ΝΟΤΙΟΕ

Due to a mechanical error in one of the Purchasing Division's official time clocks on Tuesday, March 20 to Thursday, March 22, 2012, the stamp noted on some bids may have the correct day and time; however, the month that is noted is "February," but should have read "March." Baker

Michael Baker Jr., Inc.

A Unit of Michael Baker Corporation

5088 West Washington Street Charleston, West Virginia 25313

(304) 769-0821 Phone (304) 769-0822 Fax

March 22, 2012

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

Attention: Mr. Guy L. Nisbet, Senior Buyer

Re: Expression of Interest for Professional Engineering Design Services and Construction Monitoring Services for the Lilbern Pritt Highwall Design Project Barbour County, West Virginia RFQ Number DEP15596

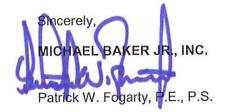
Dear Mr. Nisbet:

Michael Baker Jr., Inc. (Baker) is pleased to submit this Expression of Interest to provide professional design engineering services for the above-mentioned project. To meet your design requirements, Baker has assembled a team of experienced personnel who have performed on previous similar assignments for the West Virginia Department of Environmental Protection (WVDEP). Our proposed design team members have also provided engineering services for numerous abandoned mine land reclamation and related projects over the years for a variety of clients as reflected in the attached documents.

We have illustrated our ability to deal with multiple projects without a reduction to the level of quality and service to the Department. Exploratory drilling services and soil/rock analysis, if required, will be provided by NGE Consultants, which has a successful history as a sub-consultant for Baker and the WVDEP.

Baker's staff is experienced in all aspects of AML/AMD projects. Baker has been providing engineering services for abandoned mine lands since the Federal government first enacted AML legislation. We have provided these services for the West Virginia Department of Environmental Protection, the Pennsylvania Department of Environmental Protection, Ohio Department of Natural Resources, and the U.S. Office of Surface Mining to name a few. Our on-going experience since 1983 with WVDEP gives us the confidence to assure you our assignments will be completed on time and within established budgets.

This submittal illustrates our qualifications and experience to deal with this assignment of work arising from this contract. If you have any questions or require additional information concerning our qualifications, experience or approach, please contact me at 304.769.0821.





2012 FEB 22 PM 12: 27

W PURCHASING DIVISION

Creating Value ... Delivering Solutions.

Expression of Interest Professional Engineering Design Services and Construction Monitoring Services *for* Lilbern Pritt Highwall Design Barbour County, West Virginia

RFQ Number DEP15596



Submitted to: State of West Virginia Department of Administration Purchasing Division Charleston, West Virginia





Submitted by: Michael Baker Jr., Inc. Charleston, West Virginia

March 22, 2012



Project Understanding

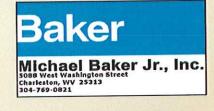
We have carefully reviewed the EOI and performed a thorough site reconnaissance on March 20, 2012. Based on the EOI, Project Description and our site evaluation, we understand that this project has the following key design/construction elements:

- Sediment and Erosion Control Measures
- > Clearing and Grubbing
- Access Road Construction & Upgrades
- Backfill 6 Highwalls
- Drainage Channels and Underdrain Design
- Remove Miscellaneous Debris Throughout Sites
- > Pond/Wetland Investigation

