



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at wvOASIS.gov. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at WVPurchasing.gov with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header @ 1

List View

- General Information**
- Contact
- Default Values
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- Document Information
- Clarification Request

Procurement Folder: 1257505

Procurement Type: Central Purchase Order

Vendor ID: 000000160331

Legal Name: MICHAEL BAKER INTERNATIONAL INC

Alias/DBA:

Total Bid: \$0.00

Response Date: 08/29/2023

Response Time: 8:45

Responded By User ID: michaelbaker

First Name: Leigh

Last Name: TeWinkle

Email: dmprocurement@datamarkg

Phone: 9499736615

SO Doc Code: CEOI

SO Dept: 0313

SO Doc ID: DEP2400000008

Published Date: 8/10/23

Close Date: 8/31/23

Close Time: 13:30

Status: Closed

Solicitation Description: EOI - 2023 AML Contract N4

Total of Header Attachments: 1

Total of All Attachments: 1



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

**State of West Virginia
 Solicitation Response**

Proc Folder: 1257505
Solicitation Description: EOI - 2023 AML Contract N4
Proc Type: Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2023-08-31 13:30	SR 0313 ESR08292300000001018	1

VENDOR
 000000160331
 MICHAEL BAKER INTERNATIONAL INC

Solicitation Number: CEOI 0313 DEP2400000008
Total Bid: 0
Response Date: 2023-08-29
Response Time: 08:45:48
Comments: EOI 2023 AML Contract N4 MBI

FOR INFORMATION CONTACT THE BUYER

Joseph E Hager III
 (304) 558-2306
 joseph.e.hageriii@wv.gov

Vendor Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Beech Bottom Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Beech Bottom Highwall

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Bethany (Haizlett) DS, Highwall and AMD				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Bethany (Haizlett) DS, Highwall and AMD

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Buffalo Creek Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Buffalo Creek Highwall

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Crafts Run Maintenance				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Crafts Run Maintenance

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Logan Run Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Logan Run Highwall

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Richard Mine Drainage Facility Upgrades				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Richard Mine Drainage Facility Upgrades

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
7	Wades Run Dangerous Embankment				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: EOI 2023 AML Contract N4 MBI

Extended Description:

Wades Run Dangerous Embankment



EXPRESSION OF INTEREST (EOI)
FOR PROFESSIONAL ENGINEERING DESIGN SERVICES

EOI – 2023 AML
CONTRACT N4
CEOI 0313 DEP2400000008

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ABANDONED MINE LANDS AND RECLAMATION

Michael Baker
INTERNATIONAL

AUGUST 31, 2023

August 31, 2023

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305-0103

**Re: Expression of Interest (EOI)
Professional Engineering Design Services and Construction Monitoring Services
EOI – 2023 AML Contract N4 (CEOI 0313 DEP2400000008)**

Dear Mr. Josh Hager:

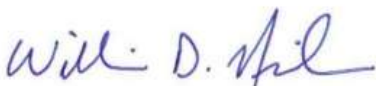
Michael Baker International (Michael Baker) is pleased to present our response to your EOI related to the professional engineering design services for the above referenced project. Michael Baker is honored to have built a 30-year relationship with the West Virginia Department of Environmental Protection (WVDEP), helping to solve complex mining and environmental challenges. Since 1983, we have worked together on more than 40 projects, and **have successfully received local and national recognition for our efforts**. At Michael Baker, we do not take the past for granted, but rather look forward to opportunities to enhance the services we offer to the WVDEP. To meet your design requirements and respond to the EOI, Michael Baker has assembled a team of experienced personnel who have performed on previous similar assignments for WVDEP. Our proposed team members have also provided similar services for numerous mine reclamation and related projects over the years for a variety of clients as reflected in the enclosed documentation.

Michael Baker's staff is experienced with all aspects of mine reclamation projects. We have provided similar services to the WVDEP, as well as the Pennsylvania DEP, the Ohio DNR, the U.S. Office of Surface Mining, and other local, state, and federal agencies. We feel that our combination of regional experience, familiarity with the site, proximity, and reclamation specific knowledge and expertise is unique to Michael Baker, and we are confident we can provide efficient, timely, personal, cost effective, and quality solutions for the WVDEP on this assignment. Michael Baker is also in compliance with the Infrastructure Investment Jobs Act (IIJA).

We look forward to a favorable review of our qualifications and the opportunity to personally present our proposed project approach. Should you have any questions or require additional information, please feel free to contact me at (724) 495-4225 or wneider@mbakerintl.com.

Very respectfully,

Michael Baker International



William D. Neider, P.E.
AML Program Manager



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

State of West Virginia
 Centralized Expression of Interest
 Architect/Engr

Proc Folder: 1257505			Reason for Modification:
Doc Description: EOI - 2023 AML Contract N4			
Proc Type: Central Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2023-08-10	2023-08-31 13:30	CEOI 0313 DEP2400000008	1

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Customer Code: 000000160331
Vendor Name : Michael Baker International, Inc.
Address : 100
Street : Airside Drive
City : Moon Township
State : Pennsylvania **Country :** United States **Zip :** 15108
Principal Contact : William D. Neider, P.E.
Vendor Contact Phone: (724) 495-4225 **Extension:**

FOR INFORMATION CONTACT THE BUYER

Joseph E Hager III
 (304) 558-2306
 joseph.e.hageriii@wv.gov

Vendor Signature X *Will D. Neider* **FEIN#** 25-1228638 **DATE** August 31, 2023

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML) ("Agency"), from qualified firms to provide architectural/engineering services for planning, realty, design, and construction oversight aspects as needed for each project per the attached specifications and terms and conditions.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Beech Bottom Highwall		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:

Beech Bottom Highwall

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
2	Bethany (Haizlett) DS, Highwall and AMD		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:

Bethany (Haizlett) DS, Highwall and AMD

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
3	Buffalo Creek Highwall		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Buffalo Creek Highwall

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
4	Crafts Run Maintenance		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Crafts Run Maintenance

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
5	Logan Run Highwall		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Logan Run Highwall

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
6	Richard Mine Drainage Facility Upgrades		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Richard Mine Drainage Facility Upgrades

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
7	Wades Run Dangerous Embankment		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Wades Run Dangerous Embankment

SCHEDULE OF EVENTS

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
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	Document Phase	Document Description	Page
DEP2400000008	Final	EOI - 2023 AML Contract N4	6

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) _____

(Address) _____

(Phone Number) / (Fax Number) _____

(Email address) _____

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

(Company)

Will D. Hill

(Signature of Authorized Representative)

(Printed Name and Title of Authorized Representative) (Date)

(Phone Number) (Fax Number)

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Company

Will D. Hill

Authorized Signature

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

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

Attachment "A"

PROJECT NAME EOI – 2023 AML Contract N4 CEOI 0313 DEP240000008		DATE (DAY, MONTH, YEAR) August 31, 2023		FEIN 25-1228638	
1. FIRM NAME Michael Baker International, Inc.		2. HOME OFFICE BUSINESS ADDRESS 100 Airside Drive Moon Township, Pennsylvania 15108		3. FORMER FIRM NAME Michael Baker Jr., Inc.	
4. HOME OFFICE TELEPHONE 412.269.6300		5. ESTABLISHED (YEAR) 1940		6. TYPE OWNERSHIP Individual <u>Corporation</u> Partnership Joint-Venture	
6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES <u>NO</u>					
7. PRIMARY AML DESIGN OFFICE: ADDRESS / TELEPHONE / PERSON IN CHARGE / NO. AML DESIGN PERSONNEL EACH OFFICE Michael Baker International / 100 Airside Drive, Moon Township, PA 15108 / 724.495.4225 / William D. Neider, PE / 30 Michael Baker International / 400 Washington Street East, Suite 301, Charleston, WV 25301 / Russell E. (Rusty) Hall, PE, PS / 12					
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM William D. Neider, PE, AML Program Manager – 724.495.4225			8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS Steven Savich, PE, Vice President – 412-269-6467		
9. PERSONNEL BY DISCIPLINE (Bold Lettering Indicates Minimum Design Team Members)					
<u>178</u> ADMINISTRATIVE <u>15</u> ARCHITECTS <u>2</u> BIOLOGISTS <u>48</u> CADD OPERATORS/DESIGNERS <u>1</u> CHEMICAL ENGINEERS <u>66</u> CIVIL ENGINEERS <u>78</u> CONSTRUCTION INSPECTORS / Mgrs. <u>48</u> DESIGNERS <u>48</u> DRAFTSMEN		<u>1</u> ECOLOGISTS <u>0</u> ECONOMISTS <u>8</u> ELECTRICAL ENGINEERS <u>13</u> ENVIRONMENTALISTS <u>8</u> ESTIMATORS <u>10</u> GEOLOGISTS <u>8</u> HISTORIANS <u>15</u> HYDROLOGISTS		<u>4</u> LANDSCAPE ARCHITECTS <u>10</u> MECHANICAL ENGINEERS <u>5</u> MINING ENGINEERS <u>1</u> PHOTOGRAMMETRISTS <u>29</u> PLANNERS: URBAN/REGIONAL <u>8</u> SANITARY ENGINEERS <u>10</u> SOILS ENGINEERS <u>4</u> SPECIFICATION WRITERS	
				<u>26</u> STRUCTURAL ENGINEERS <u>10</u> SURVEYORS <u>21</u> TRAFFIC ENGINEERS <u>88</u> ENGINEERING TECHNICIANS <u>17</u> PROJECT MANAGERS <u>33</u> GIS SPECIALISTS <u>45</u> OTHER <u>746</u> TOTAL PERSONNEL (Moon Township, PA and Charleston, WV Offices)	
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>25</u>					
* RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.					
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE?			_YES _NO N/A		

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

Attachment "A"

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

NAME AND ADDRESS: NGE Consulting 650 MacCorkle Avenue West St. Albans, WV 25177	SPECIALTY: Drilling, Geotechnical Exploration, and Monitoring	WORKED WITH BEFORE <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS: Bio-Chem Testing, Inc. 5 Weatherridge Drive Hurricane, WV 25526	SPECIALTY: Water Testing	WORKED WITH BEFORE <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS: Sturm Environmental Services Brushy Fork Road Bridgeport, WV 26330	SPECIALTY: Soil Testing	WORKED WITH BEFORE <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No

12. RELEVANT EXPERIENCE.

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

YES Description and Number of Projects:

Michael Baker has been assisting state and federal agencies with abandoned mine land (AML) restoration and acid mine drainage (AMD) remediation since 1977. Michael Baker's experience began with Operation Scarlift and now includes well over 200 AML/AMD remediation projects ranging from strip pit and highwall regrading subsidence control, mine sealing, reclamation of mine refuse piles, drainage improvements, revegetation, stream relocation, restoration of streams and wetlands, natural streambed design, landslide correction, and replacement of water supplies affected by abandoned mine lands to abatement of AMD problems. These services are accomplished by providing a "one-stop-shop" of professionals including engineers, geologists, surveyors, and environmental scientists to address essentially any issue that may be encountered on an AML/AMD project. These professionals combine diverse experience in:

- Mining
- Geotechnical
- Geology
- Hydraulics & Hydrology
- Groundwater
- Water Treatment
- Water Line Design & Supply
- Grading
- Earthwork Balance
- Highwall Elimination
- Stormwater Management
- E&S Control
- Sustainable Design
- Hazardous Waste Remediation
- Material Handling Plans
- Surveying
- Mapping
- Field Reconnaissance
- Project Management
- Quality Control

Michael Baker has been assisting West Virginia Department of Environmental Protection with Abandoned Mine Lands Remediation/Mine Reclamation Engineering Design services ever since WVDEP initiated its AML Reclamation Program in 1983. In addition to WVDEP, we have also assisted PADEP with AML reclamation and AMD remediation designs. The "AML and related Project Experience Matrix" table provided at the end of this Consultant Qualification Questionnaire (CQQ) shows our experience on AML related projects for different state agencies, and for private clients.

NO

B. Is your firm experienced in soil analysis?

YES Description and Number of Projects:

Michael Baker has conducted in-house soil analysis for over 60 years. We take pride in our work that starts with a geologic literature review to identify and review available references that characterize the site soils and other factors influencing the development and condition of the soils. The task is followed by a geotechnical reconnaissance that includes a site view by a Michael Baker geologist or geotechnical engineer to characterize the site soil conditions. Lastly and as appropriate, a subsurface investigation is conducted to collect and identify site soils and assign appropriate engineering descriptions that, in turn, are utilized for soil analysis.

In designing AML reclamation projects, generally three types of soil analysis are needed. These analyses may include: a) geotechnical analysis/soil classification, b) soil analysis for revegetation potential (pH, Acid Base Accounting, Nutrients) and c) soil analysis for hazardous materials. Michael Baker is involved in selecting and collecting the soil samples and analyzing the results of laboratory testing as required for design. Laboratory testing is performed by a subcontractor. Of the 30 most recent AML projects, Michael Baker was involved in soil analysis for 23 projects. Michael Baker has also prepared reprocessing potential evaluations of coal refuse sites (10 projects), which required evaluation of mine refuse based on laboratory test results. Refuse testing for these projects included refuse float/sink and proximate analysis, with results evaluated by Michael Baker to determine BTU content and reprocessing potential.

12. RELEVANT EXPERIENCE.

In addition to evaluating coal refuse for reprocessing, Michael Baker has experience in the design of coal refuse facilities through our work in supporting active mining. Michael Baker has conducted the geotechnical analysis related to slope stability and liner/cover soils permeability, as well as the analysis to support the staging required to construct the refuse area. Our experience includes coarse refuse piles, fine refuse (slurry) impoundments, and combined refuse areas. Michael Baker currently is involved with the final permitting of a refuse facility for which we have conducted all the geotechnical, civil, and hydraulic analysis for an approximate 300-acre refuse facility.

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects:

Michael Baker's hydrology and hydraulic staff for AML remediation design are experts in the application of hydraulic models that include HEC-1, HEC-2, HEC-RAS, HY8, TR20, TR55, HAESTADS PONDS 2, FLOWMASTER, HYDRAFLOW, KYPIPE 2, CYBERNET, SEDCAD 4, UNET, and DAMBRK. Michael Baker applies this experience to services such as stormwater management; culvert analysis; hydrologic and hydraulic studies; storm sewer design; floodplain modeling; channel design; watershed planning; energy dissipation; and waterline extension and distribution.

Expertise in hydrology and hydraulics is essential in any AML reclamation/remediation design. Of the 30 most recent AML projects, 28 projects needed hydrology/hydraulics expertise of the AML/AMD design group, and 100% of this work was conducted in-house.

NO

12. RELEVANT EXPERIENCE.

D. Does your firm produce its own aerial photography and Develop Contour Mapping?

YES Description and Number of Projects:

Since 1983, Michael Baker has been designing AML/AMD remediation projects for WVDEP. For all the AML projects to date, WVDEP provided Michael Baker with contour maps developed from aerial photography of the project site. Michael Baker's responsibility was to verify the topographic map by check field surveying.

Michael Baker has a survey and photogrammetric department with a staff of 96. Michael Baker routinely performs aerial photography and contour mapping for federal and several state agencies, as well as for private clients. This includes mapping for special reclamation projects for WVDEP. Michael Baker's Survey and Photogrammetric Department has been a part of the core business since the company was founded in 1940 and uses the latest technology and software for all projects.. Fixed, mobile, and aerial LiDAR equipment are "state-of-the-art" tools that Michael Baker can offer to add efficiencies to the field mapping process and enhance quality of the deliverables.

Michael Baker is a national leader in the development and application of aerial LiDAR.

During the last five years, Michael Baker has completed more than 50 mapping projects. Some examples are listed as follows:

Professional Mapping and Design Services at the Bond Forfeited Permits of the Maurice Jennings Coal Company S-61-83 and S-53-78, WVDEP (Photogrammetric Mapping, Surveying Services, Bathymetric Surveying, and 4 Band Imagery).

Professional Mapping and Design Services at the Bond Forfeited Permits of the Masteller Coal Company S-125-82 and S-10-85-78, WVDEP (Photogrammetric Mapping, Surveying Services, Bathymetric Surveying, and 4 Band Imagery).

Professional Mapping and Design Services at the Bond Forfeited Permits of the F&M Coal Company S-1044-87 and S-57-84, WVDEP (Photogrammetric Mapping, Surveying Services, Bathymetric Surveying, and 4 Band Imagery).

Updating Boundary/Site Improvements and Utility Survey – 23 LPOEs, North and South U.S. Borders, US-VISIT (Photogrammetric Mapping and Surveying Services)

Rio Grande Valley Border Fence Boundary Surveys, Cameron and Hidalgo Counties, TX. U.S. Army Corps of Engineers, Fort Worth District (Metes and Bounds Surveys and Legal Deed Descriptions)

Land Ports of Entry (LPOEs) Aerial Mapping Refresh, North and South U.S. Borders. Department of Homeland Security, US-VISIT (Mapping)

Sewer Infrastructure Location/Verification, Allegheny County, PA. 3 Rivers Wet Weather, Inc. (GPS or Conventional Survey Data by Others)

Open-End Contract for Surveying and Photogrammetric Mapping Services, Statewide, Pennsylvania. Pennsylvania Department of Transportation (Through a series of nine open-end contracts, Michael Baker has been providing surveying and mapping services to PennDOT continuously since 1986)

Indefinite Delivery Contract A/E for Multidiscipline & Related Services for the Department of Homeland Security and Other Civil/Military Projects. U.S. Army Corps of Engineers, Fort Worth District (Surveying and Mapping)

Border Fence Project – PF225, Various Locations in TX, AZ, NM, CA. U.S. Army Corps of Engineers, Fort Worth District. (Aerial Photography, Analytical Aerotriangulation, Stereo Mapping Compilation, Digital Orthophotography, Horizontal and Vertical Control Surveys, Geodetic Surveys)

Land Ports of Entry (LPOEs) Aerial Mapping Refresh, North and South U.S. Borders. Department of Homeland Security, US-VISIT (Aerial Photography Stereo Mapping Compilation/Topographic Mapping, Horizontal and Vertical Control Surveys, Geodetic Surveys)

Aerial Photography, Contour Mapping, and Field Surveys are at the core of Michael Baker's business and expertise.

NO

12. RELEVANT EXPERIENCE.

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

YES Description and Number of Projects:

Michael Baker, to date, has designed eight (8) domestic waterlines for WVDEP and countless others for clients in West Virginia, Pennsylvania, Ohio, and elsewhere. In general, for each of these projects, Michael Baker performed field surveying of proposed routes, subsurface investigation for storage tank site foundations, water distribution system hydraulic modeling and analyses, pipeline design, storage tank sizing, sizing and designing booster pumping station, and electric and telemetric system. For the McDowell County Public Water Supply System, Michael Baker also designed a water treatment and filtration plant. Construction plans, specifications, cost estimate and bid schedules were prepared for each project.

Michael Baker has performed numerous waterline extension feasibility studies to determine if the pre-law mining had impacted area aquifers from which local residents obtained drinking water. The studies also involved evaluation of mining activities in the project area with regard to date and time of mining, and the effect of mining on the local aquifers and groundwater quality based on hydrogeological data, resident interview, water sampling and testing, and historic background water quality information. To date, Michael Baker has performed more than 16 water line feasibility studies.

NO

12. RELEVANT EXPERIENCE.

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

YES Description and Number of Projects:

Michael Baker's design experience includes both active and passive treatment systems, which is based on the characterization of the AMD site as well as the flows and chemistry of the AMD. Michael Baker provides AMD sampling to determine chemical parameters as well as the flow measurements covering high- and low-flow periods that are most important in developing AMD abatement systems. To date, Michael Baker has evaluated and designed 17 AMD abatement systems, four of which are passive treatment systems while the remaining 13 are active treatment facilities that have been constructed and are currently in service. A few examples are listed as follows:

Professional Mapping and Design Services at the Bond Forfeited Permits of the Maurice Jennings Coal Company S-61-83 and S-53-78, West Virginia Department of Environmental Protection, Office of Special Reclamation, Michael Baker designed seep collectors, conveyance pipes, pump stations, force mains, and limestone lined conveyance channels to transfer AMD to a high density lime slurry treatment system consisting of a surge pond, equalization pond, clarification ponds and a terminal aerobic wetland.

Professional Mapping and Design Services at the Bond Forfeited Permits of the Masteller Coal Company S-125-82 and S-10-85-78, West Virginia Department of Environmental Protection, Office of Special Reclamation, Michael Baker designed seep collectors, conveyance pipes, and limestone lined conveyance channels to transfer AMD to a treatment system consisting of ponds for aeration, clarification, and sludge retention, a solar powered caustic soda feed pumps, and wholly passive treatment systems that do not include and water wheel lime feeders.

Professional Mapping and Design Services at the Bond Forfeited Permits of the F&M Coal Company S-1044-87 and S-57-84, West Virginia Department of Environmental Protection, Office of Special Reclamation, Michael Baker designed seep collectors, conveyance pipes, pump stations, force mains, and limestone lined conveyance channels to transfer AMD to a high density lime slurry treatment system consisting of solar powered caustic soda feed pumps, surge ponds, equalization ponds, clarification ponds, and a terminal aerobic wetland.

Kempton Refuse and Acid Mine Drainage/Abandoned Mine Lands, Tucker County, West Virginia, West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands, Michael Baker designed conveyance pipes and limestone lined conveyance channels to transfer AMD to a treatment system consisting of an equalization pond, successive alkalinity producing system (SAPS pond), and aerobic wetland. The project was constructed in 2009.

Lancashire Acid Mine Drainage Treatment Plant Design, Permitting, and Construction Phase Services, Ebensburg, PA, Pennsylvania Department of Environmental Protection, Michael Baker directed a multi-disciplinary team of engineers in the design and permitting of an 11 MGD acid mine drainage treatment plant; and subsequently provided construction phase services through commissioning. The treatment plant was successfully commissioned in 2011.

Condition Assessment and Operational Audit – Dumans Mine Water Treatment Plant, Barr Township, PA, Pennsylvania Department of Environmental Protection, Michael Baker directed activities of a multi-disciplinary engineering team investigating avenues to reduce acid mine water treatment costs and improve operations at the pumping station, treatment plant, and sludge lagoons (9.4 MGD). Work involved review of records; numerous field measurements, bench-scale treatability studies; consultation with the electric company, cost estimating; and preparation of a report summarizing findings and recommendations. The team was charged with finding avenues to reduce the annual operation and maintenance cost of this facility materially while maintaining compliance with applicable effluent limitations.

Additionally, Michael Baker has designed ten AMD remediation projects for the WVDEP alone that included open limestone channel (OLC), anaerobic and aerobic wetlands and settling ponds, limestone sand dumping in the stream, and alkaline leach bed/anoxic limestone drains. Other Michael Baker AMD abatement designs have been designed for USACE's Baltimore and Nashville Districts, as well as the Pennsylvania Department of Environmental Protection.

NO

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

As depicted in Attachments B and C of this AML Consultant Questionnaire Form, Michael Baker can support this project with a variety and depth of technical resources as needed to deliver this project successfully. **The organizational chart depicted on the following page identifies our core team that Michael Baker will dedicate to our WVDEP AML work.** This team will be led by Mr. William Neider, serving as Michael Baker's AML Program Manager. Mr. Neider is a registered West Virginia Professional Engineer, is the current Director of Land Development in the Infrastructure practice in the Moon Township, PA office and has over 24 years of AML management, design, and construction oversight experience throughout his career.

The balance of our committed team includes personnel with the type of capabilities required for a typical AML project, including a senior field investigator to help assess the site and understand the mining conditions, a geologist or civil associate to conduct subsurface investigations, a designer for grading and earthwork balance, a civil associate for stormwater/erosion & sedimentation control, and an engineer to assist with the design, plans and specifications.

