full-time inspection; evaluation of contractor performance and work product, and approval of contractor invoices. The project was completed in the Fall of 2003.