Reclaim Dangerous Highwalls





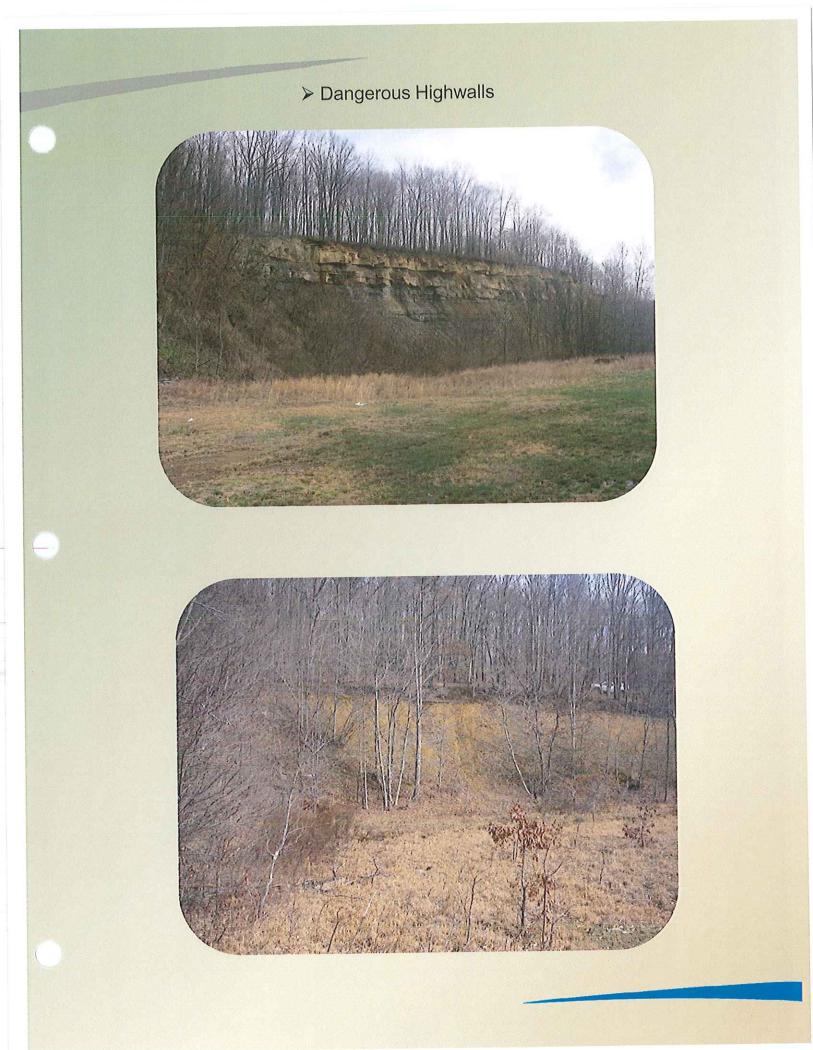


➢ Portal and Misc Debris



Homes Below Highwall



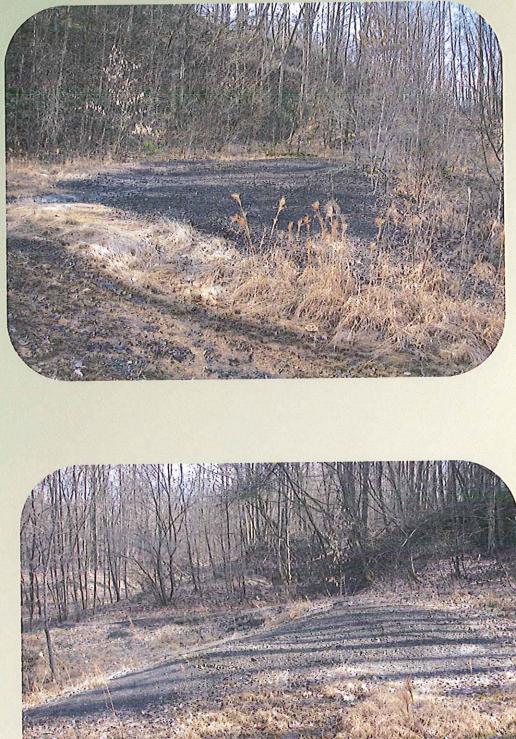


Ponds with Inadequate Spillways





Reclaim Unvegetated Refuse Areas



ATTACHMENT "B"

AML CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE



(-)