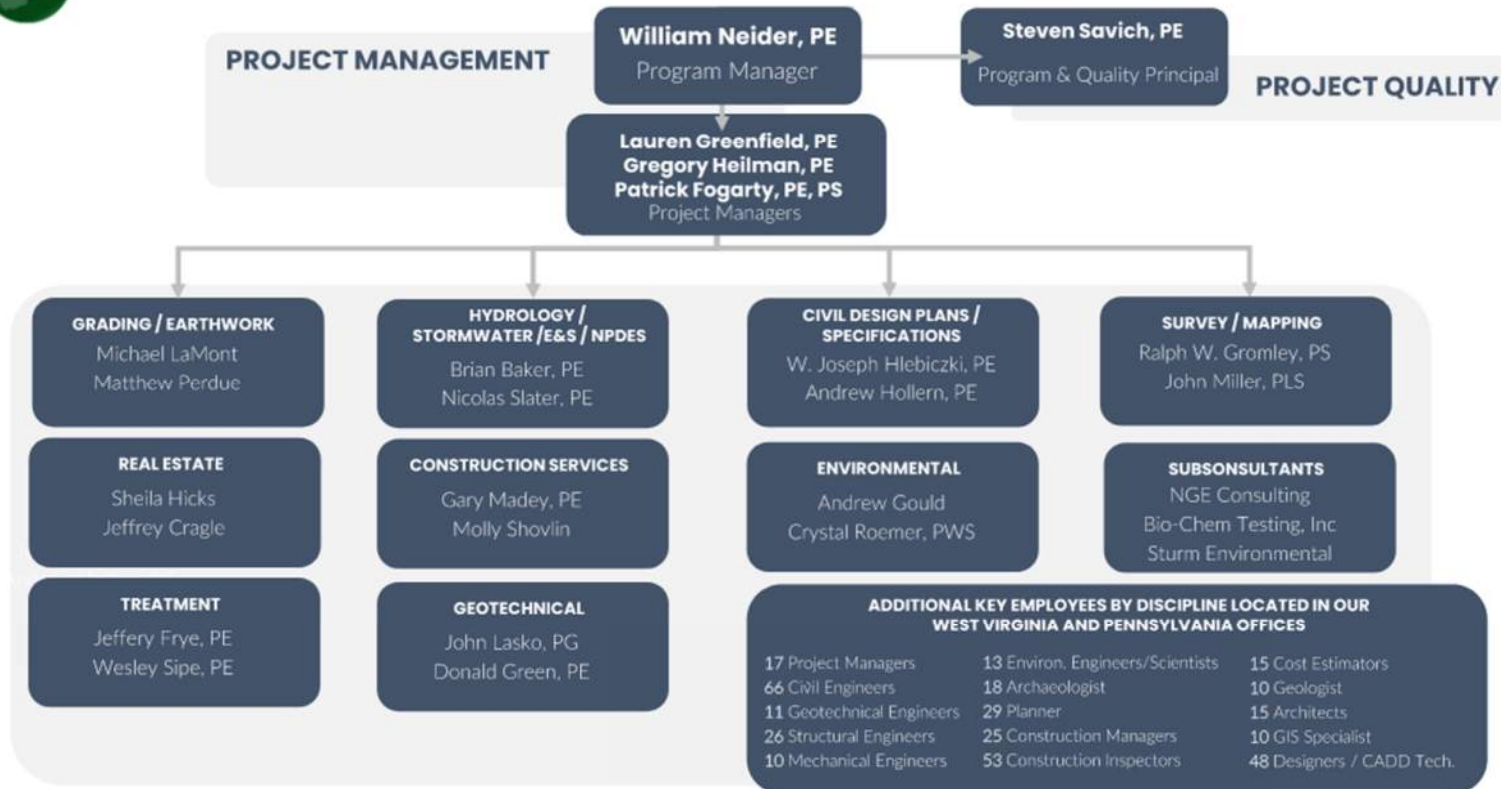
Other technical disciplines are available to assess items like surface water quality, hazardous materials (past AMD treatment chemicals), cover soils, refuse stability, site access, bridges, etc.

This team will work together closely for design efficiency and can handle multiple concurrent projects, tapping other Michael Baker technical resources, as needed, to ensure project success.

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



West Virginia Department of Environmental Protection
 Office of Abandoned Mine Lands and Reclamation



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Attachment "A"

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:
Savich, Steven M., P.E., CQM-C Program Principal	5	27	25

Brief Explanation of Responsibilities

As the AML Program Principal and Practice Executive of the Land Development & Infrastructure practice, Mr. Savich is committed to client satisfaction, proactive coordination, and communication with WVDEP. Based on the long running relationship between WVDEP and Michael Baker, Mr. Savich conveys this approach through Michael Baker's AML Team to ensure all project needs and requirements are met for WVDEP.

Crabtree Creek AMD Restoration Project, Westmoreland County, Pennsylvania. PA Department of Environmental Protection. QA/QC. Responsible for QA/QC of the project. Michael Baker is providing permitting, survey, geotechnical, and design services for the Crabtree Creek AMD Restoration Project in Westmoreland County, Pennsylvania. Work includes the design of the collection system of the mine pool AMD discharge and the design of approximately 18,300 feet of pipeline for gravity conveyance of the AMD discharge from the collection point to the passive treatment system site.

Mountain View Portals Mine Reclamation, Preston County, West Virginia. West Virginia Department of Environmental Protection. QA/QC. Responsible for QA/QC of the project. Michael Baker provided engineering services for the reclamation of the Mountain View Portals abandoned coal mine site. Michael Baker's services included site investigation; field survey; subsurface investigation; water quality and soil sampling and analysis; conceptual, preliminary, and final design; stream restoration; permitting; environmental investigations; bidding-phase support; and construction monitoring.

Service Center Replacement Design and Construction Management, McKeesport, Pennsylvania. Duquesne Light Company. Technical Manager. Served as the civil engineering lead for the project. Coordinated all civil engineering efforts on the project, provided technical oversight of staff, and provided quality control and project compliance reviews. Michael Baker served as architect/engineer of record and owner's representative for all phases of work in connection with design and construction management for a 27,000-square-foot service center to be used for equipment servicing, truck servicing and repairs, and other vehicle deployment needs. The site is an "improved brownfield site, ready for development." Michael Baker prepared complete and comprehensive design documents and supported all site requirements, including agency permitting, due diligence, and other administrative services, to secure the site location. Michael Baker also provided procurement services, negotiation support, bid support, and construction management and inspection.

Addison Terrace Redevelopment Master Planning and Engineering Services, Pittsburgh, Pennsylvania. Housing Authority of the City of Pittsburgh. Project Manager. Participated in the Master Planning process with third party Architecture and Landscape design teams. Responsible for all design and permitting documentation as well as coordination with all relevant agencies. The resulting plan and cost estimate will be used as the guidance for final design of the resulting development. As part of a multidisciplinary consulting team, Baker provided planning, civil engineering, and construction phase services for the Addison Terrace housing complex into a new, mixed-income, mixed-use community. Michael Baker's services included master planning, civil engineering for site design and utilities, construction-phase services, community outreach, and stakeholder coordination.

Garfield Commons Redevelopment, Pittsburgh, Pennsylvania. Urban Redevelopment Authority of Pittsburgh. Project Manager. Provided technical oversight of the design team preparing the plan and specification documents. He was responsible for all design and permitting documentation as well as coordination with all relevant agencies. Michael Baker provided engineering services for the redevelopment of the Garfield Heights public housing development to Garfield Commons, a mixed-income residential neighborhood. Michael Baker's services included planning, site design, utility coordination and design, grading and drainage design, the preparation of erosion and sediment control plans, the design of sidewalks and parking facilities, landscape architecture, and construction management and construction inspection. Public Improvements for Public Housing in the City of Pittsburgh. LaQuatra Bonci Associates. Project Manager. Managed the design of public infrastructure for the redevelopment of portions of the Larimer neighborhood. The work included new sewers, waterlines and public streets and sidewalks. Freeport Mine - PH I - Preparation of 6 Design Build RFP Packages and 1 Site Design -Bid Build Bid Package. Freeport Mining. Technical Lead. Provided technical oversight of the design team preparing the surface facilities plan and specification documents. He was responsible for design and permitting documentation as well as coordination with all relevant agencies.

EDUCATION (Degree, Year, Specialization)

Masters Certificate, 2003, Civil Engineering | B.S., 1995, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Society of American Military Engineers (SAME) | Urban Land Institute (ULI)

REGISTRATION (Type, Year, State)

Professional Engineer, 2005, PA | Professional Engineer, 2000, OH | Professional Engineer, 2006, VA
| Professional Engineer, New Jersey, 2017

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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:
Neider, William, D., P.E. Program Manager	11	24	16

Brief Explanation of Responsibilities

As the AML Program Manager, Mr. Neider will oversee all aspects of the design, construction document preparation, and permitting for the AML program. He has worked in various areas of the civil engineering practice with his primary area of expertise being in mining permitting and reclamation projects, oil and gas permitting, land development, local transportation projects, and municipal services. He has managed, lead, and designed projects for commercial development, military/federal, residential subdivisions, industrial, and educational facilities. In addition to land development experience, he has designed and directed several mining facilities infrastructure permitting and reclamation projects including refuse impoundments, coarse refuse piles, erosion and sedimentation control plans, and site reclamation. He also performed municipal engineering designs that included water distribution extensions, sewer modeling/design, drainage studies, and flood abatement designs. In all areas of his experience, he has been involved in every aspect of the design and construction document preparation, as well as management of design teams and project management. Mr. Neider has also been involved in construction oversight, including coordinating the review of project submittals, answering requests for information, and resolving construction related issues to ensure proper conformance to the design intent.

Mountain View Portals Mine Reclamation, Preston County, West Virginia. *West Virginia Division of Environmental Protection.* Project Manager. Responsibilities include project manager duties, quality control/quality assurance reviews of the project, and project design. Also responsible for construction cost estimate, stormwater pollution prevention plan, technical specifications, and NPDES permitting. The purpose of the project was to remediate subsidence areas, reestablish mine captured stream, provide drainage conveyances, install mine seals and bat gate mine seals, and perform refuse reclamation and revegetation of disturbed areas. Michael Baker prepared construction plans, specifications, stormwater pollution prevention plan services, and check survey.

Ebenezer Run Highwall #9, Brooke County, West Virginia. *West Virginia Division of Environmental Protection.* Project Manager. Responsibilities include project manager duties, quality control/quality assurance reviews of the project, and project design. Also responsible for construction cost estimate, stormwater pollution prevention plan, technical specifications, and NPDES permitting. The project consists of reclamation of two sites with approximately 3,660 linear feet of an abandoned strip mine highwall ranging in height from 30 to 40 feet and areas of mine spoil. Michael Baker prepared construction plans, specifications, stormwater pollution prevention plan services, and check survey.

Waitman Barbe Highwall #1, Monongalia County, West Virginia. *West Virginia Division of Environmental Protection.* Project Manager. Responsibilities include project manager duties, quality control/quality assurance reviews of the project, and design of channels and channel linings at the toe of the backfilled highwall. Also responsible for construction cost estimate, stormwater pollution prevention plan, and technical specifications. The project consists of reclamation of approximately 4,600 linear feet of an abandoned strip mine highwall ranging in height from 30 to 45 feet. This includes areas of mine spoil, three areas of exposed coal refuse, an illegal dumpsite containing non-hazardous construction debris and a suspected 11 mine openings. Michael Baker prepared construction plans, specifications, and a stormwater pollution prevention plan service.

Collier Sportsman's Club Highwalls, Brooke County, West Virginia. *West Virginia Division of Environmental Protection.* Project Manager. Responsibilities include project manager duties, quality control/quality assurance reviews, and design of channels and channel linings at the toe of the backfilled highwall. Also responsible for construction cost estimate, stormwater pollution prevention plan, and technical specifications. Involved with proposed gas line crossing with resolution and coordination between the gas line company and the WVDEP. The project consists of reclamation of an abandoned strip mine highwall and includes mine spoil, review of water quality data, design of wet and buried mine seals with bat gates at suspected mine entries, removal of non-hazardous trash and waste from the site, and revegetation of all disturbed areas.

Professional Mapping and Design Services at the Bond Forfeited Permits of the Masteller Coal Company S-10-85 & S-125-82, Mineral County, West Virginia. *West Virginia Division of Environmental Protection.* Project Manager. Responsibilities include project manager duties, quality control/quality assurance reviews of the project, and project design. Also responsible for construction cost estimate, stormwater pollution prevention plan, and technical specifications. The project consisted of mapping, reclamation, and treatment for previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps at the site of an abandoned strip mine.

EDUCATION (Degree, Year, Specialization) B.S.A.S., 2001, Civil Engineering Technology	
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS N/A	REGISTRATION (Type, Year, State) Professional Engineer, 2013, WV Professional Engineer, 2007, PA Plus Multiple Other States

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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:
Fogarty, Patrick W., P.E., P.S. Project Manager	26	36	27

Brief Explanation of Responsibilities

Mr. Fogarty is responsible for technical and management aspects of civil design and surveying projects within the Charleston, WV, office. Mr. Fogarty has designed and managed projects in numerous disciplines including civil, structural and transportation engineering, site development, ecosystem restoration, planning and surveying. These projects have included stream restoration as well as boundary and topographic and photogrammetric surveys. Duties include field surveying, drawings and specification preparation, design, design drafting, construction inspection, quality control testing, shop drawing review, project management, contract administration, and report preparation. Management duties include financial planning, management and staff utilization, human resource planning, marketing, and strategic planning.

Engineering Design for Remediation of Crooked Run #5, Harrison County, West Virginia. WVDEP - Office of AML&R. Project Manager. Responsible for the management and coordination of all activities. Michael Baker provided engineering services to remediate seven abandoned mine sites along Crooked Run Stream near Clarksburg, West Virginia. Services included field investigation and surveys; core boring and water sampling; conceptual, preliminary, and final design of remediation measures; and bid phase and construction phase support.

Mine Subsidence Remediation Design, Marion County, West Virginia. WVDEP - Office of AML&R. Project Manager. Engineer-of-Record responsible for the coordination of all activities. Michael Baker provided engineering services to mitigate the effects of mine subsidence at four residential sites. Michael Baker's services included surveying and mapping; field investigation; conceptual, preliminary, and final design of subsidence remediation measures; and bid-phase and construction-phase support.

Engineering Services to Remediate Landslide Caused by Abandoned Mine Activity, McDowell County, West Virginia. WVDEP - Office of AML&R. Project Manager. Responsible for the management and coordination of all activities. Michael Baker provided field investigation, engineering services, and construction support to remediate a landslide on private property caused by drainage from abandoned mine portals. Michael Baker provided conceptual, preliminary, and final design documents for remedial drainage measures and provided support during construction.

Engineering Design for Remediation of Crooked Run #5, Harrison County, West Virginia. WVDEP - Office of AML&R. Project Manager. Responsible for the management and coordination of all activities. Michael Baker provided engineering services to remediate seven abandoned mine sites along Crooked Run Stream near Clarksburg, West Virginia. Services included field investigation and surveys; core boring and water sampling; conceptual, preliminary, and final design of remediation measures; and bid phase and construction phase support.

Drainage Improvements and Reclamation Measure Design for Four Abandoned Mine Sites, Kanawha County, West Virginia. WVDEP - Office of AML&R. Project Manager. Responsible for the management and coordination of all activities. Michael Baker is providing surveying and mapping, field investigation, subsurface investigation, water testing and sampling, and conceptual, preliminary and final design for the reclamation of four abandoned mine sites that are affected by uncontrolled drainage, debris, and hazards from open portals. Michael Baker is also providing bid phase and construction phase support for the remedial measures.

Engineering MSA (West Virginia, Kentucky, Pennsylvania). NiSource Corporation. Surveyor of Record. Responsible for quality assurance of field and office activities. Michael Baker has provided NiSource with surveying services for many years. Under our existing MSA, surveying services have been provided for various locations throughout West Virginia, Kentucky, and Pennsylvania.

EDUCATION (Degree, Year, Specialization)

B.S., 1985, Civil Engineering | Diploma, 1993, Surveying and Mapping | Coursework, Business Administration

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Association of State Floodplain Managers (ASFPM)

REGISTRATION (Type, Year, State)

Professional Engineer: 1990, West Virginia | Professional Surveyor: 1993, West Virginia
LEED Green Associate: 2012, West Virginia
Professional Engineer, 2000, Kentucky | Professional Engineer, 2002, Virginia | Professional Engineer, 2003, Pennsylvania | Professional Engineer, 1996, Ohio | Professional Surveyor, 2001, Kentucky | Professional Surveyor, Ohio, 1996

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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:
Greenfield, Lauren E., P.E. Project Manager	2	12	2

Brief Explanation of Responsibilities

Ms. Greenfield is a Project Manager with Michael Baker International, in the Moon Township, Pennsylvania office. She provides 12 years of geotechnical, water resources, civil, and environmental design, engineering, permitting, project management, and construction oversight for projects throughout Western Pennsylvania and the Mid-Atlantic region. Ms. Greenfield specializes in water resources design and environmental remediation for detention/retention ponds, bioretention facilities, culverts, hydrologic and hydraulic modeling, water and wastewater treatment, acid mine drainage, and underground storage tank projects. She also has civil-site experience with land development projects, municipal plan reviews, and public outreach. Lauren has extensive experience in preparation, design, and submission of NPDES, HOP, USACE Joint, WQM Part II, and GP permit applications and has prepared more than 100 full permitting packages for projects ranging in cost from \$5K to \$5M. She is currently pursuing her Board-Certified Environmental Engineer accreditation.

Morgantown Airport Runway Extension Project, City of Morgantown, West Virginia. *City of Morgantown, WV.* Project Manager. Ms. Greenfield served as the Project Manager for the 1,000LF runway extension at the Morgantown Municipal Airport, located in the City of Morgantown, West Virginia. Her role for this project includes full design and permitting for the stormwater, erosion/sediment, coal seam removal, and acid mine drainage remediation for both the runway and borrow sites for the project. Her stormwater design includes three linked detention ponds, phased implementation of the erosion/sediment controls, and remediation of the coal seam acid mine drainage with staged limestone treatment wetlands. She also has completed hydrologic and hydraulic analyses for the two, 500LF embedded culverts within the runway embankment and drainage around the runway and taxiway. Also completed the full NPDES permit package for the project with WVDEP and coordinated with the USACE for the Chapter 401/404 Joint Permit, providing technical assistance with the Environmental Assessment documents. She also participated in public meetings, prepared engineering cost estimates and quantities, and coordinated with multiple state/federal agencies for this project.

Hurricane Florence Recovery MILCON Package 7, Marine Corps Air Station New River, Jacksonville, North Carolina. *NAVFAC Mid-Atlantic.* Project Engineer. Lauren's responsibilities included technical design, report/permit preparation, and management of the P378 Infiltration Basin basis of design package and NCDEQ E&S and SWM permitting packages. Michael Baker is leading the multi-discipline architectural and engineering team for design-build delivery of the C-12W hangar and associated site development. Michael Baker is serving as the primary liaison between design, design-build, and NAVFAC project management teams. The design was delivered in two packages, including a fast-track site and structural package.

McCandless Acid Mine Drainage Remediation and Reclamation Project, Madison Township, Pennsylvania. *Armstrong and Clarion County Conservation Districts.* Technical Manager. As Technical Manager, Lauren's responsibilities included planning, design, agency coordination, bid item preparation, specification preparation, and site inspection. Lauren was responsible for the remediation design of a five-stage wetland treatment system and two neutralizing ponds to capture leachate of heavy metals in the AMD waters before discharging into the Allegheny River. Additionally, she completed slope stabilization design of the coal waste, landslide, and subsidence areas through means of re-grading, incorporating SoilTac mixtures into the existing soils, and using native seedlings and plant mixes to stabilize the slope areas prone to subsidence. Lauren prepared the NPDES permit package for submission to the Clarion Conservation District (CCD), which included erosion and sedimentation control design and stormwater management design. Once the NPDES permit was approved, she prepared all construction drawings, specifications, and bid items and oversaw the bid opening and notice-to-proceed issuance to two contractors. She also conducted on-site pre-application, pre-bid, and progress meetings with the ACD, CCD, contractors, and Madison Township officials as well as periodic inspection of the site. The McCandless property was previously a large strip and subsurface coal mine that had significant AMD contaminating two existing ponds and three streams. Coal waste, landslides, and subsidence were also a continuing issue throughout the site as well. The site is currently used as an educational facility for AMD remediation.

EDUCATION (Degree, Year, Specialization)

M.B.A., 2013, Business Administration | B.S., 2010, Civil Engineering | B.S., 2010, Environmental Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE) | National Honorary Civil Engineering Fraternity of Chi Epsilon | Women in Transportation Society (WTS)

REGISTRATION (Type, Year, State)

Professional Engineer, 2018, West Virginia | Professional Engineer, 2017, PA | Professional Engineer, 2017, VA | Professional Engineer, 2017, NC | Professional Engineer, 2018, MD | Professional Engineer, Washington DC

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NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF AML DESIGN EXPERIENCE:
Heilman, Gregory A., P.E. Project Manager	11	35	11

Brief Explanation of Responsibilities

Mr. Heilman is a project manager with 35 years of experience in a wide range of civil and environmental projects. His background includes site design, federal, state, and local permitting, and construction oversight. He has expertise in the preparation of grading plans, erosion and sedimentation control plans, stormwater management plans, construction packages, and hydrologic and hydraulic analysis. He has obtained permits from various state agencies, prepared construction documentation, and aided clients in the bidding of contracts and the selection of contractors. Mr. Heilman serves as a senior project manager for Michael Baker's active coal mining work. He has been responsible for site design and permitting for over 100 mining projects in southwestern Pennsylvania and West Virginia. He also currently manages numerous projects in the Marcellus Gas development and gathering industry, with specific emphasis on all aspects of site engineering design and preparation of ESCGP permits. In addition to his extensive experience in the mining and gas industries, he also has vast experience in landfill design and drainage design for transportation

Itmann Mine and Preparation Plant, Wyoming County, WV. *Consol Mining Company.* Project Manager. As project manager, Greg was responsible for all aspects of site design of both sites. He oversaw all aspects of site development, grading, stormwater management, and erosion and sedimentation control, which included a total of nine sediment ponds. The project entailed the development of a new metallurgical coal mine with an anticipated production rate of one million tons of coal per year. It included two separate sites. The first was a new mine entry, operations area, haul roads, and waste stockpiles on a 35 acre site. A second preparation plant and coal loadout facility were located two miles away from the mine entry and encompassed 65 acres. Michael Baker's services also included subsurface investigations and geotechnical design/analysis at both sites. Michael Baker provided bid documents and full-time construction oversight of the Preparation Plant earthwork to resolve issues that arose and to ensure the project was constructed as designed. The project also included the relocation of 3,500 feet of existing Norfolk Southern railroad track and the addition of 10,500 feet of new siding track necessary for transporting the coal. Michael Baker, under the direction of Greg, prepared the track design plans and obtained the NDPES stormwater permit for construction activities from WVDEP.

Enlow Fork Mine – 4 North 1 To 8 North 1 Waterline Extension, Washington County, PA. *Consol Pennsylvania Coal Company.* Project Manager. As Project Manager, Greg was responsible for project manager duties, a quality control review of the project, design of a force main and permitting. Michael Baker provided design, engineering, and permitting services for the force main at the Consol Pennsylvania Coal Company's (CPCC) new Enlow Fork Mine 8 North 1 Portal Facility. Michael Baker was responsible for the design of all project components, including the 4.2-mile force main pipeline made up of six-inch diameter HDPE pipe, the booster pump, air-release manhole details, and boring details. Michael Baker also provided permitting services to obtain the Coal Mining Activity Permit through the Pennsylvania Department of Environmental Protection, California District Mining Office.

Nineveh Sewage Treatment Plant And Sanitary Sewer, Greene County, PA. *Consol Pennsylvania Coal Company.* Project Manager. Greg was responsible for project manager duties, a quality control review of the project, design of a sewage treatment plant, and permitting. Also responsible for construction cost estimate, bid documents, and construction management services and monitoring. Michael Baker provided design, engineering, permitting, and construction-phase services for a new sewage treatment plant (STP) in the village of Ninevah, a part of Morris Township. Michael Baker was responsible for designing all components, including the new STP, a lift station, and a gravity sewer line. Michael Baker obtained all required stormwater and National Pollutant Discharge Elimination System (NPDES) permits for the STP project, including the NPDES permit for the STP discharge, the NPDES permit for stormwater discharges associated with construction activities, and the water quality management (WQM) permit for the STP. During construction, Michael Baker's services entailed preparing bid documents and construction cost estimates, performing construction management services and construction monitoring, providing shop drawing reviews, responding to contractor requests for information, and performing E&S Control Inspections.

EDUCATION (Degree, Year, Specialization)

B.S., 1988, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

N/A

REGISTRATION (Type, Year, State)

Professional Engineering, 2005, WV | Professional Engineer, 1993, PA | Professional Engineer, 1999, OH

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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:
Ralph W. Gromley, P.L.S., P.S.M. Professional Land Surveyor	9	40	0

Brief Explanation of Responsibilities

Mr. Gromley has more than 35 years of national and international experience in the field and office, including topographical, bathometric, boundary, ALTA/ACSM, and 3D surveying. As a technical manager licensed in multiple states, Mr. Gromley has supervised survey crews and worked on numerous transportation, architecture, aviation, environmental, and oil and gas projects. His expertise includes boundary, retracement, construction services, and knowledge of surveying laws. He is proficient with a range of surveying software packages and instruments, including A-GIS, Trimble, Carlson Software, and Leica products.

Crabtree Creek AMD Restoration Project, Westmoreland County, Pennsylvania. *PA Department of Environmental Protection.* Surveyor. As Surveyor, Ralph was responsible for supervision of all survey crews and determination of all affected boundary lines along the route. He performed the final QAQC of all topographic drawings delivered for the project and performed partial boundary surveys of each affected property and establish property boundary lines that will be placed into the project's base mapping to site the proposed collection system on, over, and across the correct parcels. Michael Baker is providing permitting, survey, geotechnical, and design services for the Crabtree Creek AMD Restoration Project in Westmoreland County, Pennsylvania. Scope of work included the design of the collection system of the mine pool AMD discharge and the design of approximately 18,300 feet of pipeline for gravity conveyance of the AMD discharge from the collection point to the passive treatment system site.

Maurice Jennings Coal Company Site, Preston, West Virginia. *West Virginia Department of Environmental Protection.* Surveyor. As Surveyor, Ralph was responsible for setting up control points; establishing a construction baseline; identifying key points by location and elevation; identifying key features, stormwater and treatment structures, limits of linear seeps, and exposed refuse; and determining any miscellaneous items relevant to the project. Base mapping included the aerial topography, controls, key points, stormwater and treatment features, sampling points, and all other items picked up during the field surveying. Michael Baker provided engineering services for the special reclamation of Maurice Jennings Coal Company mining permits; S-61- 83 and S-53-78. The project area consisted of previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps at the site of an abandoned strip mine. Michael Baker's services included aerial mapping, site reconnaissance, permit research and review, surveying, bench-scale treatability studies, AMD conveyance, AMD treatment, preparation of reclamation and treatment plans, stormwater pollution prevention plans, field water quality sampling, technical specifications, bidding-phase support, construction services, and right-of-way support.

Masteller Coal Company Site, Mineral, West Virginia. *West Virginia Department of Environmental Protection.* Surveyor. As Surveyor, Ralph was responsible for setting up control points; establishing a construction baseline; identifying key points by location and elevation; identifying key features, stormwater and treatment structures, limits of linear seeps, and exposed refuse; and determining any miscellaneous items relevant to the project. Base mapping included the controls, key points, stormwater and treatment features, sampling points, and all other items picked up during the field surveying. Michael Baker is provided engineering services for special reclamation of Masteller Coal Company mining permits; S-10-85 and S-125-82. The project area consisted of previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps. Michael Baker's services include site reconnaissance, permit research and review, aerial mapping, surveying, bench-scale treatability studies, AMD conveyance, AMD treatment, preparation of reclamation and treatment plans, stormwater pollution prevention plans, field water quality sampling, technical specifications, bidding-phase support, and construction services.

EDUCATION (Degree, Year, Specialization)

Diploma, 1980, College Prep, Jefferson Area High School

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Florida Surveying and Mapping Society (FSMS)
 Pennsylvania Society of Land Surveyors (PSLS)
 Professional Land Surveyors of Ohio (PLSO)

REGISTRATION (Type, Year, State)

Professional Land Surveyor, West Virginia, 2022, 2451
 Professional Surveyor, Ohio, 1992, 7431
 Professional Land Surveyor, Pennsylvania, 2011, SU075308
 Land Surveyor, Kentucky, 2021, 4408
 Land Surveyor, Tennessee, 2021, 3327
 Professional Land Surveyor, Virginia, 2022, 0403003524
 Professional Land Surveyor, Wisconsin, 2021

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Attachment "A"

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:
Miller, John A., P.L.S. Senior Surveyor	8	50	0

Brief Explanation of Responsibilities

Mr. Miller is a seasoned Licensed Surveyor with over 45 years of experience. He has managed and directed crews for various survey projects including control surveys for aerial mapping, as-built surveys, property surveys, subdivision and land development surveys, topographic surveys for sewer and water projects, and construction stakeouts. Mr. Miller has managed projects from initial client contact to completion, prepared cost estimates for projects, performed court house research, deed plotting, boundary line resolution, plotted and reduced field data, managed subdivision layout and erosion sedimentation plans, prepared Highway Occupancy Permits and DEP planning modules, prepared agency applications and obtained approvals, attended municipal meetings, prepared legal descriptions, created plans using computer aided drafting, and volume calculations for landfill air space.

Mapping and Design Services for Special Mine Reclamation Permits, Preston County, West Virginia. *West Virginia Department of Environmental Protection.* Surveyor. Directed survey crew in the location of mine openings, seeps, monitoring wells and test borings. Verified mapping contours by surveying cross-sections. This survey will be used for engineering design to treat the water from mine drainage. Michael Baker is providing engineering and mapping services to meet the requirements of special mine reclamation permits. Michael Baker's services include data collection and analysis, aerial mapping verification, supplemental field and bathymetric pond surveying, bench-scale treatability testing, acid-base accounting testing, engineering design and analysis, preparation of construction plans and specifications and stormwater pollution prevention plans; cost estimates, bidding-phase support; and construction eservices.

Maurice Jennings Coal Company Site, Preston, West Virginia. *West Virginia Department of Environmental Protection.* Surveyor. Directed survey crew in the location of mine openings, seeps, monitoring wells, treatment facilities and treatment ponds. Verified mapping contours by surveying cross-sections. This survey will be used for engineering design to treat the water from mine drainage. Michael Baker is providing engineering services for the special reclamation of Maurice Jennings Coal Company mining permits; S-61-83 and S-53-78. The project area consists of previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps at the site of an abandoned strip mine. Michael Baker's services include aerial mapping, site reconnaissance, permit research and review, surveying, bench-scale treatability studies, AMD conveyance, AMD treatment, preparation of reclamation and treatment plans, stormwater pollution prevention plans, field water quality sampling, technical specifications, bidding-phase support, construction services, and right-of-way support.

Masteller Coal Company Site, Mineral, West Virginia. *West Virginia Department of Environmental Protection.* Surveyor. Directed survey crew in the location of mine openings, seeps, monitoring wells, treatment facilities and treatment ponds. Verified mapping contours by surveying cross-sections. This survey will be used for engineering design to treat the water from mine drainage. Michael Baker is providing engineering services for special reclamation of Masteller Coal Company mining permits; S-10-85 and S-125-82. The project area consists of previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps. Michael Baker's services include site reconnaissance, permit research and review, aerial mapping, surveying, bench-scale treatability studies, AMD conveyance, AMD treatment, preparation of reclamation and treatment plans, stormwater pollution prevention plans, field water quality sampling, technical specifications, bidding-phase support, and construction services.

Surveying Services for Natural Gas Lines, Washington County and Green County, Pennsylvania. *Vista Gathering, LLC.* Surveyor. Directed survey crew, stakeout pipeline centerline, stakeout limit of disturbance, survey road crossings, stream crossings and utility locations for permitting and construction. Michael Baker provided surveying services for new natural gas pipelines ranging in length from one mile to nine miles throughout Southwestern Pennsylvania. Services included routing; re-routing; preliminary topographic surveys locating obstructions, property evidence, proposed route as indicated by land agents, woodland, utility, road, stream, and railroad crossings; and tying of the resultant mapping into the state plane coordinate system and vertical datum by the use of OPUS to generate the alignment sheets. Michael Baker also provided construction stake-out surveys, including preliminary centerline for property owner review and constructability walk; final stakeout for construction, including right-of-way and LOD; development of as-builts; and downloading and processing of data for submittal to and upload to client-specific geo-referenced GIS software.

EDUCATION (Degree, Year, Specialization)

A.S., 1972, Civil Engineering Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Pennsylvania Society of Land Surveyors (PSLS), Allegheny Chapter

REGISTRATION (Type, Year, State)

Professional Land Surveyor, 1984, PA

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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:
Gould, Andrew L. NEPA Specialist	0	25	0

Brief Explanation of Responsibilities

Mr. Gould serves as a NEPA Specialist in the Charleston, West Virginia office of Michael Baker. He offers experience in GPS and other remote sensing techniques as well as experience in environmental and NEPA processes. Mr. Gould's expertise also includes performing environmental and biological surveys including wetland delineation, stream determination, sediment studies, habitat assessments, cultural resource investigations, endangered species surveys, and GIS analyses. He is also experienced in the NEPA processes, including Section 404 of the Clean Water Act, Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act.

Appalachian Corridor H Environmental Impact Statement, Appalachian Highlands Region, Elkins, West Virginia. *West Virginia Department of Transportation, Division of Highways.* Environmental Associate. Responsible for the maintenance of ongoing environmental contracts with West Virginia Department of Transportation including endangered species surveys (including mist net surveying for Indiana Bat), stream and wetland survey and mitigation and document production of such projects. Field work included evaluation of Potential Roost (PRT) habitat and summer foraging habitat for the Indiana bat (*Myotis sodalis*) through field-based surveys on Corridor H Forman to Moorefield section, as well as the Bismarck to Forman Section. Participated in mist net live capture to assess regional bat populations in a 2-county region. Performed survey of vegetation type and ground coverage on reclamation areas along the Elkins to Kerens section, as well as the Moorefield to Michael Baker section of Corridor H. Also provided data analysis and summary report. Performed survey of stream sampling, sediment studies and biological barrier determinations. GPS surveying of tributary streams to Slip Hill Mill Run, near Parsons, WV. Michael Baker is preparing the tiered Corridor H Supplemental EIS study for the Appalachian Corridor H, a 100-mile proposed four-lane highway intended to provide access from Interstate 81 in Northwestern Virginia through the rugged, mountainous terrain of West Virginia's Appalachian Highlands Region. This consisted of a corridor-level study evaluation to determine the environmental and engineering constraints existing along 24 potential alternative corridors (Tier 1) and a follow-on Alignment Selection FEIS (Tier 2). Michael Baker is also providing advanced preliminary engineering on the preferred alignment. Following the 1996 Record of Decision, the WVDOT and FHWA were sued in Federal District and Appeals Courts by a coalition of 13 environmental groups. Michael Baker provided lawsuit support for legal counsel during that period. Now that the project is under construction, Michael Baker is providing environmental monitoring and engineering services.

Apogee Coal Company - Guyan Surface Mine - Mining and Reclamation Plan Revision, Logan County, West Virginia. *Arch of West Virginia, Inc.* GIT Associate. Responsible for map production and technical assistance. Michael Baker reviewed the client's existing budgeted mine plan and submitted a revision to the permit for Apogee Coal Company's Guyan Surface Mine (WVDEP Permit No. S-5007-01) to develop a revised mining and reclamation plan designed to extend the disturbance limits and match the current budgeted mining sequence.

Catenary Coal Company - Samples Mine Extension - Valley Fill No. 5 Reauthorization, Boone County, West Virginia. *Catenary Coal Company.* Environmental Associate. Provided field based technical work for stream delineation and jurisdictional determination. Michael Baker utilized data from the existing SMCRA permit and previously completed studies provided by the client and conducted additional field studies to complete an IBR, AOC calculations, an Individual 404 Permit application, and an Environmental Information Document for the Catenary Coal Company's Samples Mine Extension.

West Virginia Mining Services Environmental Information Documents, Various Counties, West Virginia. *Catenary Coal Company.* Environmental Associate. Clerical duties focusing on production of EIS. Michael Baker analyzed and assessed data and studies that were completed for and included in SMCRA mine and individual water quality state 401 certification permit applications for numerous mining projects. From this information, a region-wide impact analysis was prepared to evaluate potential direct, secondary, and cumulative impacts as a result of the Proposed Action and the alternatives under consideration. Following completion of the analyses, publication of the Environmental Information Document, and Public Hearings (when required), the lead agency (U.S. Army Corps of Engineers, Huntington District) determined that the projects, with appropriate mitigation, would have no significant impact on the environment. Michael Baker then assisted the USACE in preparing the Finding of No Significant Impact (FONSI).

EDUCATION (Degree, Year, Specialization)

B.A., 1996, Biology and Geography

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

N/A

REGISTRATION (Type, Year, State)

Wetland Delineator Certificate Program, 2004, WV

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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:
Crystal L. Roemer, P.W.S Environmental Specialist	1	9	0

Brief Explanation of Responsibilities

Ms. Roemer is an environmental specialist based out of the Pittsburgh office and has over eight years of experience throughout the eastern United States and Pacific Northwest. Ms. Roemer has experience working with clients of commercial, residential, industrial, land development, infrastructure and transportation, and energy (oil, gas, nuclear, and renewable). Her expertise lies in providing regulatory guidance, permitting, and compliance for projects affecting resources regulated under the Clean Water Act (CWA), Rivers and Harbors Act, NEPA, and other local, state, and federal regulations. In addition to tackling regulatory challenges, Ms. Roemer conducts a variety of on-site ecological assessments including wetland and waterway delineations and functional assessments; bat habitat suitability studies; botanical, amphibian, and benthic macroinvertebrate surveys; mitigation and restoration monitoring; agency coordination; invasive species studies; site feasibility reports; Phase I ESAs; ecological studies; environmental compliance monitoring; and surveys and agency coordination for rare, threatened, and endangered species..

Crabtree Creek AMD Restoration Project, Westmoreland County, Pennsylvania. *PA Department of Environmental Protection.* Environmental Specialist. Responsible for confirmation of previously delineation wetland and stream boundaries, and wetland delineation and stream identification along a rerouted corridor. Michael Baker provided permitting, survey, geotechnical, and design services for the Crabtree Creek AMD Restoration Project in Westmoreland County, Pennsylvania. Work included the design of the collection system of the mine pool AMD discharge and the design of approximately 18,300 feet of pipeline for gravity conveyance of the AMD discharge from the collection point to the passive treatment system site.

Numerous projects related to coal mining, mine development, and restoration efforts, Pennsylvania. *Alpha Natural Resources.* Environmental Specialist. Obtained environmental permits, performed wetland delineation and restoration monitoring, stream classification, stream restoration design and restoration monitoring, BPEF surveys, habitat monitoring, stream flow monitoring, endangered species clearance, and landowner services.

Numerous projects related to coal mining, mine development, and restoration efforts, Pennsylvania. *Dana Mining Co.* Environmental Specialist. Numerous projects related to coal mining, mine development, and restoration efforts. Obtained environmental permits, performed wetland delineation and restoration monitoring, stream classification, stream restoration and restoration monitoring, BPEF surveys, habitat monitoring, stream flow monitoring, endangered species clearance, and landowner services.

Stream and Wetland Restoration Design. *Environmental Specialist.* Designed stream restoration along Jackson Run in Green County, PA (gate-cut and planting plan) and Hob Nob Pearls Caf 2 (streambank stabilization, in-stream structure, and planting plan). Responsible for permit acquisition and plan design. Additionally, oversaw construction of in-stream improvements for several projects.

Well Plugging Sites, Various Locations, Pennsylvania. *EQT Production Company.* Environmental Specialist. Decommission and plugging of natural gas wells in poor condition or no longer adequately producing. Performed resource delineation and reporting, Chapter 105 permitting, and access road routing.

EDUCATION (Degree, Year, Specialization)

B.S., Biology/Environmental Science, Edinboro University of Pennsylvania

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Association of State Wetland Managers, Inc. (ASWM)
 Pennsylvania Association of Environmental Professionals (PAEP)
 Society for Ecological Restoration (SER)
 Society of Wetland Scientists (SWS)

REGISTRATION (Type, Year, State)

PEC Safety Certification, 2018, PEC100972836
 Wetland Delineator Certification Program, 2015
 Rosgen, Basic Survey Skills, 2016
 PA DCNR Wild Plant Management Permit, Pennsylvania, 2022, 21-781
 Professional Wetland Scientist, Worldwide, 2020, 3205

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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:
LaMont, Michael, J. CADD Technical Specialist	25	37	27

Brief Explanation of Responsibilities

Mr. LaMont is a designer with a background in pipelines, telecommunications, reclamation of abandoned mine lands including acid mine drainage abatement, earthwork, grading plans, stream channel restoration, sealing of mine portals and reclamation of coal refuse piles. While at Michael Baker, he has worked on many abandoned mine land reclamation and mine shaft site design and permitting projects. His site / civil qualifications also consist of parking lot layout and design, roadway geometry, right-of-way acquisition, drainage, storm sewer and sanitary sewer design.

Waitman Barbe Highwall #1, Monongalia County, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Prepared construction plans, details, and cross-section sheets and earthwork balancing for the project, and highwall backfilling grading. Provided erosion and sedimentation control measures, site regrading, mine seals, and collection and diversion ditch alignments and profiles. Michael Baker's responsibilities included research of existing geological data and mining maps, review of water quality data, erosion and sedimentation controls, design of wet and buried mine seals with bat gates at suspected mine entries, backfilling of existing highwalls to stable configurations, site grading, upgrade of existing access roads, reclamation of onsite spoil and coal, culverts and channel, removal of non-hazardous trash and waste from the site, and revegetation of all disturbed areas. Additional responsibilities were for coordination of the check survey and drilling by sub-consultants and the preparation of the WV NPDES Stormwater Permit.

Collier Sportsman's Club Highwalls, Brooke County, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Prepared construction plans, details, and cross-section sheets and earthwork balancing for the project, and highwall backfilling grading. Provided erosion and sedimentation control measures, site regrading, mine seals, and collection and diversion ditch alignments and profiles. Michael Baker's responsibilities included research of existing geological data and mining maps, review of water quality data, erosion and sedimentation controls, design of wet and buried mine seals with bat gates at suspected mine entries, backfilling of existing highwalls to stable configurations, site grading, upgrade of existing access roads, reclamation of onsite spoil and coal refuse, culverts and channel design, removal of non-hazardous trash and waste from the site, and revegetation of all disturbed areas. Additional responsibilities were for coordination of the check survey and drilling by sub-consultants and the preparation of the WV NPDES Stormwater Permit.

Professional Mapping and Design Services at the Bond Forfeited Permits of the Maurice Jennings Coal Company S-61-83 & S-53-78, Preston County, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Responsibilities include Prepared construction plans and profiles, details, erosion and sediment control measures, collection and diversion channels, and revegetation.

Professional Mapping and Design Services at the Bond Forfeited Permits of the F&M Coal Company S-1044-87 & S-57-84, Preston County, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Responsibilities include Prepared construction plans and profiles, details, erosion and sediment control measures, collection and diversion channels, mine seals and revegetation.

Maple Run Portals and Tipple, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Prepared construction plan, profile, detail, and cross section sheets and earthwork balancing for the project, which included, site grading, mine seals, collection and diversion ditches, placement of soil cover, and revegetation.

Emoryville Mine Complex, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Prepared construction plan, profile, detail, and cross section sheets and earthwork balancing for the project which included erosion and sedimentation control measures, site regrading, mine seals, collection and diversion ditches, removal of abandoned barges and coal refuse from the North Branch of the Monongahela River, placement of soil cover, and revegetation.

Watson Portal and Refuse Reclamation, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Prepared construction plan, profile, detail, and cross section sheets and earthwork balancing for the project which included erosion and sedimentation control measures, site regrading, mine seals, collection and diversion ditches, removal of abandoned barges and coal refuse from the North Branch of the Monongahela River, placement of soil cover, and revegetation.

Mountain View Portals Mine Reclamation, Preston County, West Virginia. *West Virginia Division of Environmental Protection.* Technical Specialist. Prepared construction plan, profile, detail, and cross section sheets and earthwork balancing for the project which included erosion and sedimentation control measures, site regrading, mine seals, collection and diversion ditches, stream re-channelization, placement of soil cover on exposed refuse, and revegetation.

EDUCATION (Degree, Year, Specialization) Certificate, 1986, Computer Aided Drafting and Design	
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS - N/A	REGISTRATION (Type, Year, State) – N/A

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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:
Perdue, Matthew J. CADD Technical Specialist	27	27	12

Brief Explanation of Responsibilities

Mr. Perdue is a CAD Technician/Surveyor at Michael Baker and has worked in the WVDEP AML program for many years with Michael Baker and other consulting firms. Some of the specific projects for which he provided site design, surveying, plan and detail preparation include:

Elk Creek Portals, Logan County. Technical Specialist. This project included wet mine seals, dry mine seals, open channel design, site regrade and revegetation.

Delbarton (Curry) Landslide, Mingo County. Technical Specialist. This project included extensive site grading and drainage design, and a drilled pile retaining wall with concrete lagging.

Coal Hollow Refuse "A," Putnam County. Technical Specialist. Wet mine seals, dry mine seals, modified bat gates, open channel design, structure removal, site regrade and revegetation.

WVU Tech Drainage, Fayette County. Technical Specialist. Deep mine dewatering program, wet mine seals, bat gates, open channel design, site grading and revegetation.

Norton-Harding-Jimtown PSD Waterline Extensions, Randolph County. *West Virginia Department of Environmental Protection.* Technical Specialist. The assignment included the coordination of aerial photogrammetric mapping, geotechnical investigation, and the preparation of plans and specifications for planned extensions to three communities (Pumkintown, Mabie, and Green). The project consisted of approximately 30,000 feet of 6-inch and 8-inch PVC SDR 21 water pipe, one new 50 gpm booster pump station, one 100,000-gallon water storage tank, fire protection and other appurtenances.

Chief Logan State Park AMD, Logan County. Technical Specialist. Wet mine seals and open limestone channel design for the treatment acid mine drainage at numerous locations within the State Park.

WVDEP14176, Kanawha County. *West Virginia Department of Environmental Protection.* Technical Specialist. Wet mine seals, the installation of bat gates, open limestone channel design, culvert and structure design, structure removal and reclamation grading at four sites Marmet (Wells Drive), Cabin Creek (Stapler), East Bank (Garten), and the Mill Hollow Complex) in eastern Kanawha County.

WVDEP 14387, Harrison County. *West Virginia Department of Environmental Protection.* Technical Specialist. Wet mine seals, Dry mine seals, the installation of bat gates, open channel design, culvert design, sediment control design, structure removal and reclamation, grading and revegetation.

WVDEP 14439, McDowell County. *West Virginia Department of Environmental Protection.* Technical Specialist. Wet mine seals, open channel design, culvert design, underdrains, sediment control design, reclamation grading and revegetation.