\bigcirc	N Attachment "B"	M.	25-1228638	3. FORMER FIRM NAME	6a. WV REGISTERED DBE (Disadvantaged	Enterprise) YES NO	-	Michael Baker Jr., Inc./ 5088 West Washington Street, Charleston, WV 25313/ 304.769.2154 / Russell E. Hall / 7 (Chas. WV), William D. Trimbath / 22 (Beaver, PA)	ABER - OTHER PRINCIPALS	William D. Trimbath, Vice President 724.495.4302		35 STRUCTURAL ENGINEERS 21 SURVEYORS/Technicians 5 TRAFFIC ENGINEERS 82 OTHER 29 (Project Managers) 765 TOTAL PERSONNEL (Pittsburgh Area Offices)				
	IRONMENTAL PROTECTION				VERSHIP	Joint-Venture	PERSONNEL EACH OFFICE	9.2154 / Russell E. Hall / 7 (Ch	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS	William D. Trimb		LANDSCAPE ARCHITECTS MECHANICAL ENGINEERS MINING ENGINEERS PHOTOGRAMMETRISTS PLANNERS: URBANREGIONAL SANITARY ENGINEERS SOILS ENGINEERS SPECIFICATION WRITERS	oFFICE: 13 lifies them to		NO NIA	
\bigcirc	V DEPARTMENT OF E	NOULIAN CONFIDENTIAL GUA	DATE (DAY, MONTH, YEAR) March 22, 2012	2. HOME OFFICE BUSINESS ADDRESS 4301 Dutch Ridge Road Beaver, Pennsylvania 15009	9	1940 Partnership	PERSON IN CHARGE/ NO. AML DESIGN	treet, Charleston, WV 25313/ 304.76		nt (304) 769-0821	imum Design Team Members)	~ 0 4 7 0 0 0	TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: * RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.		_YES	
	WEST V	ANIL CON	sign rginia		5. ESTABLISHED (YEAR)		SS/ TELEPHONE/ F	est Washington S	TEMBERS OF FIRM	nt Vice Presider	ering Indicates Mini	2 ECOLOGISTS 1 ECONOMISTS 2 ELECTRICAL E 2 ELECTRICAL E 2 ENVIRONMEN 2 ESTIMATORS 2 GEOLOGISTS 13 HYDROLOGIS	REGISTERED PRO Id Mining must provisit type of work.		KED TOGETHER I	
\bigcirc		And the second	PROJECT NAME Lilbern Pritt Highwall Design Barbour County, West Virginia (DEP15596)	1. FIRM NAME Michael Baker Jr., Inc.	4. HOME OFFICE TELEPHONE	304-769-0821	7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE	Michael Baker Jr., Inc./ 5088 We	8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	Russell E. Hall, Assistant Vice President (304)	9. PERSONNEL BY DISCIPLINE (Bold Lettering Indicates Minimum Design Team Members)	 243 ADMINISTRATIVE 243 ACHITECTS 11 ARCHITECTS 3 BIOLOGISTS 67 CADD OPERATORS 1 CHEMICAL ENGINEERS 39 CIVIL ENGINEERS 47 CONSTRUCTION INSPECTORS / Mgrs. 67 DESIGNERS 0 DRAFTSMEN 	TOTAL NUMBER OF WV REGISTERED PI * RPEs other than Civil and Mining must p supervise and perform this type of work.		10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE?	