WVDEP14800, Marion County. *West Virginia Department of Environmental Protection.* Technical Specialist. Drilling program development and the preparation of construction plans and specifications for the abatement of mine subsidence at four (4) sites in or near the City of Fairmont. The project "Fairmont Five Subsidence," included grout injection as well as surface depression regarding and minor drainage improvements.

EDUCATION (Degree, Year, Specialization)

Certificate, 1996, CADD/Survey/Drafting

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS - N/A

REGISTRATION (Type, Year, State) – N/A

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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:
Hicks, Sheila K. Planner	0	21	0

Brief Explanation of Responsibilities

Ms. Hicks has 23 years of experience in highway and multi-modal transportation planning. Her previous experience includes working as both a consultant with the State of West Virginia and North Carolina. She has led public involvement outreach efforts, right-of-way discussions, and property boundary research with municipalities across West Virginia, and coordinated the development of the West Virginia's Statewide Transportation System. Most recently she has led the on-call traffic counting program technical components for WV DOT, as well as being a key player for Michael Baker to process data received during pavement data collection and analysis.

WV DOT On-Call Statewide Traffic Count Program. WV DOT. Project Manager for two year on-call project for the West Virginia Department of Transportation, Planning Division, for the Statewide Traffic Counting Program. Services included Statewide traffic data collection for coverage counts program where the traffic data was collected for Districts 1, 4, 6, 7, 8 and 9. The traffic data include volume and classification counts. All traffic counts were collected and configured to measure direction traffic volume and classification. Where the count location is more than 2 through travel lanes, additional counters were placed to accurately collect traffic information. After the counts were collected, the counter data was downloaded, reviewed, converted to GeoCounts format, and uploaded through the GeoCounts interface.

West Virginia State Rail Plan. WV DOT. Project Planner for the preparation of a Passenger Rail Investment and Improvement Act of 2008 (PRIIA) compliant plan. This plan was a comprehensive look at West Virginia's rail freight and passenger systems. As part of the project plan visions and goals were developed by working with a steering committee which includes representatives from various agencies with a major vested interest in rail transportation and will include representation of all transportation modes, other agencies with major vested interest in transportation (WV Rail Authority, Metropolitan Planning Organizations (MPOs), private railroad companies, Amtrak, Regional Planning and Development Councils, etc.). The State Rail Plan is required for WV to be eligible for existing and prospective federal rail financial assistance. To ensure that the study was as comprehensive as possible and looked at issues that were important to transportation decision makers in West Virginia. Two rounds of eight public meetings were conducted during the plan development process.

West Virginia Statewide Bicycle Plan. WV DOT. Project Planner. Assisted with planning study to identify and finalize a system of designated, signed bicycle routes using West Virginia's highway system. A prime objective is to develop routes which would connect to other states, allowing expansion of the US Bicycle Route System and/or connecting WV cities and communities. As project planner completed analysis to identify potential statewide bike routes, assisted with development of PowerPoint and Handouts of technical data for public involvement.

West Virginia Multimodal Statewide Transportation Plan. WV DOT. Project Planner. Worked as project planner for the preparation of an integrated, fiscally- constrained, multimodal statewide transportation plan for the state. The work consisted of preparation of a transportation plan that identifies and recommends policies, strategies, and projects to address multimodal transportation needs in West Virginia through a 25-year planning horizon. The plan was developed in coordination with each of the modal agencies within WV DOT. The plan identifies and analyzes opportunities for intermodal connections among the various modes and prioritizes and recommends those which were determined to be feasible. A financial plan was also prepared, as well as recommendations for monitoring, updating, and revising the plan on a continuing basis. Developed the public involvement PowerPoint presentation as well as board and hands out. Assisted in writing various sections of the final report and coordinated closely with WV DOT throughout the process of developing the plan.

EDUCATION (Degree, Year, Specialization)

B.S., 2019, Business Administration

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

N/A

REGISTRATION (Type, Year, State)

N/A

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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:
Cragle, Jeffrey M. GIS Associate	0	7	0

Brief Explanation of Responsibilities

Mr. Cragle has experience in map production and design for a variety of projects throughout West Virginia and nationally. As a GIS associate, he has been part of the WVDOT Pavement Collection and Analysis team. His previous experience includes being project lead for numerous transportation projects creating maps and supporting documents for archeological and historic background studies, including NEPA and Section 106 documents. Other GIS experience includes utility design, digital data migration, and land use modeling for suitability modeling.

Pavement Collection and Analysis. WVDOT. GIS Associate. Michael Baker performed pavement inventory and analysis services in support of the West Virginia Department of Transportation's (WVDOT) Highway Performance Monitoring System (HPMS) to report pavement conditions of off-state National Highway System (NHS) segments. Inventory was performed using our mobile data collection vehicle, which leverages the LCMS, mobile LiDAR and spherical 360-degree camera. Pavement data was processed to provide International Roughness Index (IRI), rutting, faulting and crack percentages in accordance with HPMS reporting guidelines. Processed data was aligned with WVDOT's standardized Linear Reference System (LRS) and HPMS network. Inventory data was combined with WVDOT's on-state pavement data inventory.

Coalfields Redevelopment Authority Landuse Suitability Study, Various Locations in West Virginia. GIS Associate. Prepared land use models and suitability studies for the potential redevelopment of abandoned coal mines in West Virginia.

Piney Woods Archeological Survey Investigation, Texas. USACE. GIS Associate. Project lead responsible for the preparation of all map documents required for archeological survey investigation of the Piney Woods area of Texas. The work consisted of the creation of survey maps referencing existing historic and archeological resources for the field crew. Preparation of post-survey maps and figures for inclusion in final report identifying surveyed locations and artifact finds.

Boeing Starliner Archeological Background Study, California. United States Air Force. GIS Analyst. This study for the proposed Boeing Starliner launch facility in California. Jeff served as lead GIS analyst and prepared site survey maps in coordination with the USAF and staff archeologists.

Various Transportation Projects, Cultural and Historic Background Studies, Multiple Locations. TXDOT. GIS Associate. Responsible for the preparation of all maps, GIS, and GPS data related to the historic and archeological background surveys for TXDOT transportation projects throughout Texas to meet NEPA and Section 106 requirements. Process and convert data for use in ArcGIS including: DGN, KMZ, PDF, and other file formats.

Verizon FIOS and 5G Design and Construction, Austin Market Texas. Verizon. Lead GIS Design Engineer for Verizon's FIOS and 5G construction project in the Austin, TX market. Jeff was responsible for coordinating daily tasks to the GIS team to meet production deadlines. Prepare documentation for monthly accounting and project status updates. Use ArcGIS and 3GIS to design fiberoptic network to Verizon's design specifications.

Metropolitan Utility District Data Migration Project, Nebraska. GIS Analyst. Performed digital data migration of the Gas and Water Utility system from a paper map system to an enterprise GIS map network. Performed quality control checks and data clean-up including topology checks using Data Reviewer, and network connectivity with Utility Network.

EDUCATION (Degree, Year, Specialization)

B.C.E., 2009, Civil and Environmental

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE) | Chi Epsilon, The National Civil Engineering Honor Society

REGISTRATION (Type, Year, State)

Professional Engineer, 2014, PA

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

Attachment "A"

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:
Madey, Gary L., P.E. Construction Services Manager	3	32	0

Brief Explanation of Responsibilities

Throughout his 30-year career, Mr. Madey has worked throughout Pennsylvania and surrounding states. Currently, he is the CM Department Manager and Associate Vice President, who oversees all transportation related projects and pursuits that includes all facets of construction management, oversight, and inspection for PennDOT, the Pennsylvania Turnpike Commission, Transit Agencies, and private clients. His role as Department Manager includes project management, constructability, scheduling, estimating, quality assurance, ADA compliance, claims mitigation, construction operations policies and procedures, specification development, change orders, facilities construction, partnering facilitation, training, and business development for both transportation and vertical clients.

MGW Runway Extension, Morgantown Municipal Airport (MGW), Morgantown, West Virginia. *City of Morgantown.* Technical Manager. Provides constructability and coordination and cost estimating during design. Michael Baker provided design services for a 1,000-foot extension of Runway 13-31 at Morgantown Municipal Airport (MGW). Signification fill, some areas in excess of 100 feet, was required due to the surrounding terrain. Funding constraints require that this project be divided into multiple bid packages. Responsibilities on this project included overseeing the design of the overall program and designing the grades required for a fully compliant runway, runway safety area, and embankment to FAA and local requirements. Michael Baker coordinated with internal and external team members to incorporate geotechnical requirements, local design criteria, airfield electrical coordination, and stormwater requirements. Design elements had to consider source of embankment material from airport borrow site and/or off-site sources, existing coal seams that would be encountered, and existing stormwater detention that would need demolished.

E03909 D10 CM Open End. *Pennsylvania Department of Transportation, Central Office.* Project Manager. Responsible for assisting PennDOT's Office of Chief Counsel and PennDOT's District 10 with preparing the defense of a \$5.9 million contractor claim. Provided technical guidance and opinion on the merits of the claim. Assisted with the preparation for depositions and expert witness reports. Responsible for analyzing and defending all aspects of claim and design error including coordination of support services for claim review, reviewing and analyzing claim and department records for validity and merit, providing opinion on merits of the claim, conducting and facilitating claim review meetings with attorneys, PennDOT, and consultant designers, assisting in preparation of the defense of the claim working with assigned counsel, testifying at the board of claims if needed for construction related items, assisting PennDOT with review of bid documents to determine if a design error was committed and if so assisting department in recouping costs from consultant designer.

S.R. 0028 Thompson Run Bridge Final Design, Jefferson County, Pennsylvania. *Pennsylvania Department of Transportation, District 10-0.* Operations Manager. Performed constructability reviews and coordinated the cost estimate and schedule development. Michael Baker provided final design, cultural resources coordination, and Section 4(f) recordation services for replacement of the bridge carrying S.R. 0028 over Thompson Run, located in Clover Township, approximately 5 miles southwest of Brookville. The existing single-span reinforced concrete slab bridge carrying S.R. 0028 over Thompson Run is structurally deficient. The purpose of this project is to correct these identified deficiencies and safety concerns. The proposed structure will be a single-cell precast reinforced concrete box culvert with precast end sections. Additionally, two buildings to be demolished are historic, with one (Joseph Knapp Hotel) deemed eligible for listing on the National Register of Historic Places (NRHP), thereby requiring Section 4(f) analysis and mitigation. Michael Baker produced 3D renderings/recordation of the Joseph Knapp Hotel structure to serve as the principal mitigation product.

I-80 North Fork Bridges Preliminary Engineering, Brookville Borough and, Pine Creek Township, Jefferson County, Pennsylvania. *Pennsylvania Department of Transportation, District 10-0.* Technical Manager. Performed constructability reviews of design plans, schedule, and cost estimate. Michael Baker provided preliminary engineering services for two bridges carrying I-80, Section 550 Westbound and Eastbound over North Fork Redbank Creek and Water Plant Road in Brookville Borough and Pine Creek Township, Jefferson County, Pennsylvania. Tasks included project management, surveys, public involvement, wetland and water studies, environmental assessment, noise analysis, archaeology, Level 2 CE, Section 4(f) evaluations, value engineering, cross sections, typical sections, design field review, right-of-way, subsurface utility engineering, constructability review coordination, maintenance and protection of traffic, pavement design, drainage design, preliminary geotechnical engineering report, stormwater management design, erosion and sediment control, waterway permits, hydrologic and hydraulic report, and preliminary type, size, and location.

EDUCATION (Degree, Year, Specialization) B.S., 1991, Civil Engineering	
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS ASHE	REGISTRATION (Type, Year, State) Professional Engineer: 1997, PA

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

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Shovlin, Savanmaly (Molly) Construction Services Technical Manager	0	23	0

Brief Explanation of Responsibilities

Ms. Shovlin is a senior construction professional with more than two decades of experience involved in stakeholder and client relationship development. She also brings an understanding of the technical aspects of the business, including construction challenges and strategies. Ms. Shovlin has worked on numerous consulting projects involving delay claims, cost claims, estimating property damage, and other construction related disputes. Her experience includes corporate document control management, P6 scheduling, traffic coordination, estimating, and small/disadvantaged business participation management. She has worked on several large, complex Design-Build and bid-build projects in the public and private sectors. Her work has spanned both the east and west coast regions of the United States.

Design and Construction Management Master Services Contract, Southwestern, Pennsylvania. *Duquesne Light Company.* Construction Manager. Responsible for construction advisory services, value engineering, project phasing, communication and collaboration with design, assisting the client manager with design changes, scheduling, budgeting and cost projections, scope development, making recommendations concerning project conflicts, managing inspection staff, attending subcontractors and coordination meetings, and preparing minutes and project work orders. Michael Baker is providing architectural and engineering services under a three-year master services agreement for design, preconstruction, bid phase, construction management, and other services for the renovation or improvements to the company's facilities and for major capital projects and programs. Michael Baker's services include project management, architectural and engineering design, design management and design reviews, cost estimates, construction sequencing, bidding-phase support, and construction management and inspection.

PennDOT Greene County Maintenance Building Design, Greene County, Pennsylvania. *Pennsylvania Department of Transportation, Central Office.* Construction Manager. Responsible for providing preconstruction advisory on project approach of a pre-fab building, reviewed CPM schedule, research and development of feasibility study, and making recommendations concerning project conflicts. Michael Baker provided architectural and engineering design services for the emergency replacement of the Pennsylvania Department of Transportation's (PennDOT) Greene County Maintenance Building. The previous building was lost to a fire in 2019, requiring a replacement design in a six-month timeframe. For the project, Michael Baker performed numerous engineering services in compliance with PennDOT requirements, including civil, architectural, structural, mechanical, and fire protection engineering, along with interior and telecommunications design, cost estimating, and construction phase services.

Bellevue Design-Build Project, Bellevue, Washington. *Washington DOT.* Construction Manager. Managed the thousand-line cost loaded Primavera schedule for the \$126 million I-405 South Bellevue Design-Build Project; manager responsible for updating Critical Path Method (CPM) logic and preparing monthly payment requests; prepared comprehensive cash flow diagrams forecasting cost and revenue for the duration of the project. Resulted in project staying significantly cash positive throughout the duration.

King County West Point Wastewater Treatment, Seattle, Washington. *King County.* Construction Manager. Provided site monitoring for sewage flood damages repairs. Damage assessment, ROM and cost estimate development. Invoices, contracts, T&M sheets and document review, claim support and analysis.

Discovery Clean Water Alliance Salmon Creek Treatment Plant, Vancouver, Washington. Construction Manager. Retained to inspect and provide estimate for damages to waste treatment plant due to overflow of sludge blend tank. Monitored and reviewed repairs completed.

Newport County MUD, Crosby, Texas. *Newport County.* Construction Inspection Manager. Hurricane Harvey site inspections at multiple Municipal Utility District locations including waste treatment plant and pump stations. Retained to assess damages and provide cost estimates.

EDUCATION (Degree, Year, Specialization) N/A	
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS ACEC-Pennsylvania, CMAA, NAWIC	REGISTRATION (Type, Year, State) N/A

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN. (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Baker, Brian P., P.E. Civil Engineer	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 4	YEARS OF AML RELATED DESIGN EXPERIENCE: 13	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 8

Brief Explanation of Responsibilities

Mr. Baker has been working in the site/civil group as an engineering associate and civil engineer since the Fall of 2009. He has worked on several housing development projects in the Pittsburgh area where he assisted in the grading, drainage, erosion and sedimentation control, and stormwater management features of the site. He started working on facility projects in 2011, designing Erosion and Sedimentation Control Plans, Post-Construction Stormwater Management Plans, and Stormwater Pollution Prevention Plans for various ARCs. He has also helped obtain various permits from the EPA and several different State Departments of Environmental Protection.

Master Services Agreement - Surveying Services for Gathering Lines, Northern, Western, and Central Pennsylvania; and, Ohio. Confidential Client. Civil Engineer. Responsibilities included developing a watershed model to determine the effects of gas industry developments within a watershed. This included using the ArcGIS, HECRAS, and HECHEMS programs to assist in making maps and performing calculations. This included dividing the watershed into smaller watersheds and finding a land use and soil condition for the entire area. This was completed for both a "past" condition, which basically modeled the system before any developments took place, and a "present" condition which included future industry developments within the watershed. This also included modeling the effects of existing stormwater facilities at specific well pads within the watershed and taking into account the designed ponds outflows. Multiple maps were created and highlighted specific areas of concentrated development and the effects these areas had on areas directly downstream, as well as a whole for the watershed. A summary report was written as well to describe and explain all of the findings of the modeling and calculations. Michael Baker has been performing preconstruction surveys, preparing alignment sheets, performing construction staking, and conducting as-built surveys of over 100 miles of midstream pipelines. Michael Baker initially performs route staking and concentrates on property evidence, environmentally sensitive areas, tree clearing, stream crossings, and other design impacts to support permitting and constructibility issues. Upon routing stakeout and constructibility walk, final preconstruction surveys are performed and alignment sheets displaying a plan and profile of the pipeline are prepared. Michael Baker provides staking of proposed pipeline, limits of disturbance (LOD), and additional temporary work spaces (ATWS) prior to construction and performs in-ditch as-built surveys during construction. Final as-built alignment sheets are prepared and delivered base upon in-ditch as-built, post-construction survey, inspector weld maps and pipe tallies, and other information.

Design and Construction Management Master Services Contract, Southwestern Pennsylvania. Duquesne Light Company. Civil Engineer. Responsibilities included going on site because of Stormwater Drainage and Erosion Control Issues. Developed a plan to prevent further erosion from occurring by directing water around the site to an existing drainage ditch. Tasks included mapping of drainage area, calculating stormwater draining towards site, and developing a grading and stormwater management plan to better control stormwater on site. Michael Baker is providing architectural and engineering services under a three-year master services agreement for design, preconstruction, bid phase, construction management, and other services for the renovation or improvements to the company's facilities and for major capital projects and programs. Michael Baker's services include project management, architectural and engineering design, design management and design reviews, cost estimates, construction sequencing, bidding-phase support, and construction management and inspection.

Runway Extension and Environmental Assessment, Morgantown Municipal Airport (MGW), Morgantown, West Virginia. Morgantown Municipal Airport. Civil Engineer. Responsible for stormwater management and erosion and sedimentation control design. This included stormwater detention basin design, stormwater pipe system design, and swales and channel design for stormwater conveyance. Steep slopes are a limiting factor and multiple ponds will be necessary to control and safely route the large amount of runoff the runway extension will produce. This also included modeling the affects the proposed flows will have on areas downstream of the airport runway extension and limiting the disturbances surrounding residents will notice. An existing stream will be relocated and routed through a large diameter pipe as part of the project. Michael Baker is developing an environmental assessment and runway extension design for the Morgantown Municipal Airport. Michael Baker also performed a benefit-cost analysis, which included a runway justification study for the runway extension. The environmental assessment is being developed in accordance with the National Environmental Policy Act of 1969 (NEPA); Federal Aviation Administration (FAA) Order 1050.F; Environmental Impacts: Policies and Procedures; and FAA Order 5050.4b, NEPA Implementing Instructions for Airport Actions. The runway extension design is being developed in accordance with all applicable FAA advisory circulars.

Apache Civil Infrastructure. Baker AECOM JV. Civil Engineer. Responsibilities included developing a stormwater management plan for an airfield in Qatar. This included the design of a dozen evaporation ponds on site because conveyance of stormwater was a not a viable solution due to site restrictions. Tasks included stormwater calculations of rate and runoff, designing stormwater pipe conveyance systems, and helping with grading and drainage on site, utility layouts, and detail sheets. Responsibilities also included attending project design meetings.

EDUCATION (Degree, Year, Specialization)
B.C.E., 2009, Civil and Environmental

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers (ASCE) Chi Epsilon, The National Civil Engineering Honor Society	REGISTRATION (Type, Year, State) Professional Engineer, 2014, PA
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**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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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:
Nicolas Slater, P.E. Civil Engineer	0	6	0

Brief Explanation of Responsibilities

Mr. Slater is proficient in Microsoft Word, Excel, and PowerPoint. He is experienced in operation AutoCAD, AutoCAD Civil 3D, HydroCAD, SewerCAD, Highway Capacity Software, ANSYS, MicroStation, and Bentley FlowMaster. Mr. Slater has been a part of multiple oil and gas permitting projects. He is experienced in E&S design and plan preparation. Mr. Slater has been heavily involved in ESCGP-3 application permits in southwest PA, with some experience in northwest and northcentral PA as well as West Virginia. Mr. Slater is experienced in Stormwater analysis and design as well as BMP grading and design.

PIT Terminal Modernization Program Multi-Modal, Pittsburgh International Airport (PIT), Pennsylvania. *Allegheny County Airport Authority.* Civil Associate. Responsible for Site plan preparation, detail coordination, and Stormwater conveyance design and calculations for the G, P, E and Q Packages. Michael Baker is providing design and construction administration services for the development of a new multi-modal complex as part of the Terminal Modernization Program at Pittsburgh International Airport. The program consists of a new landside terminal building, new entrance and exit roads, including departures, arrivals, and commercial curbs, and all landside facilities needed for the operation of the new terminal. Michael Baker was responsible for the design of the landside facilities, including a new 3,300-space parking garage that also houses the rental car ready/return, an enclosed connector between the new garage and terminal that also houses the rental car customer service building, the rental car quick-turnaround facilities, new surface parking consisting of approximately 2,750 stalls, parking and rental car entrance and exit roads, an employee parking lot that includes approximately 450 spaces with its own entrance, and remote hold lots for taxis, commercial vehicles, TNCs, and cell lot customers. Michael Baker provided all civil, geotechnical, roadway, architectural, mechanical, electrical, plumbing, fire protection, and structural engineering design for the new facilities.

Lower Hill G1 G4. *Buccini Pollin. Group.* Civil Associate. Responsible for preparation of permit and construction drawings. Responsibilities also included preparing permit documents and submissions, erosion and sediment and PCSM BMP designs, and Stormwater management and conveyance designs.

Chevron Sinay Pad A Site. *Chevron USA, Inc.* Civil Associate. Responsible for developing the minor mod drawing set. In addition to plan drawing preparation, the responsibilities also included providing updated Stormwater calculations.

Buckeye Lake Dam Improvements, Fairfield County, Ohio. *Ohio Department of Natural Resources.* Civil Associate. Responsibilities included preparing drainage area calculations in AutoCAD Civil 3D. Michael Baker provided engineering services to bring Buckeye Lake Dam into compliance with current regulations. Michael Baker's services included a site assessment, permitting, final design, and construction administration.

Chapman Construction QA. *Pennsylvania Fish and Boat Commission.* Civil Associate. Responsible for on-site construction inspection. Responsibilities included reviewing construction submittals from the contractor, construction plans and specification review, attending site meetings to review the project as it is completed, on-site visits to ensure plans and specifications are being followed, and preparation of daily site visit reports documenting site work. Tasks currently overseen on this project include grout hole drilling, grout curtain placement, pipe sliplining and grouting, cast-in-place concreting, and sluice gate installation. Became familiar with the e-Builder construction management software to review RFI's and submittals throughout the project.

Cernuska Pad A. *Chevron USA, Inc.* Civil Associate. Responsible for mapping and calculating drainage areas for the pre and post construction conditions. Responsibilities also included Stormwater BMP design and preparation of the preliminary layout package.

EDUCATION (Degree, Year, Specialization)

B.S., 2017, Civil Engineering, Geneva College

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

N/A

REGISTRATION (Type, Year, State)

Professional Engineer, Ohio, 2022, PE88089

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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:
Hlebiczki, William, J., P.E. Civil Engineer	7	7	0

Brief Explanation of Responsibilities

Mr. Hlebiczki is a Civil Engineer with a background in water resources engineering and site development. His experience includes stormwater management design, environmental permitting, site development plans, erosion and sediment control plans, and Dam Construction Inspection.