1 of 40 DEP15596 - Lilbern Pritt Highwall Design, Barbour County, West Virginia

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12. RELEVANT EXPERIENCE. Include number of projects per each discipline	
A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?	amation Engineering?
YES Description and Number of Projects: Baker has been assisting state and federal agencies with abandoned mine land (AML) restoration and acid mine drainage (AMD) 1977. Baker's experience began with Operation Scarlift and now includes well over 200 AML/AMD remediation projects ranging control, mine sealing, reclamation of mine refuse piles, strip pit and high wall; drainage improvements, revegetation, stream reloc streams and wetlands, landslide correction, and replacement of water supplies affected by abandoned mine lands to abatement to Baker has been assisting West Virginia Department of Environmental Protection with Abandoned Mine Lands Remediation/Mine Engineering design services ever since WNDEP initiated its AML Reclamation Program in 1983. In addition to WVDEP, our also PADEP with AML reclamation and AMD remediation designs. The "AML and related Project Experience Matrix" table provided ar CCQQ shows our experience on waterline extension and AML related projects for different state agencies and for private clients.	Description and Number of Projects: Baker has been assisting state and federal agencies with abandoned mine land (AML) restoration and acid mine drainage (AMD) remediation since 1977. Baker's experience began with Operation Scarlift and now includes well over 200 AML/AMD remediation projects ranging from subsidence control, mine sealing, reclamation of mine refuse piles, strip pit and high wall; drainage improvements, revegetation, stream relocation, restoration of streams and wetlands, landslide correction, and replacement of water supplies affected by abandoned mine lands to abatement of AMD problems. 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, our also currently assisting PADEP with AML reclamation and AMD remediation designs. The "AML and related Project Experience Matrix" table provided at the end of this CCQQ shows our experience on waterline extension and AML related projects for different state agencies and for private clients.
B. Is your firm experienced in Soil Analysis?	
YES Description and Number of Projects: In designing AML reclamation projects, generally three types of soil analysis are needed. These analyses may soil analysis for revegetation potential (pH, Acid Base Accounting, Nutrients) and c) soil analysis for hazardous selecting and collecting the soil samples and analyzing the results of laboratory testing as required for design subcontractor. Of the thirty (30) most recent AML projects, Baker was involved in soil analysis for 19 projects.	Description and Number of Projects: In designing AML reclamation projects, generally three types of soil analysis are needed. These analyses may include: a) geotechnical analysis, b) soil analysis for revegetation potential (pH, Acid Base Accounting, Nutrients) and c) soil analysis for hazardous materials. 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 thirty (30) most recent AML projects, Baker was involved in soil analysis for 19 projects.
C. Is your firm experienced in hydrology and hydraulics?	
YES Description and Number of Projects: Baker's hydrology and hydraulic staff for AML/AMD remediation design are experts in the application of hydr HEC-RAS, HY8, TR20, TR55, HAESTADS PONDS 2, FLOWMASTER, KYPIPE 2, CYBERNET, SEDCAD 4, this experience to services such as stormwater management; culvert analysis; hydrologic and hydraulic stud modeling; channel design; watershed planning; energy dissipation; and waterline extension and distribution.	Description and Number of Projects: Baker's hydrology and hydraulic staff for AML/AMD 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, KYPIPE 2, CYBERNET, SEDCAD 4, UNET, and DAMBRK. 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/AMD remediation detection the twenty six (26) projects needed hydrology/hydraulics expertise of the AML/AMD design group.	Expertise in hydrology and hydraulics is essential in any AML reclamation/AMD remediation design. Of the thirty (30) most recent AML projects, twenty six (26) projects needed hydrology/hydraulics expertise of the AML/AMD design group.
West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia 3 of 40

12. RELEVANT		ACE. Include number of projects per each discipline
ш	ls your evaluati	ls 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
		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, 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 McDowell County Public Water Supply System, Baker also designed a water treatment and filtration plant. Construction plans, specifications, cost estimate and bid schedules were prepared for each project.
		Prior to designing each of the waterlines, under separate work directives from WVDEP, Baker performed water resources studies for each project area to determine if the pre-law mining had impacted the aquifer of the area from which the area residents got their water supply. Water resource studies 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 hydrogeologic data, resident interview, water sampling and testing. To date Baker has performed more than twelve (12) water resources studies.
L.	ls your Evaluat	ls your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?
	YES	Description and Number of Projects:
		Baker is well experienced in the evaluation of acid mine drainage and the design of AMD abatement measures. Design experience includes both active and passive treatment system. Evaluation and design of AMD abatement system is based on the characterization of the AMD site as well as the flows and chemistry of the AMD. AMD sampling for chemical parameters as well as the flow measurements covering high and low flow periods are most important in developing AMD abatement system. To date Baker has evaluated and designed fourteen (14) AMD abatement systems. Three of these fourteen projects – one for PADEP (Dumans AMD Treatment), an active system, and the other two for the ODNR (Lindentree AMD Remediation and Mineral Zoar Road AMD Abatement), passive treatment systems, have been recently constructed and are currently in service except the Mineral Zoar Road AMD project which is under construction.
		Baker has designed seven (7) AMD remediation projects for WVDEP. AMD remediation measures designed 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 AMD abatement designs were made for Baltimore and Nashville Districts of the U.S. Army Corps of Engineers.
West Virginia Department of Environmental	spartment c	West Virginia Department of Environmental Protection AMI Consultant Oualification Ouestionnaire 5 of 40

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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSO data but keep to essentials)	CIPALS AND ASSOCIATES RESPONSIBLE	FOR A	omplete	
NAME & TITLE (Last, First, Middle Int.)	VEADO OF AMIL DECION EVDEDIENCE.	YEARS OF EXPERIENCE VEAPS OF AMI PEI ATED DESIGN	YEARS OF DOMESTIC WATERLINE	INE
Fogarty, Patrick, W., P.E., P.S. Senior Engineer	YEAKS OF AML DESIGN EXPERIENCE: 15	EXPERIENCE: 25	DESIGN EXPERIENCE: 18	
Brief Explanation of Responsibilities				
Mr. Fogarty is an Engineer and Surveyor responsible for the development of all types of civil, structural, environmental and transportation projects throughout West Virginia and surrounding states. He has more than twenty years of engineering experience and over ten years of experience with the WVDEP on AML planning, mapping and design assignments. Various types of AML projects include has more than twenty years of engineering experience and over ten years of experience with the WVDEP on AML planning, mapping and design assignments. Various types of AML projects include has more than twenty years of engineering experience and over ten years of experience with the WVDEP on AML planning, mapping and design assignments. Various types of AML projects include that the treating wall design, site grading and drainage improvements, acid mine drainage collection and neutralization, water line upgrade and extensions, and various projects landslide correction include retaining wall design, site grading and drainage improvements, acid mine drainage control surveys for aerial photogrammetry mapping, baseline layout, referencing requiring site regrading and drainage upgrade. Work on these projects also included establishing horizontal and vertical control surveys for aerial photogrammetry mapping, baseline layout, referencing control points, generating check cross sections and site surveys including all physical and topographic features of each unique site civil design, utility relocations, property transfer, treatment design, and control points, generating check cross sections and site surveys including all physical and topographic features of each unique site civil design, utility relocations, property transfer, treatment design, and project management. Specific WVDEP/AML projects for which Mr. Fogarty has been personally responsible as Project Manager and Lead Design Englored.	he development of all types of civil, structural, en d over ten years of experience with the WVDEP of ding and drainage improvements, acid mine drain these projects also included establishing horizonts urveys including all physical and topographic feat which Mr. Fogarty has been personally responsib	rironmental and transportation projects throughoun AML planning, mapping and design assignment age collection and neutralization, water line upgral and vertical control surveys for aerial photogranures of each unique site civil design, utility relocate as Project Manager and Lead Design Enginee	ut West Virginia and surrounding stants. Various types of AML projects in ade and extensions, and various pro- mmetry mapping, baseline layout, re- tions, property transfer, treatment de r include the following:	tes. He nciude jects frencing ssign, and
WVDEP14387 , Harrison County. Wet mine seals, the installation of bat gates, at the Crooked Run #5 Complex in Harrison County near Clarksburg.	nstallation of bat gates, open limestone channel d Clarksburg.	open limestone channel design, culvert and structure design, structure removal and reclamation grading at six (6) sites	loval and reclamation grading at six ((6) sites
WVDEP14176, Kanawha County. 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.	installation of bat gates, open limestone channel design, culvert and (Garten), and the Mill Hollow Complex) in eastern Kanawha County.	lesign, culvert and structure design, structure ren i Kanawha County.	noval and reclamation grading at fou	ır sites
Morris Creek Watershed Association AMD Treatment, Montgomery. Design of treatment systems for stream contamination due to pre-law mining activity within the Morris Creek Watershed near the City of Montgomery. West Virginia. Contamination sources were initially identified for four (4) particular areas within the watershed. Treatment systems were designed for each of the areas the City of Montgomery. West Virginia. Contamination sources were initially identified for four (4) particular areas within the watershed. Treatment systems were designed for each of the areas the City of Montgomery. West Virginia. Contamination sources were initially identified for four (4) particular areas within the watershed. Treatment systems were designed for each of the areas including: Stream Relocation