Mountain View Portals Mine Reclamation, Preston County, West Virginia. *West Virginia Department of Environmental Protection.* Civil Associate. Responsibilities include sampling water and acid-base accounting soil sampling, setting up drawings for drawing package, and designing toe of slope channels and collection channels. My experience using AutoCAD Civil 3D were helpful in designing the channels and setting up the plans. Michael Baker provided engineering services for the reclamation of the Mountain View Portals abandoned coal mine site. Michael Baker's services included site investigation; field survey; subsurface investigation; water quality and soil sampling and analysis; conceptual, preliminary, and final design; stream restoration; permitting; environmental investigations; bidding-phase support; and construction monitoring.

Mapping and Design Services for Special Mine Reclamation Permits, Preston County, West Virginia. *West Virginia Department of Environmental Protection.* Civil Associate. Responsible for drainage calculations for the channels, sampling acid mine drainage, doing a bathymetric test of the ponds onsite, and making some of the sheets for the drawing package. Some of these sheets included building floor plans, site plans, and profiles/cross sections of the site and the ponds. The tools that were used included Hydraflow Hydrographs and AutoCAD Civil 3D, Boat with Sonar, and mapping. Michael Baker is providing engineering and mapping services to meet the requirements of special mine reclamation permits. Michael Baker's services include data collection and analysis, aerial mapping verification, supplemental field and bathymetric pond surveying, bench-scale treatability testing, acid-base accounting testing, engineering design and analysis, preparation of construction plans and specifications and stormwater pollution prevention plans; cost estimates, bidding-phase support; and construction services.

Summersville Five Block Mine Reclamation, Nicholas County, West Virginia. *WVDEP - Office of AML&R.* Civil Associate. Responsibilities included setting up sheets for drawing package, making cross sections and profiles of the site and ponds, revising the site as conceptual changes were made, and storm water calculations, which included setting up drainage areas and designing diversion channels. I was able to stay with the project and quickly carry through the many aspects of the project that were affected by the changes that were made throughout the project. Tools used for this job included AutoCAD Civil 3D and its extension Hydraflow Hydrographs.

Maurice Jennings Coal Company Site, Preston, West Virginia. *West Virginia Department of Environmental Protection.* Civil Associate. Responsible for creating and revising drawing for submission to the WVDEP, as well as sampling the acid mine discharge water on the site. The tools used included mapping and AutoCAD Civil 3D. Michael Baker is providing engineering services for the special reclamation of Maurice Jennings Coal Company mining permits; S-61-83 and S-53-78. The project area consists of previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps at the site of an abandoned strip mine. Michael Baker's services include aerial mapping, site reconnaissance, permit research and review, surveying, bench-scale treatability studies, AMD conveyance, AMD treatment, preparation of reclamation and treatment plans, stormwater pollution prevention plans, field water quality sampling, technical specifications, bidding-phase support, construction services, and right-of-way support.

Masteller Coal Company Site, Mineral, West Virginia. *West Virginia Department of Environmental Protection.* Civil Associate. Responsible for delineating drainage areas, channel design, culvert design, sampling acid mine drainage, specification modifications, and mapping. The tools used for this project included AutoCAD Civil 3D, Hydraflow Hydrographs, and Hydraflow Express. Michael Baker is providing engineering services for special reclamation of Masteller Coal Company mining permits; S-10-85 and S-125-82. The project area consists of previously reclaimed highwalls, treatment ponds, and several acid mine drainage (AMD) seeps. Michael Baker's services include site reconnaissance, permit research and review, aerial mapping, surveying, bench-scale treatability studies, AMD conveyance, AMD treatment, preparation of reclamation and treatment plans, stormwater pollution prevention plans, field water quality sampling, technical specifications, bidding-phase support, and construction services.

EDUCATION (Degree, Year, Specialization)

B.S.E., 2015, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

N/A

REGISTRATION (Type, Year, State)

Professional Engineer, 2019, OH

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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:
Hollern, Andrew P., P.E. Civil Engineer	1	7	4

Brief Explanation of Responsibilities

Throughout his career, Mr. Hollern gained a lot of experience in stormwater management design across a diverse background of client settings. This includes post construction stormwater BMPs for natural gas clients, storm-water drainage systems for local municipalities, floodplain/floodway modeling and delineation for commercial development, and bridge hydraulic modeling for local government. This has made him adept in learning modeling software and understanding storm-water management concepts. Alongside his design/modeling background, Mr. Hollern has experience in permit development for PADEP Chapter 105, Chapter 106, as well as ESCGP-3 and WMGR-123 permits for natural gas clients.

PennEnergy MSA 2019. *PennEnergy Resources, LLC.* Civil Associate. Responsibilities included W58 Well Pad site design, grading, storm water management, site plans, and ESCGP-3 permit package. As the project progressed the site layout had to change multiple times due to constraints such as landowner agreements and geotechnical issues. This led to major adjustments in well pad locations, access roads, and storm water facilities. Responsible for making all necessary adjustments, grading and balancing the site and erosion control design. The ESCGP-3 package entailed wet pond and storm water management design as well as erosion and sediment control facilities including a sediment basin design. Program used for hydrologic analysis was HydroCAD. Also responsible for B22 Well Pad ESCGP-3 major modification for expansion of well pad and removal of gravel area in the post-construction condition. This required an expansion of an existing wet pond as well as reconfigured hydrology calculations for the site. Additionally, responsible for the developing the major modification permit package.

P-199 Aircraft Maintenance Hangar MCAS CHPT, Marine Corps Air Station Cherry Point, Havelock, North Carolina. *NAVFAC Mid-Atlantic.* Civil Associate. Responsible for updating site and utility layouts for the P-199 Hangar Facility to facilitate revised sidewalk layouts and wash rack relocation. Michael Baker provided design management and all engineering and interior design services for a 150,003-square-foot, two-story two-squadron module Type I aircraft maintenance hangar for the F-35B Lightning aircraft at MCAS Cherry Point. Work included design management; site civil; landscape architecture; interior design; structural, mechanical, electrical, and plumbing systems; telecommunication and security system design; fire protection system and life safety analysis; and anti-terrorism/force protection compliance. The hangar included an AFFF system and preconditioned air systems for the F35 airframe. The design-build project complies with UFC 1-200-02 High Performance and Sustainable Building Requirements with third-party certification for GBCI Guiding Principles Assessment. The facility combines high bay space for 12 aircraft, aircraft support shops, administration space, and secure spaces designed in accordance with ICD 705. The adjacent apron was designed to accommodate 21 aircraft shelters and all associated apron infrastructure for aircraft kiosks. The project included the design of a 4,420-square-foot paraloft facility for parachute packing and storage/repair of ancillary aviation equipment.

Fifth & Dinwiddie Design Services. *Fifth and Dinwiddie Partners, LLC.* Civil Associate. Responsibilities included storm water management calculations, layout and design. Programs used for hydraulic and hydrology calculations were Hydraflow Hydragraphs as well as Hydraflow Storm Sewers extensions to AutoCAD. Also, aided in the development of site design and plan sheets for construction and permitting purposes. Responsible for developing permit packages such as the NPDES permits, and submissions to the City of Pittsburgh such as Pittsburgh Sewer and Water Authority, Department of Public Works, as well as other Pittsburgh agencies.

CNSL PA CMC100438. *Confidential Client.* Civil Associate. Responsibilities included hydrologic and hydraulic calculations for designing channels and culverts. Programs that were used were Hydraflow Hydrographs, and Hydraflow Express. Channel lining calculations were also done using PADEP standard worksheets, rip rap sizing was calculated using Bentley Flowmaster.

EDUCATION (Degree, Year, Specialization)

B.S., 2016, Environmental Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

N/A

REGISTRATION (Type, Year, State)

Professional Engineer, 2021, Pennsylvania

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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:
Lasko, John D., P.G. Senior Geologist	15	35	0

Brief Explanation of Responsibilities

Mr. Lasko's background encompasses a variety of geotechnical projects. His experience includes project task management, test boring layout, drilling inspection, geotechnical interpretation of subsurface geology, construction inspection, and related project fieldwork.

Waitman Barbe Highwall #1, Monongalia County, West Virginia. *West Virginia Division of Environmental Protection.* Geologist. Assisted in the field view and determination of mining conditions. The project consists of reclamation of approximately 4,600 linear feet of an abandoned strip mine highwall ranging in height from 30 to 45 feet. This includes areas of mine spoil, three areas of exposed coal refuse, an illegal dumpsite containing non-hazardous construction debris and a suspected 11 mine openings. Michael Baker prepared construction plans, specifications, and stormwater pollution prevention plan services.

Collier Sportsman's Club Highwalls, Brooke County, West Virginia. *West Virginia Division of Environmental Protection.* Geologist. Assisted in the subsurface investigation. Michael Baker's responsibilities included research of existing geological data and mining maps, review of water quality data, erosion and sedimentation controls, design of wet and buried mine seals with bat gates at suspected mine entries, backfilling of existing highwalls to stable configurations, site grading, upgrade of existing access roads, reclamation of onsite spoil and coal refuse, culverts and channel design, removal of non-hazardous trash and waste from the site, and revegetation of all disturbed areas. Additional responsibilities were for coordination of the check survey and drilling by sub-consultants, and the preparation of the WV NPDES Stormwater Permit.

Site Design and Permitting for Cumberland Mine Air Shaft Number 10, Greene County, Pennsylvania. *Alpha Natural Resources, Inc.* Senior Staff Consultant. Responsible for site reconnaissance to evaluate landslide susceptibility for the project site. Evaluated overall site for landslide potential, groundwater conditions, bedrock, and structural geology. Evaluated proposed test boring program and recommended modifications to accommodate investigation of site conditions. Evaluated and modified testing program to accommodate site conditions. Prepared site reconnaissance plan and provided recommendations for final subsurface investigation and testing and site design. Michael Baker developed site design and construction documents and cost estimates and provided permitting services for the Number 10 air intake shaft and associated site infrastructure, including a one-mile-long access road at the Cumberland Mine.

Landslide Induced Pipeline Failure, Armstrong County, Pennsylvania. *Buckeye Pipeline Company.* Geologist. Responsible for inspection of remediation construction activities after a pipeline break including landslide stabilization, site grading, erosion and sedimentation control, and installation of spring collection and treatment facilities. Work also included preparation of record drawings and construction quality control reports. Construction involved several contractors and required close liaison with state agencies. Michael Baker conducted a detailed landslide investigation after a 10-inch diameter petroleum pipeline break and resulting spill which was induced by a landslide.

Geotechnical Investigation of the Wheeling Army Reserve Center, Wheeling, West Virginia. *Mellon Stuart Construction, Inc.* Senior Geologist. Responsible for providing supervision of subsurface investigation and interpretation of subsurface conditions. Construction inspector during landslide remediation. In February 1998, a 300'-long landslide occurred along the access road embankment for the Wheeling Army Reserve Center in Wheeling, West Virginia. Michael Baker was retained to conduct a geotechnical investigation, prepare a remediation design and provide construction management for the emergency repair of the landslide. The geologic site conditions proved to be difficult due to previous strip-mining activities at the site.

On-Call Multidiscipline Services, Pittsburgh International Airport (PIT) and, Allegheny County Airport (AGC), Pittsburgh, Pennsylvania. *Allegheny County Airport Authority.* Senior Geologist. Provided construction support for landslide repair. Performed landslide susceptibility survey for timber harvest report and permit. Since 1989, Michael Baker has provided multidiscipline, on-call engineering services to the airport authority, which owns and operates Pittsburgh International Airport and Allegheny County Airport. Michael Baker has acted as an extension of the airport authority's staff, providing the depth of resources and experience of the entire company when called upon. Michael Baker delivered a full range of services on an on-call, as-needed basis, including architecture, civil, structural, mechanical, electrical, plumbing, fire protection, and environmental services.

EDUCATION (Degree, Year, Specialization)

M.S., 1989, Earth Science and Geology; B.S., 1985, Geology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS - N/A

REGISTRATION (Type, Year, State)

Professional Geologist: 1995, PA

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

Attachment "A"

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:
Green, Donald, P.E. Geotechnical Technical Consultant	10	44	0

Brief Explanation of Responsibilities

Mr. Green's responsibilities include geotechnical engineering, foundation and retaining wall design, planning, laboratory and field investigations, preparation of plans and specifications, and project supervision and management. He has spent the majority of this career performing foundation engineering for structures both on land and water.

Rural Abandoned Mine Reclamation (RAMP) Program (6 sites), Multiple-Counties, West Virginia. Project Engineer. Responsible for engineering services required to reclaim abandoned mine areas, including site investigations, hydrologic/hydraulic studies, topographic surveys and geotechnical investigations. Used data obtained to prepare PS&E to solicit bids to reclaim abandoned mine areas. Mine reclamation included waste disposal, closure of abandoned mine entries, mine seals, storm water management, AMD abatement, slope stabilization, and revegetation.

Mine Subsidence Abatement, Beafore Residence, Fairmont, West Virginia. *U.S. Department of the Interior, Office of Surface Mining (OSM).* Project Manager. Responsible for subsurface investigation and preparation of PS&E to abate subsidence-induced lateral displacement of a private residence while under contract for OSM.

Mine Subsidence, Open-End Engineering Services Agreement. *Pennsylvania Department of Environmental Protection, Bureau of Abandoned Mine Reclamation.* Project Manager. Responsible for investigation of reported mine subsidence events, determination of potential causes, and developing plans to mitigate subsidence damage on over two dozen projects. Drilled test borings, installed instrumentation to monitor movement, performed laboratory tests, completed analyses, and prepared summary reports to document findings and make recommendations.

Freedom Road Improvement Project, Butler and Beaver Counties, Pennsylvania. *Pennsylvania Department of Transportation, District 11-0.* Geotechnical Project Manager. Responsible for preliminary design for safety improvements over about 10 miles of two-lane roadway. The subsurface investigation included over 100 test borings to support roadway and structure design. Investigated construction alternatives to reduce impacts of exposing seven coal beds, abatement of AMD, mitigation of subsidence activity at abandoned clay mines, landslide stabilization, and stream relocation.

Ryan Homes On-Call Geotechnical and Engineering Services, Various Locations in Pennsylvania, Buffalo, New York, and Nashville, Tennessee. *NVR, Inc.* Task Manager. Responsible for being the client's point-of-contact to provide on-call engineering services ranging from foundation stabilization, landslide investigation and stabilization, mitigation of groundwater intrusion, and wall movement. Michael Baker was responsible for providing professional geotechnical engineering services, on an on-call basis, to assist Ryan Homes when problems were encountered during the development of residential lots. Michael Baker was responsible for investigating the cause and extent of the problem and recommending methods for remediation and stabilization.

Cuyahoga Valley Railway-Slope Stabilization Project, Summit County, Ohio. *National Park Service and the Ohio Department of Transportation.* Project Manager. Responsible for design of rock anchors for construction of a two-tiered wall system to stabilize a landslide below an existing bridge abutment.

Open-End Construction Management and Construction Inspection Services, Various Counties, Pennsylvania. *Pennsylvania Department of Transportation, Central Office.* Technical Specialist. Provided QA oversight for a forensic investigation to determine the cause of excessive deformation of new abutment foundations for dual multispan bridge structures in the north-central region of Pennsylvania. Michael Baker is one of the Pennsylvania Department of Transportation's (PennDOT) preferred construction management and construction inspection providers on roadway and bridge projects through the state, including specialty railroad-railroad crossing projects administered through the PennDOT Bureau of Public Transportation. Under numerous open-end contracts, Michael Baker is providing construction management and construction inspection services for highway, roadway, and bridge projects; small and mid-sized projects for erosion and sedimentation control; and environmental projects, on an as-needed basis. Michael Baker's services include administering the construction contract, performing claims avoidance evaluations, preparing documents and presentations for claims review committee meetings, and preparing correspondence. Services also include overseeing the documentation control system, preparing supplements for specialty subconsultants or additional work orders or change orders, and coordinating the work of all subconsultants. On-site services include providing full construction inspection, documenting construction progress, and coordinating the construction schedule among stakeholders.

EDUCATION (Degree, Year, Specialization)
M.S., 2004, Civil Engineering | B.S., 1978, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS
Association of State Dam Safety Officials (ASDSO) | Chi Epsilon, The National Engineering Honor Society

REGISTRATION (Type, Year, State)
Professional Engineer, 1985, PA

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

Attachment "A"

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.) Jeffery A. Frye, P.E. Civil Engineer	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 10	YEARS OF AML RELATED DESIGN EXPERIENCE: 34	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 30

Brief Explanation of Responsibilities

Mr. Frye is a professional engineer experienced in the civil engineering field. His work experience includes project design, management, and technical support to public and private sector clients comprised of municipalities, authorities, government agencies, and developers. Mr. Frye has a diversified background providing engineering services on projects involving utility and infrastructure design and rehabilitation, site development, permitting, storm and sanitary sewer design, water supply, roadwork, erosion and sedimentation control plans, land surveying, construction inspection, and project management.

3-year award for Duquesne Light Company. *Duquesne Light Company.* Project Engineer. Provided engineering design for the replacement of the existing aeration tank at the Warwick Acid Mine Drainage (AMD) Treatment Plant with maelstrom oxidizers, influent splitter box, detention boxes and partial replacement and extension of the existing flume conveying treated AMD water to the plant clarifiers. Work included evaluation of various alternative treatment systems and coordinated with the client, and other Michael Baker departments including structural engineers and construction services.

Crabtree Creek AMD Restoration Project, Westmoreland County, Pennsylvania. *PA Department of Environmental Protection.* QA/QC Engineer. Providing permitting, survey, geotechnical, and design services for the Crabtree Creek AMD Restoration Project in Westmoreland County, Pennsylvania. Work included providing calculations, modeling and design of the collection system for the mine pool AMD discharge and the design of approximately 18,300 feet of pipeline for gravity conveyance of the AMD discharge from the collection point to the passive treatment system site. Michael Baker provided permitting, survey, geotechnical, and design services for the Crabtree Creek AMD Restoration Project in Westmoreland County, Pennsylvania. Work included the design of the collection system of the mine pool AMD discharge and the design of approximately 18,300 feet of pipeline for gravity conveyance of the AMD discharge from the collection point to the passive treatment system site.

Warwick O&M Manual. *Duquesne Light Company.* Technical Manager. Provided ongoing engineering assistance, technical advice, attended meeting and consultation with company representatives for the creation of an O & M Manual for the equipment at the Duquesne Light Company Warwick Mine AMD Treatment Facility.

Warwick Aeration Tank. *Duquesne Light Company.* Technical Manager. Provided ongoing engineering assistance regarding potential solutions for the replacement and/or rehabilitation of the aeration tank at the Duquesne Light Company Warwick Mine AMD Treatment Facility.

Warwick Aeration Tank Design. *Duquesne Light Company.* Project Engineer. Provided engineering design for the replacement of the existing aeration tank at the Warwick Acid Mine Drainage (AMD) Treatment Plant with Maelstrom Oxidizers, influent splitter box, detention boxes and partial replacement and extension of the existing flume conveying treated AMD water to the plant clarifiers. Work included evaluation of various alternative treatment systems and coordinated with the client, and other Michael Baker International departments including structural engineers and construction services.

Warwick AMD Plant Rehab. *Duquesne Light Company.* Project Engineer. Provided ongoing engineering assistance, technical advice, attended meeting and consultation with company representatives for the aeration treatment, flume replacement and clarifier launder replacement at the Duquesne Light Company Warwick Mine AMD Treatment Facility.

Warwick Flume Design. *Duquesne Light Company.* Project Engineer. Provided ongoing engineering assistance and design for the replacement and rehabilitation of the flumes at the Duquesne Light Company Warwick Mine AMD Treatment Facility.

EDUCATION (Degree, Year, Specialization)
B.S.A.S, 1989, Civil Engineering / Construction Engineering Technology, Youngstown State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS N/A	REGISTRATION (Type, Year, State) Professional Civil Engineer, Ohio, 2000, PE 65330 Professional Civil Engineer, Pennsylvania, 1997, PE049763E
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14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES

HYDROLOGY

SEDCAD4 – Storm Routing through Detention Structures, Channel Design and Riprap Sizing.
TR20 – Project Formulation – Hydrology by SCS
TR55 – Urban Hydrology for Small Watersheds by SCS
HAESTADS POND2 – Storm Routing through Detention Structures
HEC1 – Flood Hydrograph Package by U.S.A.C.O.E.
HAESTADS QTRSS – Urban Hydrology for Watersheds
Hydraflow Hydrographs – Storm Routing Model

HYDRAULICS – OPEN CHANNEL AND CULVERT

HEC RAS - River Analysis System/Flood Plain Analysis/Water Surface Profile
HEC2 – Water Surface Profiles by U.S.A.C.O.E.
HY8 – Culvert Analysis by FHWA
FLOWMASTER – Channel and Pipeline Hydraulics by HAESTAD, Inc.
Hydraflow Express – Culverts, Channels, Inlets, and Weir Hydraulics
WSPRO88 (HY7) – Water surface profiles, open channel, stream crossings by USGS

PIPELINE HYDRAULICS

WATERCAD – Water Distribution System Modeling
KYPIPE2 – Water Distribution System Modeling
CYBERNET – Water Distribution System Modeling
Hydraflow Storm Sewer – Stormwater Conveyance System Modeling
UNET – pipeline hydraulics

ENVIRONMENTAL

WET 2.0
HEP
PAMHEP
AMDTreat v5.0.2 Plus

GEOTECHNICAL

Log Draft 5
gINT V8.3
FB-Multi-Pier Version 4.16
FIT Version 8.2
UniSettle, Version 3
DARwin 3.1
Midas GTS
GROUP Version 6
FE Flow 5.3
EMBANK
SPW 911
ProSheet
CRSP
DRIVEN
PASTABL6
RSS
HELP
SURFER
SlopeInc
PCASE 2.09.01
CPET-IT
FOSSA
MSEW
DAMBRK

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

DRAFTING AND SITE DESIGN

AutoCAD – Civil 3D for Earthwork, Survey, Quantity, Calculations, Terrain Modeling, Coordinate Geometry, Site Grading, etc.
(Enterprise License, 100+ seats)
MicroStation – Enterprise License, 100+ Seats

GIS SOFTWARE

ESRI: Enterprise License Agreement – ArcGIS (100+ Seats)
9 – ArcView, Version 10.X
10 – ArcEditor, Version 10.X
1 – Spatial Analyst
1 – 3D Analyst
1 – ArcCOGO

AutoCAD, Versions 2019, 2014, and prior versions
1 – Visual Basic, Version 6
1 – Visual Studio 2013 Architects w/MSDN Premium
1 – Visual Studio 2013 Developers w/MSDN Premium
1 – Visual Studio 2013 Pro w/MSDN Premium

ARCInfo and ARCEditor are concurrent licenses
ARCView concurrent licenses

STRUCTURAL – BRIDGE DESIGN

MIDAS 2018 v2.3
STAAD.PRO V8.1
PCA COLUMN 3.60
ABUTWALL
LRFD SIMON – Steel Design and Optimization Program
NSBA SPLICE – LRFD Design of Field Splices for Steel Girders
MICROSTATION V8i SELECT Series 3
ASHTOWare BrR 6.8
COM 624P Version 2
L-Pile Versions 4,5, or 6
FP-Multi-Pier Version 4.16
Vbent 3.5
Slope/W 2007
Seep/W 2007
UTexas 4
GRL WEAP
L-Pile Versions 4, 5 or 6
COM 624P Version 2
GSTABL7 and STEDwin

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

SURVEY EQUIPMENT

Survey/Global Positioning System (GPS)

- 16 – Pacific Crest ADL Vantage Pro 2-35 Watt UHF – GPS-RTK Trans/Receiver
- 32 – Leica GS15 GNSS dual frequency receivers
- 5 – Trimble R8 Model 3 GNSS dual frequency receivers
- 13 – Trimble R10 GNSS dual frequency receivers
- 2 – Leica GS 18 GNSS dual frequency receivers

Pipe/Cable Locators

- 2 – Radio Detection RD8000 with 10 watt transmitters
- 18 – Optical Ranging Inc. Spar 300 locating system integrated with the Trimble R8 receivers

Leica Scan Stations

- 2 – C10 Static Scanner1 – P20 Static Scanner
- 1 – RTC360 Static Scanner
- 1 – BLK2GO Hand Scanner

Tripods

- 64

Total Stations with Onboard Data Collection

- 2 – Leica TS 18 total station, fully robotic
- 9 – Leica TS 15P total station, fully robotic
- 1 – Trimble S7 Total Station

Magnetic Locators

- 2 – Chicago Steel Tape - FT - 60
- 1 – Schoenstedt
- 6 – Subsurface Instrument – ML-1

Hydrographic Survey Equipment

- 1 - HyDrone Bathymetric System

Field Laptops/Data Collectors

- 7 – HP Elite Laptop PCs
- 17 – Trimble TSCE 3 Data Collectors
- 16 – Leica CS-15 with Viva Software Data Collectors
- 1 – Trimble TSC7 Data Collector with Robotic Control
- 2 – Leica CS-18 with Infinity Software Data Collectors

Unmanned Survey Equipment

- 1 – Fixed-wing Precision Hawk Lancaster
- 1 – Phantom 3
- 1 – Phantom 2 Vision
- 1 – Phantom Inspire

Levels (Engineering)

- 11 – Zeiss Ni 2 automatic level with Nedo folding rod
- 1 – Wild N-3 with Nedo folding rod
- 11 – Wild 2000 Series
- 10 – Leica SNA Series
- 6 – Leica NA2 automatic level with 16 ft rod

GPS Antennas

- 12 – Leica AT502
- 1 – Leica AT503 w/Chokering and Ray-Dome
- 1 – Leica AT504 w/Chokering and Ray-Dome
- 32 – Leica GS 15
- 5 – Trimble R8 GNSS

Vehicle / Boats

- 6 – Fully-equipped Survey Vehicles
- 1 – 14. Ft Utility Trailer
- 1 – Mahindra Utility Vehicle
- 1 – John Boat with Trolling Motor
- 1 – Sonarmite V4.0 DFX Dual Beam Echo Sounder
- 5 – Chevy 2500 Extended Cabs 4x4
- 1 – 2500 Dodge Power Wagon 4x4
- 1 – Hydronc RCV Pontoon Boat/Hydrolite DFX portable survey system
- 1 – Innerspace Tech Model 455 – 200 KHz 8° Transducer

Survey Software

- 2 – Leica GIS Data Pro Version 3.0
- 1 – Innerspace Technology Version 6.0 Data Logging with Guidance
- 17 – Leica GeoOffice Version 7.5 and 8.3
- 2 – Trimble Pathfinder Office Version 4.0
- 22 – Listech – Liscad 10.0 (COGO)
- 5 – MicroStation Version V8i and XM
- 2 – Leica SPIDER CORS Controlling Software Version 2.0
- 10 – AutoCAD Civil 3D 2011 and 2014

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

MOBILE LIDAR

Sensor

1 – LYNX Mobile Mapper System with 2 Sensors.