and In-Stream Aeration (Upper Main Stem of Morris Creek), Anaerobic Wetland and Polishing Pond (Lower Main Stem of Morris Creek), and In-Stream Aeration (Black Snake Hollow of Morris Creek). The designs incorporated conventional and unconventional treatment processes for the Pond (Possum Hollow Branch of Morris Creek), and In-Stream Aeration (Black Snake Hollow of Morris Creek). The designs incorporated conventional and unconventional treatment processes for the Pond (Possum Hollow Branch of Morris Creek). The assignment included the coordination of aerial photogrammetric mapping, geotechnical investigation, water sampling (for quality and flowrate) and the preparation of plans, specifications and individual property plats to include the treatment areas within the corporate boundary of the City of Montgomery.	t, Montgomery. Design of treatment systems for strea sources were initially identified for four (4) particular poper Main Stem of Morris Creek), Anaerobic Wetland & Stream Aeration (Black Snake Hollow of Morris Creek). e assignment included the coordination of aerial photog I property plats to include the treatment areas within the	gn of treatment systems for stream contamination due to pre-law mining activity within the Morris Creek Watershed near identified for four (4) particular areas within the watershed. Treatment systems were designed for each of the areas pris Creek), Anaeobic Wetland and Polishing Pond (Lower Main Stem of Morris Creek), Aerobic Wetland and Polishing Snake Hollow of Morris Creek). The designs incorporated conventional and unconventional treatment processes for the the coordination of aerial photogrammetric mapping, geotechnical investigation, water sampling (for quality and flowrate) de the treatment areas within the corporate boundary of the City of Montgomery.	ctivity within the Morris Creek Water systems were designed for each of Morris Creek), Aerobic Wetland and nd unconventional treatment process lation, water sampling (for quality an mery.	shed near the areas I Polishing ses for the d flowrate)
Norton-Harding-Jimtown PSD Waterline Extensions, Randolph County. 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.	Randolph County. The assignment included the sions to three communities (Pumkintown, Mabie, ; er 100,000 gallon water storage tank, fire protections and the storage tank for the storage tank.	: coordination of aerial photogrammetric mapping and Green). The project consisted of approxima on and other appurtenances.	, geotechnical investigation, and the tely 30,000 feet of 6-inch	PVC SDR
Kilsyth (City of Mount Hope) Drainage Improvements, Fayette County. Drainage improvements to the intake site for the City of Mount Hope raw water pump station. The design of a circular reinforced concrete tank over a deep mine portal, the collection and rerouting of excess mine water and storm drainage. The design included phasing to assure continuous operation of the pump station during construction.	, Fayette County. Drainage improvements to the lection and rerouting of excess mine water and st	intake site for the City of Mount Hope raw water orm drainage. The design included phasing to a	pump station. The design of a circu ssure continuous operation of the pu	lar mp station
Chief Logan State Park AMD, Logan County. Wet mine seals and open limestone channel design for the treatment acid mine drainage at numerous locations within the State Park. Additionally, Mr. Fogarty has specific training and expertise with Natural Stream Design having completed Levels I through IV of <i>Rosgen</i> Training through Wildland Hydrology Courses. Mr. Fogarty has also completed the Assessment and Sediment-Based Design of Stream Restorations Short Course through the University of Louisville, Stream Insittute	ne seals and open limestone channel design for the se with Natural Stream Design having completed besign of Stream Restorations Short Course the second se	ie treatment acid mine drainage at numerous loc. Levels I through IV of <i>Rosgen</i> Training through ¹ rough the University of Louisville, Stream Insittut	ations within the State Park. Wildland Hydrology Courses. Mr. Fc e	ogarty has
EDUCATION (Degree, Year, Specialization) B.S., 1985, Civil Engineering				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers International Right of Way Association American Planning Association		REGISTRATION (Type, Year, State) Professional Engineer, 1990, WV: Pro Professional Engineer, 1996, OH: Pro Professional Engineer, 2000, KY: Pro	te) Professional Surveyor, 1993, WV Professional Surveyor, 1996, OH Professional Land Surveyor, 2001, KY	
West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire		DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia		7 of 40

	r complete YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 25	ns preparation, hydrologic and hydraulic and sanitary collection systems; and permitting ng of mine portals, grouting for mine Aany of these projects have been for the West er distribution projects located in Ohio,	/Senior Engineer. Arranged for mapping and n of USACE and WVDOH permits for stream e project which included erosion and and diversion ditches, backfilling a dangerous	tion of disposal and reclamation plans for a strip and soils data, design and preparation of	I water system evaluation and distribution al groundwater and provided water supply	ogical data and mining maps, review of water ucing System, and an aerobic wetland. entation control measures, site grading, mine	ttion and preparation of reclamation plans n mining sites at Fort Gordon, Georgia. The	h of geological data and mining maps, review of nds. Final design was provided without wetlands ict, which included site grading, mine seals,	logical data and mining maps, review of water g ponds, open limestone channels, and fly ash rsion ditches, soil cover, and revegetation.		ional Engineer, 1993, PA nal Engineer, 2001, VA	arbour County, West Virginia 9 of 40
	SOCIATES RESPONSIBLE FOR AML PROJECT DESIGN. (Furnish complete YEARS OF EXPERIENCE ESIGN EXPERIENCE: YEARS OF AML RELATED DESIGN YEAR: 21 21 21 21	I lands, including acid mine drainage abatement, earthwork and grading plans preparation, hydrologic and hydrau xperience in the design of water distribution systems, hydraulic structures, and sanitary collection systems; and print reclamation projects which include reclamation of coal refuse piles, sealing of mine portals, grouting for mine or grimpacts on drinking water supplies, and restoration of stream channels. Many of these projects have been for t Reclamation Office. He has also served as project engineer for over 30 water distribution projects located in Ohio,	ent of <i>Environmental Protection</i> . Project Manager ng maps, review of water quality data, preparation ice at pre-bid and preconstruction meetings for the n channels, open limestone channels, collection a	er. Duties included site investigation and preparat The project included review of available site rock	Protection. Senior Engineer. Provided conceptual ort which assessed pre-law mining impacts to located to the second s	<i>ion.</i> Senior Engineer. Performed research of geol s, a limestone pond, a Successive Alkalinity Produ s for the project which included erosion and sedim acement, revegetation, and reforestation.	ngineers, New Orleans District. Task Manager Duties included site investiga of highwalls, and revegetation as required for permanent closure of seven of preparation of construction plans, narratives, and specifications.	<i>tection.</i> Senior Engineer. Duties included research ine channels, limestone ponds, and aerobic wetlar pre-bid and preconstruction meetings for the projection meetings fo	<i>trict.</i> Senior Engineer. Performed research of geo essive alkalinity producing systems, metals settling uded site grading, mine seals, collection and dive		REGISTRATION (Type, Year, State) Professional Engineer, 1998, WV; Professional Enginer, Professional Engineer, 1998, OH: Professional Engineer,	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia
\bigcirc	INCIPALS AND ASSOCIATES RESPONSI YEARS OF AML DESIGN EXPERIENCE: 21	tion of abandoned mine lands, including acid min- te also has extensive experience in the design of irty abandoned mine land reclamation projects wf luation of pre-law mining impacts on drinking wat doned Mine Lands and Reclamation Office. He ha	onongalia County, WV. West Virginia Departm s, performed research of geological data and mini onstruction plans and specifications and attendan als, bat gates, reestablished and relocated strean	e, N.C. <i>The Feldspar Corporation</i> . Project Manag ditches, soil cover placement, and revegetation.	WV. West Virginia Department of Environmental estimate, and narrative as part of a feasibility repution system.	est Virginia Department of Environmental Protect ent measures, including open limestone channels tendance at pre-bid and preconstruction meetings ss, backfilling a dangerous highwall, soil cover pla	a, US Army Corps of Engineers, New Orleans Dis er placement, backfilling of highwalls, and revege nd soils data, design and preparation of construct	. West Virginia Department of Environmental Pro- lage abatement measures including open limesto ction plans and specifications and attendance at and revegetation.	nia. U.S. Army Corps of Engineers, Nashville Dis nent measures, including aerobic wettands, succe detailed cost estimates for the project, which incl	ering	ŝ	