LiDAR Processing WorkStations

3 – HP E5540 2.53 GHz, 18 GB RAM, 1.4 TB of disc space

Servers

1 – HP DL380, 2.1 TB of disc space,
 1 –ATMOS R610 DP Server GBE HA TITAN, 120 TB of disc space

Software

1 – Optech ALTM Navigation-Planner
 1 – Applanix POS PAC
 1 – Optech Dashmap
 6 – TerraSolid TerraScan
 5 – TerraSolid TerraMatch
 6 – TerraSolid TerraModeler
 1 – TerraSolid Terraphoto
 1 – TerraSolid Terraslave
 1 – GeoCue Enterprise Server
 5 – GeoCue Client
 5- Geocue LiDAR CuePac
 1-Geocue LYNX MMS CuePac

PHOTOGRAMMETRIC EQUIPMENT

Softcopy Stereoplotters

1 – HP X5670 @ 2.93 GHz Processor X2 (Xeon), 18 GB RAM, 64 BIT Operating System
 1 – HP E5645 @ 2.40 GHz Processor X2 (Xeon), 24 GB RAM, 64 BIT Operating System

Digital Orthophoto

2 – HP Z600 E5640 @ 2.67 GHz Processor X2, 120 GB RAM, 232 GB Disc Space

Scanner

1 – Z/I PhotoScan – Variable Resolution Settings from 7 to 256 microns.

Server

1 – Compaq Proliant DL380
 Xeon 3 GHz Processor
 5.1 GB Memory
 1 Terrabyte Disc Storage

1.2 Terrabyte Network Attached Storage

Software

1 – MrSID, Geo Express 8.5
 1 – ImageStation Automatic Triangulation (ISAT) 6.2
 7 – IRAS – C, Version 10.1
 1 – Adobe Photo Shop 5, Version 10.0
 1 – ERDAS Imagine, Version 2010
 2 – ImageStation Base Rectifier-ISBR, Version 6.2
 3 – ImageStation DTM Collection-ISDC, Version 6.2
 3 – ImageStation Feature Collection (ISFC) 5.3
 3 – ImageStation Model Setup (SMS) 5.3
 2 – ZI Ortho Pro/Geo Media, Version 6.2
 34 – MicroStation – J & 8, Versions V8 and V8i
 1 – MRF Mapping Tool Kit for GIS Linework Processing, Version 8.1
 1 – Corporate licensed Axiom Productivity Kit including File Fixer and English to Metric Conversion packages

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

Attachment "A"

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
<p>Mountain View Portals Mine Reclamation Preston County, West Virginia</p>	<p>West Virginia Department of Environmental Protection (WVDEP) Office of Abandoned Mine Lands & Reclamation 601 57th Street, SE Charleston, WV 25304</p>	<p>Michael Baker responsibilities includes providing engineering services for the reclamation of the Mountain View Portals abandoned coal mine site. Michael Baker's services included site investigation; field survey; subsurface investigation; water quality and soil sampling and analysis; conceptual, preliminary, and final design; stream restoration; permitting; environmental investigations; bidding-phase support; and construction monitoring.</p>	<p align="center">\$ 169,267 (Michael Baker Fee)</p>	<p align="center">90%</p>
<p>Crabtree Creek AMD Restoration Project Westmoreland County, Pennsylvania</p>	<p>Loyalhanna Watershed Association 6 Old Lincoln Highway West Ligonier, PA, 15658</p>	<p>Michael Baker is providing permitting, survey, geotechnical, and design services for the Crabtree Creek AMD Restoration Project in Westmoreland County, Pennsylvania. Work includes the design of the collection system of the mine pool AMD discharge and the design of approximately 18,300 feet of pipeline for gravity conveyance of the AMD discharge from the collection point to the passive treatment system site.</p>	<p align="center">\$ 278,674 (Michael Baker Fee)</p>	<p align="center">60%</p>
<p>Multi-Purpose Machine Gun Range Reconstitution Camp Ravenna Joint Military Training Center, Ohio</p>	<p>USPFO-OH 2811 W. Dublin-Granville Road Columbus, OH 43235-2788</p>	<p>Michael Baker responsibilities include architectural, engineering, and environmental services for reconstitution of the Automated Multi-Purpose Machine Gun (MPMG) Range at Camp Ravenna Joint Military Training Center. Michael Baker provided topographic mapping and surveying, reviewed design documents against current codes, performed a new wetlands delineation, supporting facility design, stormwater collection and conveyance, site layout and development, targetry layout and associated automation, utilities, construction documents and cost estimate, updated and prepared required permits, and provided construction phase support.</p>	<p align="center">\$612,079 (Michael Baker Fee)</p>	<p align="center">90%</p>

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
<p>Allegheny River Blvd. Landslide Remediation, Transmission Line Landslide Remediation Allegheny County, Pennsylvania</p>	<p>Duquesne Light Company 2841 New Beaver Avenue Pittsburgh, PA 15233</p>	<p>Geotechnical evaluation and remediation of landslides along transmission lines remediation. Michael Baker performed an initial site inspection, site characterization and development of remediation alternatives. The site characterization included a subsurface investigation and laboratory testing. Remediation alternatives included an anchored retaining wall, rock buttress or lime or cement stabilization of materials. The rock buttress alternative was selected. Michael Baker then prepared a bid package that included construction plans, specifications, details and cost estimate. During construction, Michael Baker provided construction oversight to make sure the landslide remediation was performed in accordance with the construction plans.</p>	<p align="center">\$1,300,000</p>	<p align="center">95%</p>
<p>Corridor H Quality Assurance Management (QAM) Services Randolph and Tucker Counties, West Virginia.</p>	<p>West Virginia Department of Transportation Division of Highways Building 5 Charleston, WV 25305</p>	<p>Michael Baker provided quality assurance management (QAM) for construction of Sections 1, 2, and 3 of the Corridor H highway from Kerens to Parsons. During a long-term relationship with the client, Michael Baker served as the owner's representative to provide all the services needed from pre-award phase, through post-award and construction stages of their largest ever construction project being executed as design-build.</p>	<p align="center">\$19,266,623 (Michael Baker Fee)</p>	<p align="center">80%</p>
<p>Buckeye Line 700 Slide Area Alternatives Analysis and Construction Oversight of Landslide Repair Allegheny County, Pennsylvania</p>	<p>Buckeye Partners, L.P. 993 Broadhead Road, Suite 100 Moon Township, PA 15108</p>	<p>Provided a alternatives analysis with recommendations to repair a landslide along Line 700. Michael Baker performed an initial site review and developed a condition report and two alternatives to mitigate the land movement. Michael Baker conducted survey work to establish the limits of the slide area and provided engineering design services to develop construction plans, specifications, details and a cost estimate to remedy the site. After contract award, Michael Baker provided oversight to ensure the contractor performed the landslide repair in accordance with the construction plans</p>	<p align="center">\$1,100,000</p>	<p align="center">95%</p>

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Attachment "A"

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
<p>TL-590 Construction Services Two Landslips Marshall County, West Virginia</p>	<p>Dominion Energy Transmission, Inc. 925 White Oaks Boulevard Bridgeport, WV 26330</p>	<p>On-site inspection of land slips along transmission line TL-590. Michael Baker performed onsite inspection to ensure compliance to the project specifications including verification of equipment and materials to maintain erosion and sedimentation plan, soil sample collection analysis and evaluation for enable proper soil densification, performed Troxler nuclear moisture density measurements to determine soil compaction was within the project specifications. Provided oversight of final grading and seeding of the landslip area.</p>	<p align="center">\$800,000</p>	<p align="center">75%</p>
<p>Bergey 812 Well Pad Landslide Remediation Gains Tioga County, Pennsylvania</p>	<p>Tilden Marcellus, LLC 4600 J Barry Court, Suite 120 Canonsburg, PA 15317</p>	<p>Geotechnical design of landslide remediation. Michael Baker performed a detailed geotechnical site reconnaissance of the landslide and developed remediations alternatives as possible solutions to the landslide issue. A remediation alternative was selected by the client. Michael Baker then prepared a bid package that included construction plans, specifications, details and quantity worksheets. After the client selected the contractor, Michael Baker provided construction oversight to make sure the landslide remediation was performed according to the construction plans.</p>	<p align="center">\$165,000</p>	<p align="center">75%</p>
<p>TOTAL NUMBER OF PROJECTS:</p> <p align="center">8</p>		<p>TOTAL ESTIMATED CONSTRUCTION COSTS:</p> <p align="right">\$23,691,643</p>		

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 FIRM'S RESPONSIBILITY
None					

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Attachment "A"

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
F&M Coal Company, S-1044-87 & S-57-84 Mapping and Design Services Preston County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$243,752 (Michael Baker Fee)	2017	Yes
Masteller Coal Company, S-10-85 & S-125-82 Mapping and Design Services Mineral County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$168,937 (Michael Baker Fee)	2017	Yes
Maurice Jennings Coal Company, S-53-78 & S-61-83 Mapping and Design Services Preston County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$217,982 (Michael Baker Fee)	2017	No
Training Area and Maneuver Trails Camp Ravenna Joint Military Training Center, Portage and Trumbull Counties, Ohio	121 OH Air National Guard 1438 S.R. 534 SW Newton Falls, Ohio 43217-1161	\$292,131 (Michael Baker Fee)	2018	Yes
Ebenezer Run Highwall #9 Brooke County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Abandoned Mine Lands & Reclamation 601 57th Street, SE Charleston, WV 25304	\$101,413 (Michael Baker Fee)	2016	Yes
Small Arms Range Repair Evaluation Mansfield, Ohio	OH Air National Guard 1947 Harrington Memorial Road Mansfield, OH 44903-0179	\$124,834 (Michael Baker Fee)	2017	No

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

Attachment "A"

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
F&M Coal Company, S-1044-87 & S-57-84 Mapping and Design Services Preston County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$243,752 (Michael Baker Fee)	2017	Yes
Masteller Coal Company, S-10-85 & S-125-82 Mapping and Design Services Mineral County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$168,937 (Michael Baker Fee)	2017	Yes
Maurice Jennings Coal Company, S-53-78 & S-61-83 Mapping and Design Services Preston County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$217,982 (Michael Baker Fee)	2017	No
Training Area and Maneuver Trails Camp Ravenna Joint Military Training Center, Portage and Trumbull Counties, Ohio	121 OH Air National Guard 1438 S.R. 534 SW Newton Falls, Ohio 43217-1161	\$292,131 (Michael Baker Fee)	2018	Yes
Ebenezer Run Highwall #9 Brooke County, West Virginia	West Virginia Department of Environmental Protection (WVDEP) Office of Abandoned Mine Lands & Reclamation 601 57th Street, SE Charleston, WV 25304	\$101,413 (Michael Baker Fee)	2016	Yes
PFC Abraham G. Sams Memorial Bridge Replacement Clay County, West Virginia	West Virginia Department of Transportation, Division of Highways 1900 Kanawha Boulevard, East Charleston, West Virginia 25305-0430	\$998,196 (Michael Baker Fee)	2018	Yes
Design-Build Coonskin Park Access Road Bridge Charleston, West Virginia	West Virginia Department of Transportation, Division of Highways 1900 Kanawha Boulevard, East Charleston, West Virginia 25305-0430	\$6,200,000 (Construction)	2016	Yes

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

Attachment "A"

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
None					

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.

Introduction

Michael Baker International, Inc. (Michael Baker) has been providing abandoned mine lands (AML) reclamation and acid mine drainage (AMD) remediation since the federal government first enacted legislation in the 1940s and 1960s. Our work experience in AML/AMD started with Operation Scarlift in 1968 and we have been providing our engineering services to the West Virginia Department of Environmental Protection (WVDEP) since they initiated its AML Reclamation Program in 1983. Michael Baker's AML/AMD experience has developed the full skill set for reclamation projects. We also provide services in this area to the WVDEP Office of Special Reclamation (OSR), Pennsylvania Department of Environmental Protection (PADEP), the Ohio Department of Natural Resources (ODNR), the U.S. Office of Surface Mining (OSM), and the United States Army Corp of Engineers (USACE). Our recent experience on numerous AML reclamation and AMD remediation projects for the WVDEP, ODNR, PADEP and USACE-Nashville District, illustrates our track record for the completion of assignments on time and within budget. Through these experiences, Michael Baker has garnered AML/AMD-specific recognition and developed long-standing business relationships through successful project endeavors based on our ability to provide the following services at a level that meets environmental standards while exceeding client expectations:

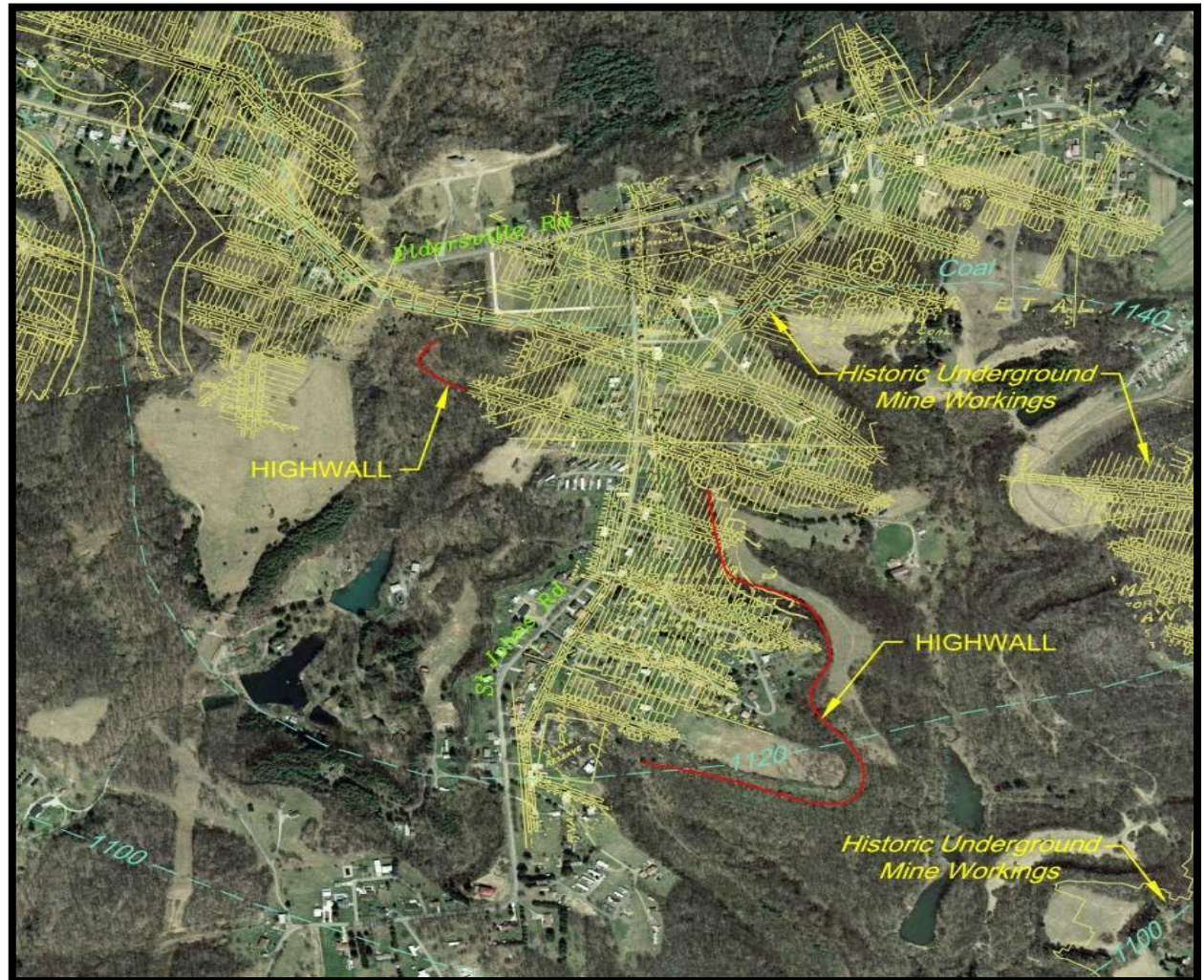
- ◆ Reclamation of mine refuse piles
- ◆ Mine Sealing
- ◆ Subsidence Control
- ◆ Balanced earthwork and grading
- ◆ Strip pit and high wall reclamation
- ◆ Drainage conveyance and improvements
- ◆ Revegetation of acid bearing ground
- ◆ Stream relocation and natural stream channel design
- ◆ Wetland assessments and inventory
- ◆ Restoration of streams and wetlands
- ◆ Landslide identification, investigation, and remediation
- ◆ Replacement of water supplies affected by mining
- ◆ Efficient Passive and Active AMD treatment systems



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.

Although the projects presented in the Project Experience Matrix of Attachment "C" of the Consultant Qualification Questionnaire (CQQ) clearly show Michael Baker's AML design, water system design, and related experience, they only hint at the extensive human and material resources that especially qualify our firm for this project. Additionally, some projects may require some unique technical skills beyond a typical AML project, and as shown on our Organization Chart included in Section 13 of this Expression of Interest (EOI), we have the full depth of in-house technical personnel, equipment, and services available to the project, as needed. Additional technical expertise Michael Baker can provide include:

- ◆ Inventorying and characterizing surface water seeps and mine discharge
- ◆ Completion of test boring programs aimed at determining spoil
- ◆ Evaluating highwall or mine pool conditions to assist with reclamation
- ◆ Designing and maintaining a treatment system for treating mine water and seepage
- ◆ LiDAR experts for securing mapping of large and altered sites
- ◆ Many more other technical service areas



The civil, mining, surveying, mapping, environmental, construction, realty, and geotechnical services of Michael Baker are available to respond to the needs of WVDEP immediately. Working from our Moon Township, Pennsylvania office and supported by our Charleston, West Virginia office, Michael Baker can expeditiously provide the full spectrum of services needed in water distribution system design, mine reclamation, and mine drainage abatement operations. The following narrative further describes our experience and provides insight into the special capabilities of Michael Baker.

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.

Field Investigation and Design Solutions

At Michael Baker, we believe that sometimes it is about not reinventing the wheel related to field investigation and determining proven design solutions. Our field investigations start with a literature review of any available mapping and historical imaging, such as historic mine maps, old aerial photographs, mined out area maps, landslide susceptibility maps, geologic maps, and soil conservation service reports. After compiling the available information and completing a review of available, existing resources, we then perform a field view of the project site. Our specialized experience and technical ability have taught us that a typical AML project is a puzzle with many pieces. Because of the history of the site, often pieces of the puzzle no longer exist. Michael Baker's responsibility is to uncover and connect the various puzzle pieces and utilize this information to develop an efficient, constructible, cost-effective design. We take this responsibility very seriously. The highwall exhibit is an example of present-day aerial photography, historical mine maps, structure contours and field collected data. This becomes a valuable tool in the design process.



Design Systems – Active and Passive

Michael Baker's design experience includes both active and passive treatment systems, which are based on the characterization of the AMD site as well as the flows and chemistry of the AMD. To this end, Michael Baker provides AMD sampling services to determine chemical parameters and flow measurements covering high- and low-flow periods that are most important in developing an AMD abatement system. ***To date, Michael Baker has evaluated and designed 17 AMD abatement systems, four of which are passive treatment systems that have been recently constructed and are currently in service.***

Additionally, Michael Baker has designed ten AMD remediation projects for exclusively for WVDEP that have included open limestone channel (OLC), both anaerobic and aerobic wetlands and settling ponds, limestone sand deposits in the stream, and alkaline leach bed/anoxic limestone drains. Additional Michael Baker AMD abatement designs have been designed for USACE's Baltimore and Nashville Districts.



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.



Geotechnical Investigation and Analysis

In designing AML reclamation and landslide remediation projects, generally three types of soil analysis are needed. These analyses may include:

- ◆ Geotechnical analysis (bearing capacity, friction angle, etc.)
- ◆ Soil analysis for revegetation potential (pH, Acid Base Accounting, Nutrients)
- ◆ Soil analysis for hazardous materials where past dumping may have occurred.

Michael Baker is involved in selecting and collecting the soil samples and analyzing the results of laboratory testing as required for design. Of the 30 most recent AML projects, Michael Baker was involved in soil analysis for 23 projects.

Hydrology and Hydraulic Analysis

Michael Baker has used specialized regional and local hydrologic methods in our 50+ years of combined experience in the AML program and also during our work on local, state, and federal contracts. The team has experts in hydrologic analyses who have extensive experience using a variety of current hydrologic methods, including but not limited to HEC-1, HEC-2, HEC-RAS, HY8, TR20, TR55, HAESTADS PONDS 2, FLOWMASTER, HDYRDAFLOW HYDROGRAPHS, KYPIPE 2, CYBERNET, SEDCAD 4, UNET, and DAMBRK. Michael Baker applies these models to services such as stormwater management, culvert analysis, hydrologic and hydraulic studies, storm sewer design, floodplain modeling, channel design, watershed planning, energy dissipation, and waterline extension and distribution. The team is also skilled in calibrating the rainfall runoff models to historical data to justify results used for design. We realize that each watershed is different from the next and that knowledge of local characteristics is important.

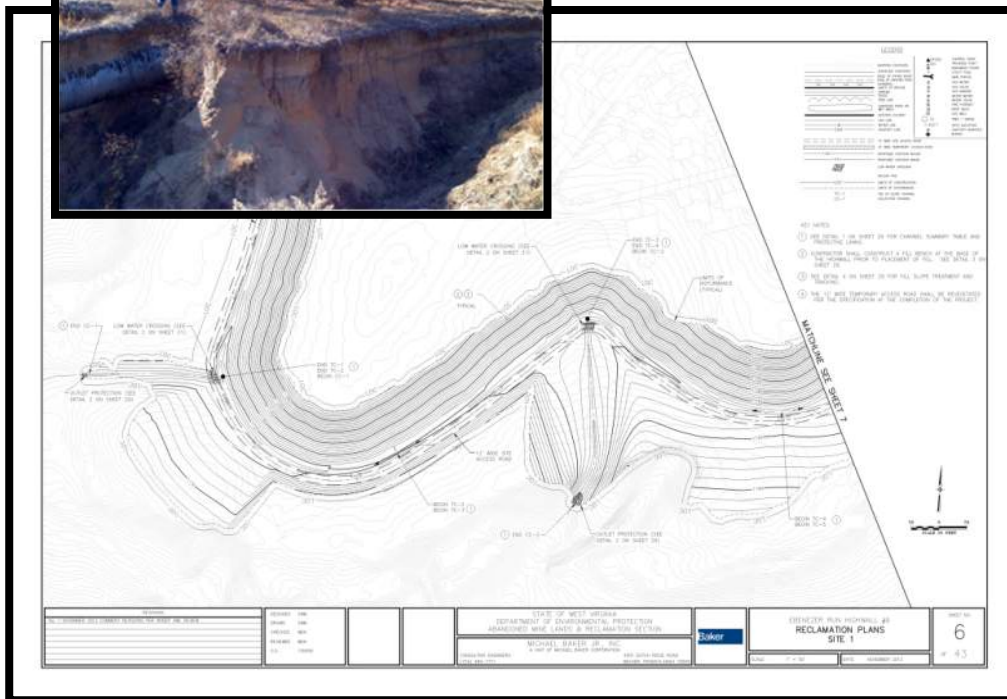
Expertise in hydrology and hydraulics is essential in any AML/AMD remediation design. Of the 30 most recent AML/AMD projects, 28 projects required hydrology/hydraulics expertise of the AML/AMD design group at Michael Baker.



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.

Stormwater and Erosion Control Management

Michael Baker applies advancements in stormwater management and erosion/sediment control (ESC) devices to provide an environmentally low impact, cost-effective design for AML and AMD reclamation projects. This approach typically uses sediment tube traps and wattles in lieu of conventional sedimentation basins. These devices filter sediment laden runoff while also reducing hydraulic energy. The devices also provide a higher efficiency of pollutant removal than conventional methods and reduce the project's total disturbed area typically needed compared to conventional sedimentation basins. Additionally, Michael Baker grades the site such that all stormwater runoff is directed towards a channel at the toe of a backfilled highwall, as this approach prevents runoff from exiting the site without the benefit of treatment. This method of grading also keeps all runoff within the limits of disturbance and allows for the stormwater and ESC devices to be placed incrementally as construction progresses. Once the site is vegetated, the controls are removed without further reclamation that typically is needed with sediment traps and ponds. The application of new technologies also results in lower construction cost and reduced project duration while providing a high efficiency of pollutant removal.



Development of Balanced Earthwork and Grading

Michael Baker typically employs AutoCAD Civil 3D for production of grading plans, profiles, details, cross sections, and balancing cut and fill volumes on AML projects. We have presented a team that includes experts in utilizing AutoCAD Civil3D for grading and evaluating excavation and fill quantities to produce a balanced AML site. AutoCAD Civil 3D is a powerful tool for AML projects allowing the rapid evaluation of grading plan alternatives and calculation of bid item quantities. It is especially useful for projects requiring extensive backfilling and grading, such as required for projects with large refuse and gob piles, highwalls, and other abandoned surface disturbances. If required, Michael Baker is also capable of utilizing Bentley MicroStation for development of plans and earthwork balancing.

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.

Preliminary Design, Final Design, and Construction Documents

Michael Baker's expert team of licensed professional engineers are experienced in preparing preliminary design reports, construction plans, specifications, bid tabs, and cost estimates for projects including mine subsidence and grouting, portal sealing, highwall backfilling, AMD treatment, and landslide stabilization.

Given our expertise in this area, Michael Baker was tasked to author the design manual for the PADEP Permitting for Surface Facilities related to Coal Mining. The design manual determines the baseline mine permitting guidelines used by PADEP-approved operators. The baseline provides a consistent and methodical process to permit the facilities and ensures the protection of the environment. The trust in Michael Baker by PADEP to take responsibility for this important document is just a sampling of the trust our clients have always placed in Michael Baker. It also demonstrates our knowledge of the mining processes, procedures, and regulations. Our understanding of how mining occurs today and how mining occurred historically yields valuable insight into developing solutions to solve with the resulting special reclamation projects.

Permitting

Every design project must be permitted; however the role of permitting is often overlooked. Working with WVDEP and the appropriate local, state, and federal agencies, Michael Baker will prepare the required permitting documentation for AML designs to obtain the required permits and authorizations. Michael Baker has an experienced team of professionals that have a diverse background in environmental and regulatory permitting. Permits are prepared in-house by a team that is intimately involved with the design of the project and has working relationships with regulatory agencies. In many instances, our working relationships with the regulatory community have allowed us to fast-track permits applications or permit revisions due to unforeseen field conditions. Our long-standing, working relationships with regulatory agencies have often saved our clients valuable time and funding during design and construction. Beyond the application, Michael Baker provides technical representation to support our client's position during the permit negotiations.

Mobile and Aerial LiDAR Capabilities

Michael Baker's aerial Light Detection and Ranging (LiDAR) service provides an efficient, affordable, and high-definition solution to digital terrain model surface creation and planimetric feature collection. Michael Baker owns and operates the latest in aerial LiDAR and positioning technology for outstanding productivity and survey efficiency. From a single aerial collection session, our aerial LiDAR system offers the ability to accurately capture and classify features that are important to you and the requirements of your project. With up to four range measurements, including first, second, third, and last return-point capture, all project data is accurately captured and available for classification

Michael Baker LiDAR provides the ability to accurately and effectively capture point-cloud terrain data for orthophoto rectification and planimetric or topographic map compilation. Products can be delivered as bare-earth DEM files, with the option of upgrading to digital terrain models for contour generation.



Michael Baker owns fixed-wing and octocopter drones.

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.

Some of the functions applicable to design projects for which Michael Baker routinely employs the LiDAR System include the following:

- ◆ Aerial imagery (vertical) acquisition using digital/film based cameras.
- ◆ Aerial Light Detection and Ranging (LiDAR) collection
- ◆ Field survey, including photogrammetry control, densification, and accuracy testing
- ◆ Unmanned Aerial Surveys (UAS)
- ◆ LiDAR data processing
- ◆ Map reproduction
- ◆ Earthwork Volume Computations and Cost Estimates
- ◆ Aerial imagery (oblique photographs)
- ◆ Contour Mapping of the Surface and Subsurface
- ◆ Perform Fully Analytical Aerial Triangulation (FAAT)
- ◆ Stereo compilation of data
- ◆ Aerial Mosaic, including Ortho Imagery
- ◆ Facilities Layout and Site Design
- ◆ Drafting of Plans Profiles and Cross Sections

The LiDAR System and AutoCAD Civil 3D Design software are powerful cost saving tools for abandoned mine land projects since they can evaluate numerous configurations rapidly. They are especially useful for projects requiring extensive waterline plan and profile drawings and can interface with hydraulic models such as WaterCAD for analysis and design. They are also useful for projects requiring extensive backfilling and grading, such as may be required for water tank and pump station sites, and for the grading of refuse banks and gob piles, elimination of highwalls, and reclamation of other abandoned surface disturbances.

Environmental and NEPA

The Michael Baker International team will utilize a core unit of dedicated staff to conduct each contract assignment. In addition, our team has access to more than **1,000 qualified, multi-disciplined, professional staff** to support all critical project tasks and complete timely environmental and design assignments.

Our National Environmental Policy Act (NEPA) document capabilities range from Class 1 Actions—Environmental Impact Statements/Record of Decisions (EIS/ROD); Class 2 Actions—Categorical Exclusion Evaluations (CEE); Class 3 Actions—Environmental Assessments/Finding of No Significant Impacts (EA/FONSI) documents. Additionally, our team develops sundry environmental technical basis investigations to support NEPA decisions.



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.

Our team has specialized experience with successfully conducting environmental technical basis reports/investigations, including:

- ◆ Air/Noise
- ◆ Cultural Resources
- ◆ Farmlands
- ◆ Natural Resource/Wetland/Streams
- ◆ Waterway Permits
- ◆ Mitigation Designs and Monitoring
- ◆ Threatened and Endangered Species/Section 7 Consultation
- ◆ Waste Management
- ◆ Phase 1 and 2 ESA
- ◆ Public/Agency Coordination



The Michael Baker Environmental/NEPA team is well-equipped to assist with preparation of any phase of project delivery, such as performing engineering design and analysis, geotechnical study and design, H&H studies, stormwater management design, E&S design, utility coordination, and constructability reviews.

Real Estate Services

The investigation of the AML locations will require the research and delineation of various properties and rights-of-way that have a diverse ownership and jurisdictional control. The Michael Baker team understands the needed methodology for determination of land ownership and easement establishment. Our most recent experience performing these services was on the Corridor H project in close coordination with the WVDOH. Michael Baker performed the process outlined below as well as worked with the DOH in executing standard form agreements with the various property owners. Our team hosted a number of events to gather the impacted landowners in a social setting to review the project and its impact to their properties as well as encourage signing of the agreements at the conclusion of the meetings.

Our process for the Real Estate portion of the project begins with a thorough and detailed review and understanding of the current property ownership and parcel boundaries as it relates to the study area. Once property ownership is understood, Michael Baker will coordinate with WVDEP to provide a draft right of entry request to the property owners for their consideration and signature. After Right of Entry is obtained, work will transition to identifying all required easements, whether temporary or permanent, and assisting in the preparation of all documents and negotiation and acquisition of all easements from the property owners. This will include landowner meetings to discuss the plan for reclamation and events geared towards land owner buy-in to the required easements.

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.

As a prime right-of-way consultant on large-scale rights-of-way projects, the Michael Baker team is intimately familiar with the state, and local requirements, laws, policies, and procedures for negotiations, right-of-way acquisition, and title. We recognize the importance of working within the clients' established guidelines and procedures to achieve timely project delivery during all phases of work. We will coordinate with the WVDEP legal on all easements and other needed documents.

Michael Baker's scope of real estate and right-of-way services includes:

- Submittal of Summary of Findings
- Full back-up of all records research, including deeds, right-of-way plans, plat maps, legal descriptions, and record documents
- Preliminary and final easement plan(s)
- Legal descriptions of all easements, property takes, and other needed instruments for the execution of the reclamation activity
- Fair market determinations for each real estate transaction needed to facilitate the legal control of all property within the project limits by WVDEP
- Court House Research
- Roadway Research, including coordination with WVDOH
- Preparation of Deed Plots
- Property Line Determination within project work limits
- Legal Right-of-Way and Easements: As requested, Michael Baker will prepare legal documentation for temporary and permanent easements. A property exhibit and legal description will be prepared with WV P.S. signature and seal.

Additional Services

Michael Baker also provides the following services for abandoned mine lands reclamation and water system design projects:

- ◆ Field Surveying
- ◆ Mapping Verification Surveying
- ◆ Bathymetric Surveying
- ◆ Environmental Evaluations and Assessments
- ◆ Data Acquisition and Interpretation
- ◆ Construction Management



Michael Baker owns a HyDrone bathymetric system and has used it on numerous mine ponds.

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.

Since we can furnish all of the engineering related services required for abandoned mine lands reclamation projects "in-house", we can work very efficiently and meet the strictest of schedules. Our efficiency is further heightened by the use of mapping systems and AutoCAD compatible design software to perform computer-assisted mapping, design and drafting.

The experience of the key project personnel includes abandoned and active mine operations. Since we continually serve many of the Country's largest coal and mineral producers as well as industrial clients and state environmental agencies, several personnel listed under Item 13 of the CQQ also have experience in all phases of mining services, from survey, mapping, exploration and reserve analysis through mine planning, permitting, design, construction management, and final closure and reclamation. Since mining and reclamation projects (and WVDEP assignments in particular) comprise a large segment of our business, we work to assure that the mining services provided meet the needs and expectations of our clients and any regulatory agencies involved. Some of the many coal producers we have served are listed below:

- ◆ Consolidation Coal Company
- ◆ Alpha Natural Resources
- ◆ Westmoreland Coal Company
- ◆ U.S. Steel Mining Co., Inc.
- ◆ Emerald Coal Resources LP
- ◆ Cumberland Coal Resources LP
- ◆ Exxon Research and Engineering Company

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.

Summary

As a large, diverse engineering firm, Michael Baker has facilities, staffing, and resources available to properly conduct water distribution extension, abandoned mine land reclamation, and AMD remediation projects. The use of in-house capabilities facilities can speed project completion and facilitate tracking of progress. The in-house capabilities include:

- ◆ Data Processing
- ◆ Interactive Graphics and AutoCAD
- ◆ Word Processing
- ◆ Printing and Reproduction

Michael Baker's qualifications to provide engineering services for waterline and abandoned mine land projects, we offer the following response to the evaluation factors:

1. Bidder Experience

- ◆ **Extensive experience in each area.** Items 17 and 18 of the CQQ describe various projects for which we provided these services during the last five years. Projects and technical services listed under Item 12 of the CQQ describe competencies typical of various projects for which we provided our services to WVDEP.
- ◆ **Strong capabilities in each area.** Item 13 of the CQQ lists our personnel by discipline. Our large multi-disciplinary staff is experienced in all aspects of Special Reclamation and AML reclamation; civil, environmental, mining, geotechnical and reclamation engineering applied to surface and underground coal mining; land restoration; stream and water restoration; and land use and natural resources planning. The attached "Project Experience Matrix" show various projects performed for various clients and also show primary participants responsible for these projects.

2. Qualification of Personnel *with respect to background, general experience, and experience relative to the requirements of the project:*

- ◆ Michael Baker's key personnel are registered professional engineers experienced in a broad variety of water distribution and similar projects, as indicated Item 13 of the CQQ.
- ◆ Our Project Professionals are veterans of many similar projects including past WVDEP projects.
- ◆ Our Program Principal, Mr. Steven Savich and our proposed Program Manager for this assignment, Mr. William Neider, both demonstrate the desire and commitment that WVDEP deserves and expects for this assignment.
- ◆ Our commitment is demonstrated by the fact that Michael Baker has conducted a comprehensive investigation of the project site and has been involved with the interpretation of the mining history leading to the current day site conditions.

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.

3. Corporate Specialized Experience and Demonstrated Abilities

- ◆ Michael Baker's specialized experience with AML related problems is summarized in the abandoned mine lands reclamation and Related Projects Matrix in Attachment B. Our work has addressed the full spectrum of reclamation projects.
- ◆ The firm has a wealth of experience on similar projects, as evidenced by projects performed for mining and mineral companies. Moreover, Michael Baker's transportation, site development, and water resource projects in the tri-state area often address special reclamation problems.
- ◆ Michael Baker applies advancements in sediment control devices to provide an environmentally low impact, cost-effective design for reclamation projects. This approach uses sediment tube traps and wattles in lieu of the conventional sedimentation ponds. These devices filter sediment laden runoff through them while also reducing hydraulic energy. They also provide a higher efficiency of pollutant removal than conventional methods and reduce the project's total disturbed area typically needed when conventional sedimentation basins are utilized. Michael Baker grades the site such that all stormwater runoff is directed towards a channel at the toe of the backfilled highwall which doesn't allow any runoff exiting the site without the benefit of treatment. This keeps all runoff within the limits of disturbance and allows for the erosion control devices to be placed incrementally as construction progresses. Once the site is vegetated, the controls are removed without any further reclamation that typically occurs with traps and ponds. The application of these new technologies also results in lower construction cost and project duration while providing a high efficiency of pollutant removal.
- ◆ Our specialized experience and technical ability has taught us that a typical AML project is a puzzle with many pieces. Because of the past history of the site, often pieces of the puzzle no longer exist. Michael Baker's responsibility is to uncover and connect the various puzzle pieces and utilize this information to develop an efficient, constructible, and cost-effective design. We take this responsibility very seriously.

Michael Baker thanks WVDEP for the opportunity to submit our qualifications package for this EOI and we look forward to working with WVDEP soon.

20. THE FOREGOING IS A STATEMENT OF FACTS

Signature:  Title: AML Program Manager and Associate Vice President Date: August 31, 2023

Printed Name: William D. Neider, P.E.

Projects	* Exp. Basis C = Corp P = Personal	** Additional Info provided In Sections (s)	Project Experience Requirements																	M P	M P	P	P	P	P	P	M P	P	P	M&P	P	P	P	P	P	P	M P	P	P	P	M
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal / Shaft Closure	Hydrologic / Hydraulic Design / Eval.	Remaining Evaluation	Mine / Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Eval. Mitigation / Replacement	Construction Inspection / Management	Water Treatment	Equipment / Structure Removal	Stream Restoration	Geotechnical / Stability	NPDES/Stormwater Preparation	Steven M. Savich, PE – Program Principal																						
1. Nine County Roads Water Supply Feasibility Study, Preston County, WV (WVDEP)	C&P					*				*	*						*				*																				
2. Beech Bottom Refuse (WVDEP)	C&P		*		*	*				*	*		*	*	*						*																				
3. Borgman Refuse & Portals (WVDEP)	C&P		*	*	*	*				*	*										*																				
4. Buckeye Reclamation Landfill CERCLA Site (Consol)	C&P		*			*			*	*	*	*	*	*	*	*									*																
5. Chalk Mountain Mine (The Feldspar Corp)	C&P		*			*				*	*		*	*	*							*																			
6. Collier Sportmans' Club Highwall (WVDEP)	C&P	17	*		*	*		*		*	*				*			*	*		*	*																			
7. Columbia Portland AML Reclamation (ODNR)	C&P		*	*	*	*				*	*				*						*																				
8. Crooked Run #5 Drainage, Refuse and Portals (WVDEP)	C&P		*	*	*	*				*	*		*	*									*														*	*			
9. Davidson Highwall Project (WVDEP)	C&P		*		*	*				*	*			*	*						*																				
10. Dennison S.R. 800 AML Reclamation (ODNR)	C&P			*	*	*				*	*		*	*	*						*																				
11. Ebenezer Run Highwall #9 (WVDEP)	C&P	17	*			*				*	*				*	*	*	*	*	*	*	*	*			*															
12. Emoryville Mine Complex AML/AMD (WVDEP)	C&P		*	*	*	*				*	*				*						*																				
13. F&M Coal Company S-1044-87 & S-57-84	C&P	15	*		*	*				*	*				*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		

Projects	* Exp. Basis C = Corp P = Personal	** Additional Info provided In Sections (s)	Project Experience Requirements																																								
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal / Shaft Closure	Hydrologic / Hydraulic Design / Eval.	Remaining Evaluation	Mine / Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Eval. Mitigation / Replacement	Construction Inspection / Management	Water Treatment	Equipment / Structure Removal	Stream Restoration	Geotechnical / Stability	NPDES/Stormwater Preparation	Steven M. Savich, PE – Program Principal	William D. Neider, PE – Program Manager	John D. Lasko, PG – Geotechnical & Surface Investigations	Don Green, PE – Geotechnical & Surface Investigation	Greg Dillan – Grading & Earthwork	Michael J. LaMont – Grading & Earthwork	Joe Hlebczki, PE – Civil Design Plans Specs	Lauren Greenfield, PE – Task Order Manager	Jeff Weiss - Demolition	Carl Jeffreys, PE, PG – Liners and Cap Cover	Greg Heilman, PE – Task Order Manager	Andrew Hollern PE – Civil Design Plans / Specifications	Brian Baker, PE – E&S NPDES	Gary Case – Hazardous Material Management	Andrew Gould – Environmental	Nicolas Slater, PE – Hydrology, Stormwater, E&S, NPDES	John Miller, PLS - Surveying	Jeffrey Frye, PE – Waterline Engineer	Ralph Gromley, PLS - Surveying	Garey Madey, PE – Construction Services	Patrick Fogarty, P.E., P.S. – Surveying	Russell E. (Rusty) Hall, PE, PS – Principal			
14. Fairmont Five Subsidence (WVDEP)	C&P					*			*	*		*														*														*	*		
15. Flemington Portals & Drainage No. 2 AML/AMD (WVDEP)	C&P		*	*	*	*				*		*			*							*																					
16. Fort Gordon, Georgia (USACE)	C&P		*			*				*			*																														
17. Hardy Coal Bond Forfeiture (ODNR)	C&P		*			*				*			*										*																				
18. Jed-Havaco Reclamation (WVDEP)	C&P		*			*		*		*		*	*	*	*	*										*																	
19. Kempton Refuse & AMD (WVDEP)	C&P		*		*	*				*	*	*		*	*	*					*	*						*															
20. Lindentree AMD Remediation (ODNR)	C&P		*		*	*				*	*	*										*	*																				
21. Marbury (Oakley) Landslide (WVDEP)	C&P		*	*	*	*				*	*	*	*	*								*					*												*	*			
22. Maple Run Portals & AMD (WVDEP)	C&P		*	*	*	*			*	*	*	*	*	*	*								*																				
23. Marmet, East Bank, Cabin Creek, Mill Hollow Complex Portals & Drainage (WVDEP)	C&P		*	*	*	*				*	*	*	*	*								*				*													*	*			
24. Masteller Coal Company S-10-85 & S-125-82	C&P	15	*		*	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
25. Maurice Jennings Coal Company S-53-78 & S-61-83	C&P	15	*			*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
26. McArthur Subsidence (WVDEP)	C&P			*		*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
27. Mineral-Zoar Road AMD Reclamation (ODNR)	C&P			*	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	

Projects	* Exp. Basis C = Corp P = Personal	** Additional Info provided In Sections (s)	Project Experience Requirements																																												
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal / Shaft Closure	Hydrologic / Hydraulic Design / Eval.	Remaining Evaluation	Mine / Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Eval. Mitigation / Replacement	Construction Inspection / Management	Water Treatment	Equipment / Structure Removal	Stream Restoration	Geotechnical / Stability	NPDES/Stormwater Preparation	Steven M. Savich, PE – Program Principal	William D. Neider, PE – Program Manager	John D. Lasko, PG – Geotechnical & Surface Investigations	Don Green, PE – Geotechnical & Surface Investigation	Greg Dillan – Grading & Earthwork	Michael J. LaMont – Grading & Earthwork	Joe Hlebczki, PE – Civil Design Plans Specs	Lauren Greenfield, PE – Task Order Manager	Jeff Weiss - Demolition	Carl Jeffreys, PE, PG – Liners and Cap Cover	Greg Heilman, PE – Task Order Manager	Andrew Hollern PE – Civil Design Plans / Specifications	Brian Baker, PE – E&S NPDES	Gary Case – Hazardous Material Management	Andrew Gould – Environmental	Nicolas Slater, PE – Hydrology, Stormwater, E&S, NPDES	John Miller, PLS - Surveying	Jeffrey Frye, PE – Waterline Engineer	Ralph Gromley, PLS - Surveying	Garey Madey, PE – Construction Services	Patrick Fogarty, P.E., P.S. – Surveying	Russell E. (Rusty) Hall, PE, PS – Principal							
28. Mount Eaton Subsidence Stabilization (ODNR)	C&P					*			*	*					*					*		*						*																			
29. No. 4 Reclamation Masontown (WVDEP)	C&P		*	*	*	*				*	*		*	*	*	*						*																									
30. No. 6 Shaft and Dewatering Pipeline (Cumberland Coal Resources LP)	C&P				*	*					*	*							*	*							*	*																			
31. Powell River Ecosystem Restoration, Ely & Puckett Creek, Virginia (USACE)	C&P		*	*	*	*		*		*	*		*	*	*	*						*					*																				
32. Ruthbelle Refuse Fire (WVDEP)	C&P		*		*	*		*		*	*		*	*	*	*																															
33. Simpson Creek Tipple and Portals Project (WVDEP)	C&P	17	*		*	*				*	*		*	*	*	*		*				*																									
34. Turnhole Branch Reclamation (WVDEP)	C&P			*	*	*	*			*	*																																				
35. Twilight Burning Refuse (WVDEP)	C&P		*	*	*	*		*		*	*		*	*	*	*																															
36. US Steel RCRA Closure Plan (USS)	C&P					*			*	*	*		*	*	*	*			*																												
37. Waitman Barbe Highwall #1 (WVDEP)	C&P	17	*		*	*				*	*					*		*	*			*	*																								
38. Watson Portals & Refuse Reclamation (WVDEP)	C&P		*	*	*	*				*	*		*	*	*	*						*	*																								
39. Wymer Portals and AMD (WVDEP)	C&P		*		*	*				*	*		*	*	*	*																															
40. Mountain View Portals Mine Reclamation	C&P	15	*	*	*			*		*	*					*	*	*	*		*	*					*	*									*										

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

ABANDONED MINE LANDS (AML) CONTRACTOR INFORMATION FORM

You must complete this form for your AML contracting officer to request an eligibility evaluation from the Office of Surface Mining Reclamation and Enforcement (OSMRE) to determine if you are eligible to receive an AML contract. This requirement can be found under OSMRE's regulations at 30 CFR 874.16. **NOTE:** This form must be signed and **dated within 30 days** of submission to be considered for a current bid.

Part A: General Information

Business Name: _____
 Tax ID #: _____
 Address: _____
 City, State, & Zip: _____
 Phone Number: _____
 Email Address: _____

Part B: Obtain an Organizational Family Tree (OFT) from the Applicant Violator System (AVS)

If you plan to certify the existing AVS information or submit updates under Part C, you must include an OFT. Instructions for downloading an OFT from the AVS can be found at: <https://www.osmre.gov/sites/default/files/2022-02/OMB%201029-0119%20instructions.pdf>. If you require assistance you may contact the AVS Office by phone at: 800-643-9748, or by email at: avshelp@osmre.gov.

Part C: Certifying and updating information in the AVS

Select one of the options, follow the instructions for the selected option, sign, and date below.

I, _____, have express authority to certify that:
 (Print Name)

1. Our business is listed in the AVS. The information is accurate, complete, and up to date. (If you select this option, you must attach an Entity OFT from the AVS to this form). Do not complete Part D.
2. Our business is in the AVS. The information needs to be updated. (If you select this option, you must attach an Entity OFT from the AVS to this form). Complete Part D to provide the missing or corrected information.
3. Our business is not listed in the AVS. The information needs to be added. Complete Part D to provide the information.

Date

Will D. Hill

Signature

Title

Entity Evaluation

There were no violations retrieved by the system

Entity Number: 265326
Entity Name: Michael Baker International Inc
Date of Request: 6/27/2022 2:27:04 PM
Requestor: benjamin.campbell

CAUTION: The Applicant/Violator System (AVS) is an informational database. Permit eligibility determinations are made by the regulatory authority with jurisdiction over the permit application not by the AVS. Results which display outstanding violations may not include critical information about settlements or other conditions that affect permit eligibility. Consult the AVS Office at 800-643-9748 for verification of information prior to making decisions on these results.

Violation Type Violation Number Violation Entities Permit Number Permitted State Violation Status Violation Date

Evaluation OFT

Entities: 297

- 265327 Michael Baker International Holdco Corp - ()
---265326 Michael Baker International Inc - (Subsidiary Company)
-----250555 Frederick M Muncy - (Senior Vice President)
-----250561 Thomas J Zagorski - (Senior Vice President)
-----250567 Beth A Drylie - (Vice President)
-----250576 John Mentz - (Vice President)
-----250596 Donald M Treude - (Vice President)
-----250603 Michael Arens - (Vice President)
-----250604 Jeffrey A Baker - (Vice President)
-----250616 John C Dietrick - (Vice President)
-----250618 Dale L Gray - (Vice President)
-----250630 Lois M Muller - (Vice President)
-----250635 R Scott Quast - (Vice President)
-----250638 Victor J Siaurusaitis - (Vice President)
-----250643 Cory A Wilder - (Vice President)
-----250644 Russell E Hall - (Vice President)
-----265328 Thomas J Campbell - (Chairman of the Board)
-----265329 Brian A Lutes - (Chief Executive Officer)
-----265329 Brian A Lutes - (President)
-----265330 Leanna Anderson - (Corporate Officer)
-----265330 Leanna Anderson - (Executive Vice President)
-----265331 Daniel Kieny - (Executive Vice President)
-----265331 Daniel Kieny - (President)
-----265332 James Koch - (Executive Vice President)
-----265332 James Koch - (President)
-----265333 Penny Mercadante - (Corporate Officer)
-----265333 Penny Mercadante - (Executive Vice President)
-----265334 John Tedder - (Corporate Officer)
-----265334 John Tedder - (Executive Vice President)
-----265334 John Tedder - (Secretary)
-----265335 Kenton Zinn - (Executive Vice President)
-----265335 Kenton Zinn - (President)
-----265336 John Alberghini - (Senior Vice President)
-----265337 Steven Barber - (Senior Vice President)
-----265338 Jeffrey Clevenger - (Senior Vice President)
-----265339 Malcolm Dougherty - (Assistant Secretary)
-----265339 Malcolm Dougherty - (Director)
-----265339 Malcolm Dougherty - (Senior Vice President)
-----265340 Andrew Gluck - (Director)
-----265340 Andrew Gluck - (Senior Vice President)
-----265341 George Guszczka - (Director)
-----265341 George Guszczka - (Senior Vice President)
-----265342 Magdy Hagag - (Director)
-----265342 Magdy Hagag - (Senior Vice President)
-----265343 Todd Heino - (Senior Vice President)

-----265344 John Hurley - (Senior Vice President)
-----265345 Brian Kozy - (Senior Vice President)
-----265346 Beth Larkin - (Senior Vice President)
-----265347 David Leach - (Senior Vice President)
-----265348 Brian May - (Senior Vice President)
-----265349 Thomas Montgomery - (Director)
-----265349 Thomas Montgomery - (Senior Vice President)
-----265350 Carlo Morgano - (Corporate Officer)
-----265350 Carlo Morgano - (Senior Vice President)
-----265351 Darren Riegler - (Assistant Secretary)
-----265351 Darren Riegler - (Senior Vice President)
-----265352 Michael Tylman - (Manager)
-----265352 Michael Tylman - (Senior Vice President)
-----265353 Nicolaas Veraart - (Senior Vice President)
-----265354 Derek Vogelsang - (Senior Vice President)
-----265355 John Walsh - (Director)
-----265355 John Walsh - (Senior Vice President)
-----265356 Christopher Alberts - (Vice President)
-----265357 Mohamed Amin Bagha - (Vice President)
-----265358 Robert Balanti - (Vice President)
-----265359 William Balentine - (Vice President)
-----265360 Richard Beck - (Vice President)
-----265361 James Bell - (Vice President)
-----265362 Jill Bell - (Vice President)
-----265363 Jeffrey Bergsten - (Director)
-----265363 Jeffrey Bergsten - (Vice President)
-----265366 Tanya Bilezikjian - (Vice President)
-----265367 Jason Bivens - (Vice President)
-----265368 Paula Boardman - (Director)
-----265368 Paula Boardman - (Vice President)
-----265369 Gilberto Bosque - (Vice President)
-----265370 Kirsten Bowen - (Director)
-----265370 Kirsten Bowen - (Vice President)
-----265371 Albert Bowman - (Vice President)
-----265372 Elizabeth Bradford - (Vice President)
-----265373 Jeff Broadwater - (Vice President)
-----265374 Bradley Brown - (Vice President)
-----265375 Michael Bruz - (Vice President)
-----265376 Mary Anne Buvens - (Vice President)
-----265377 Genevieve Cahill - (Vice President)
-----265378 Joseph Catalano - (Vice President)
-----265379 Ronald Chaffin - (Vice President)
-----265380 Joseph Danyo - (Vice President)
-----265381 David Dawson - (Director)
-----265381 David Dawson - (Vice President)
-----265382 Kristy DeChicchis - (Director)
-----265382 Kristy DeChicchis - (Vice President)
-----265383 Scott Delesdernier - (Vice President)
-----265384 Alison Detar - (Vice President)
-----265385 Patricia Dunaway - (Vice President)
-----265386 Ralph Eberhardt - (Vice President)
-----265387 U S Grant Ervin - (Director)
-----265387 U S Grant Ervin - (Vice President)
-----265388 Kurt Fritz - (Vice President)
-----265389 Amanda Furr - (Vice President)
-----265390 Joseph Gardiner - (Director)
-----265390 Joseph Gardiner - (Vice President)
-----265391 Steven Gravlin - (Vice President)
-----265392 Lydia Grose - (Vice President)
-----265393 Matthew Guard - (Vice President)
-----265394 Mary Jo Hamman - (Vice President)
-----265395 John Harris - (Manager)
-----265395 John Harris - (Vice President)
-----265396 Dwain Hathaway - (Vice President)
-----265397 James Haughey - (Manager)
-----265397 James Haughey - (Vice President)
-----265398 Leslie Hopper - (Vice President)
-----265399 Steven Huff - (Vice President)
-----265400 Keith Jones - (Chief Financial Officer)
-----265400 Keith Jones - (Vice President)
-----265401 Jeremy Jurick - (Director)
-----265401 Jeremy Jurick - (Vice President)
-----265402 Mark Kistler - (Vice President)
-----265403 Kyle Kramer - (Vice President)
-----265404 Kevin Kugler - (Director)
-----265404 Kevin Kugler - (Vice President)
-----265405 Patrick Leach - (Vice President)
-----265406 David Liebgold - (Vice President)
-----265407 Trudi Lim - (Vice President)
-----265408 Michael Lincheck - (Vice President)
-----265409 Timothy Little - (Manager)

-----265409 Timothy Little - (Vice President)
-----265410 Stephanie Long - (Vice President)
-----265415 Alicia McConnell - (Director)
-----265415 Alicia McConnell - (Vice President)
-----265416 Saul Mellman - (Director)
-----265416 Saul Mellman - (Vice President)
-----265417 Bradley Mielke - (Vice President)
-----265418 Kenneth Mobley - (Vice President)
-----265419 Aaron Morris - (Vice President)
-----265420 John Nagle - (Vice President)
-----265421 Randal Nelson - (Vice President)
-----265422 Brian Oliver - (Vice President)
-----265423 Kevin Owens - (Vice President)
-----265424 Loma Parkins - (Vice President)
-----265425 Brian Peiritsch - (Vice President)
-----265426 Douglas Peterson - (Vice President)
-----265427 Sarat Peyyeti - (Vice President)
-----265428 Adam Phillips - (Vice President)
-----265429 Robert Pitchford - (Vice President)
-----265430 Jeffrey Polenske - (Vice President)
-----265431 James Porter - (Vice President)
-----265432 Stephen Pouliot - (Vice President)
-----265433 Philip Quillin - (Vice President)
-----265434 David Reel - (Vice President)
-----265435 Brian Rider - (Vice President)
-----265436 Alfonso Riera - (Vice President)
-----265437 Thomas Ritz - (Vice President)
-----265438 Joseph Romano - (Vice President)
-----265439 Jerome Ruddins - (Vice President)
-----265440 Jade Rung - (Vice President)
-----265441 Brian Russell - (Vice President)
-----265442 Joseph Salvadori - (Vice President)
-----265443 Steven Savich - (Vice President)
-----265444 Nasser Seyedmadani - (Vice President)
-----265445 Mohiuddin Shaik - (Vice President)
-----265446 Raymond Shrift - (Vice President)
-----265447 Peter Sipes - (Vice President)
-----265448 Michael Stengel - (Vice President)
-----265449 Aaron Stover - (Vice President)
-----265450 Lori Stump - (Vice President)
-----265451 Christopher Tagert - (Vice President)
-----265452 John Tanner III - (Vice President)
-----265453 Scott Taylor - (Vice President)
-----265454 Timothy Thiele - (Vice President)
-----265455 Andrew Thomas - (Vice President)
-----265456 Helen Tison - (Vice President)
-----265457 John Tricini - (Vice President)
-----265458 Lawrence Truman - (Vice President)
-----265459 Michael Meyer - (General Counsel)
-----265459 Michael Meyer - (Vice President)
-----265460 Regan Miller - (Director)
-----265460 Regan Miller - (Vice President)
-----265461 Peter Minegar - (Manager)
-----265461 Peter Minegar - (Vice President)
-----265462 Bryan Mouser - (Director)
-----265462 Bryan Mouser - (Vice President)
-----265463 Robert Murphy - (Vice President)
-----265464 Robert Myers - (Vice President)
-----265465 Sunita Nadella - (Vice President)
-----265466 Muthukumar Narayanaswamy - (Vice President)
-----265467 Mark J Nellas - (Manager)
-----265467 Mark J Nellas - (Vice President)
-----265468 Tracy Nelson - (Manager)
-----265468 Tracy Nelson - (Vice President)
-----265469 Angela Nocera - (Manager)
-----265469 Angela Nocera - (Vice President)
-----265470 Terry Ogle - (Manager)
-----265470 Terry Ogle - (Vice President)
-----265471 Pawel Paszczuk - (Manager)
-----265471 Pawel Paszczuk - (Vice President)
-----265472 Janine Pelekoudas - (Director)
-----265472 Janine Pelekoudas - (Vice President)
-----265473 Joseph Pirilla - (Director)
-----265473 Joseph Pirilla - (Vice President)
-----265474 Kristen Podnar - (Manager)
-----265474 Kristen Podnar - (Vice President)
-----265475 Matthew Ponce - (Manager)
-----265475 Matthew Ponce - (Vice President)
-----265476 William Pope - (Manager)
-----265476 William Pope - (Vice President)
-----265477 Hans Probst - (Manager)

-----265477 Hans Probst - (Vice President)
-----265478 Brandon Reyes - (Manager)
-----265478 Brandon Reyes - (Vice President)
-----265479 Rachael Richter - (Manager)
-----265479 Rachael Richter - (Vice President)
-----265480 Jeffrey Roberts - (Manager)
-----265480 Jeffrey Roberts - (Vice President)
-----265481 David Tudryn - (Manager)
-----265481 David Tudryn - (Vice President)
-----265482 Philip Walker - (Vice President)
-----265483 James Waters - (Corporate Officer)
-----265483 James Waters - (Vice President)
-----265484 Steven Ross - (Manager)
-----265484 Steven Ross - (Vice President)
-----265485 Quintin Watkins - (Vice President)
-----265486 Amy Ross - (Manager)
-----265486 Amy Ross - (Vice President)
-----265487 Kirk Weaver - (Director)
-----265487 Kirk Weaver - (Vice President)
-----265488 Laura Weis - (Vice President)
-----265489 Oscar Rucker - (Manager)
-----265489 Oscar Rucker - (Vice President)
-----265490 Craig Wenger - (Vice President)
-----265491 Stephen Wragg - (Vice President)
-----265492 Nabaz Saieed - (Manager)
-----265492 Nabaz Saieed - (Vice President)
-----265493 James Yeager - (Vice President)
-----265494 Darcie Zeliesko - (Vice President)
-----265495 Momcilo Savovic - (Manager)
-----265495 Momcilo Savovic - (Vice President)
-----265496 Cannelo Acevedo - (Vice President)
-----265497 Angela Adam - (Vice President)
-----265498 Curtis Schaffner - (General Counsel)
-----265498 Curtis Schaffner - (Vice President)
-----265499 Kevin Anderson - (Vice President)
-----265500 Michael Anderson - (Vice President)
-----265501 Allison Andrews - (Vice President)
-----265502 Jon Schelkoph - (Manager)
-----265502 Jon Schelkoph - (Vice President)
-----265503 Alan Ashimine - (Vice President)
-----265504 Sonja Simpson - (Vice President)
-----265505 Douglas Barker - (Vice President)
-----265506 John Bellas - (Vice President)
-----265507 Jessica Belowich - (Vice President)
-----265508 Steven Slocum - (Manager)
-----265508 Steven Slocum - (Vice President)
-----265509 Joseph Bennett - (Vice President)
-----265510 Joseph Blickenderfer - (Vice President)
-----265511 Gregory Smay - (Director)
-----265511 Gregory Smay - (Vice President)
-----265512 Mark Bodily - (Vice President)
-----265513 Richard Bonelli - (Vice President)
-----265514 Justin Bouscher - (Vice President)
-----265515 Paul Snead - (Manager)
-----265515 Paul Snead - (Vice President)
-----265516 Joseph Snyder - (Manager)
-----265516 Joseph Snyder - (Vice President)
-----265517 Eric Spangler - (Manager)
-----265517 Eric Spangler - (Vice President)
-----265518 Joshua Sprowls - (Director)
-----265518 Joshua Sprowls - (Vice President)
-----265519 Christopher Stanford - (Manager)
-----265519 Christopher Stanford - (Vice President)
-----265520 Robert Stark - (Manager)
-----265520 Robert Stark - (Vice President)
-----265521 David Stephens - (Vice President)
-----265522 Matthew Stewart - (Manager)
-----265522 Matthew Stewart - (Vice President)
-----265523 Leigh Tewinkle - (Director)
-----265523 Leigh Tewinkle - (Vice President)
-----265524 Daniel Thornhill - (Vice President)
-----265525 Julie Thurman - (Director)
-----265525 Julie Thurman - (Vice President)
-----265526 Christina Brickner - (Vice President)
-----265527 Pemille Buch-Pederson - (Vice President)
-----265528 Todd Buckner - (Vice President)
-----265529 Michael Butters - (Vice President)
-----265530 Ashley Buzzeo - (Vice President)
-----265531 Christopher Caputi - (Vice President)
-----265532 Paul Carson - (Vice President)
-----265533 Karin Cartwright - (Vice President)

-----265534 Sarah Cathcart - (Vice President)
-----265535 Jessica Chambers - (Vice President)
-----265536 Richard Chisolm - (Vice President)
-----265537 Derek Christianson - (Vice President)
-----265538 Fatma Ciloglu - (Vice President)
-----265539 Dayle Coburn - (Vice President)
-----265540 Kenneth Collins - (Vice President)
-----265541 Christopher Conrad - (Vice President)
-----265542 Jeremy Curtis - (Vice President)
-----265543 Gracia de la Pena - (Vice President)
-----265544 Collin Dey - (Vice President)
-----265545 Jamie Dodd - (Vice President)
-----265546 Leanne Doran - (Vice President)
-----265547 Craig Duppstadt - (Vice President)
-----265548 Sannad Farjo - (Vice President)
-----265549 Eddie Torres - (Manager)
-----265549 Eddie Torres - (Vice President)
-----265550 John Trapp - (Manager)
-----265550 John Trapp - (Vice President)
-----265551 Troy Truax - (Director)
-----265551 Troy Truax - (Vice President)
-----265552 Colleen Turner - (Manager)
-----265552 Colleen Turner - (Vice President)
-----265553 Spencer Uminski - (Manager)
-----265553 Spencer Uminski - (Vice President)
-----265554 Marc Violett - (Manager)
-----265554 Marc Violett - (Vice President)
-----265555 Martin Wade - (Manager)
-----265555 Martin Wade - (Vice President)
-----265556 Lori Wade - (Manager)
-----265556 Lori Wade - (Vice President)
-----265557 Lance Wanamaker - (Manager)
-----265557 Lance Wanamaker - (Vice President)
-----265558 David Fekete - (Vice President)
-----265559 Scott Wardle - (Manager)
-----265559 Scott Wardle - (Vice President)
-----265560 John Craig Fennell - (Vice President)
-----265561 Kathryn Field - (Vice President)
-----265562 Albert Warot - (Manager)
-----265562 Albert Warot - (Vice President)
-----265563 Gavin Fitzsimmons - (Vice President)
-----265564 Mary Flynn - (Vice President)
-----265565 LouAnn Fornataro - (Vice President)
-----265566 Nicole Whitehead - (Manager)
-----265566 Nicole Whitehead - (Vice President)
-----265567 James A Frazier - (Vice President)
-----265568 David Frey - (Vice President)
-----265569 Christopher Friel - (Vice President)
-----265570 Dawn Wilson - (Manager)
-----265570 Dawn Wilson - (Vice President)
-----265571 Sylvester Frye - (Vice President)
-----265572 Laurence Gale - (Vice President)
-----265573 Robert Hans - (Vice President)
-----265574 Kenneth Wing - (Manager)
-----265574 Kenneth Wing - (Vice President)
-----265575 Kyle Harper - (Vice President)
-----265576 Diana Hartman - (Vice President)
-----265577 Max Heckman - (Vice President)
-----265578 Katherine Wrenshall - (General Counsel)
-----265578 Katherine Wrenshall - (Vice President)
-----265579 Jared Heiner - (Vice President)
-----265580 Gary Heisler - (Vice President)
-----265581 J Brad Homan - (Vice President)
-----265582 William Hoose - (Vice President)
-----265583 Michele Horak - (Vice President)
-----265584 Angela Howell - (Vice President)
-----265585 Chadwick Huffines - (Vice President)
-----265586 Kevin James - (Vice President)
-----265587 Carl V Jeffrey - (Vice President)
-----265588 Angela Logan - (Assistant Secretary)
-----265589 Terri A Vojnovich - (Assistant Secretary)
-----265590 Pam Warfield - (Assistant Secretary)
-----265591 Don Joiner - (Manager)
-----265591 Don Joiner - (Vice President)
-----265592 Philip Jutko - (Director)
-----265592 Philip Jutko - (Vice President)
-----265593 Chadi Karam - (Vice President)
-----265594 Nagnath Kasbekar - (Vice President)
-----265595 James Katsafanas - (Vice President)
-----265596 Fareeha Kibriya - (Vice President)
-----265597 William Kontess - (Vice President)

- 265598 William Kristoff - (Vice President)
- 265599 Elizabeth Krouse - (Vice President)
- 265600 Michael Kuchera - (Vice President)
- 265601 Edward La Guardiafalbe - (Vice President)
- 265602 William Lindenbaum - (Vice President)
- 265603 Bradley Losey - (Vice President)
- 265604 Marc Luiken - (Vice President)
- 265605 Rebecca Lyne - (Vice President)
- 265606 Gary Madey - (Vice President)
- 265607 Sirish Madichetti - (Vice President)
- 265608 Joseph Maiorana - (Vice President)
- 265609 Jeffrey May - (Vice President)
- 265610 Tammy McAllister - (Vice President)
- 265611 Jeffrey McClure - (Vice President)
- 265612 Paul McGuinness - (Vice President)
- 265613 Carlos Mendoza - (Vice President)
- 265614 David Mercier - (Vice President)

Narrative