\bigcirc	13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASt data but keep to essentials) NAME & TITLE (Last, First, Middle Int.) Hynes, Gregory P., P.E. Project Manager/Senior Engineer	Brief Explanation of Responsibilities Mr. Hynes is an engineer with a background in reclamation of abandoned mine lands, including acid mine drainage abatement, earthwork and grading plans preparation, hydrologic and hydraulic Mr. Hynes is an engineer with a background in reclamation of abandoned mine lands, including of water distribution systems, hydraulic structures, and sanitary collection systems; and permitting analysis, and erosion and sediment control structures. He also has extensive experience in the design of water distribution systems, hydraulic structures, and sanitary collection systems; and permitting of mining facilities. At Baker, he has worked on over thirty abandoned mine land reclamation projects which include reclamation of coal refuse piles, sealing of mine portals, grouting for mine subsidence, treatment of passive and active water, evaluation of pre-law mining impacts on drinking water supplies, and restoration of stream channels. Many of these projects have been for the West Virginia Department of Environmental Protection, Abandoned Mine Lands and Reclamation Office. He has also served as project engineer for over 30 water distribution projects located in Ohio, Pennsylvania, and West Virginia.	Wymer Portals and Refuse & Davidson Highwall, Monongalia County, WV. West Virginia Department of Environmental Protection. Project Manager/Senior Engineer. Arranged for mapping and drilling by subconsultants, oversaw assistant engineers, performed research of geological data and mining maps, review of water quality data, preparation of USACE and WVDOH permits for stream channel relocation and highway crossings. Prepared construction plans and specifications and attendance at pre-bid and preconstruction meetings for the project which included erosion and sedimentation control measures, site grading, mine seals, bat gates, reestablished and relocated stream channels, open limestone channels, collection and diversion ditches, backfilling a dangerous highwall, soil cover placement, and revegetation.	Chalk Mountain Mine and Dump Site 4, Spruce Pine, N.C. The Feldspar Corporation. Project Manager. Duties included site investigation and preparation of disposal and reclamation plans for a strip mine including E&S controls and ponds, surface water ditches, soil cover placement, and revegetation. The project included review of available site rock and soils data, design and preparation of construction plans, narratives, and specifications.	Miller Mountain Feasibility Study, Preston County, WV. West Virginia Department of Environmental Protection. Senior Engineer. Provided conceptual water system evaluation and distribution system extension requirements including design, cost estimate, and narrative as part of a feasibility report which assessed pre-law mining impacts to local groundwater and provided water supply alternatives including the extension of a nearby distribution system.	Kempton Refuse and AMD, Tucker County, WV. West Virginia Department of Environmental Protection. Senior Engineer. Performed research of geological data and mining maps, review of water quality data, and design of acid mine drainage abatement measures, including open limestone channels, a limestone pond, a Successive Alkalinity Producing System, and an aerobic wetland. Prepared construction plans and specifications and attendance at pre-bid and preconstruction meetings for the project which included erosion and sedimentation control measures, site grading, mine Prepared construction plans and siversion ditches, backfilling a dangerous highwall, soil cover placement, revegetation, and reforestation.	Fort Gordon Mine Closure Plans, Augusta, Georgia, US Army Corps of Engineers, New Orleans District. Task Manager Duties included site investigation and preparation of reclamation plans including E&S controls, surface water ditches, soil cover placement, backfilling of highwalls, and revegetation as required for permanent closure of seven mining sites at Fort Gordon, Georgia. The project included review of available site water, rock, and soils data, design and preparation of construction plans, narratives, and specifications.	Borgman Portals and Refuse , Preston County, WV . <i>West Virginia Department of Environmental Protection</i> . Senior Engineer. Duties included research of geological data and mining maps, review of water quality data, and initial design of acid mine drainage abatement measures including open limestone channels, limestone ponds, and aerobic wetlands. Final design was provided without wetlands and ponds per request of the client. Prepared construction plans and specifications and attendance at pre-bid and preconstruction meetings for the project, which included site grading, mine seals, collection and diversion ditches, soil cover placement, and revegetation.	Powell River Ecosystem Restoration Project, Virginia. U.S. Army Corps of Engineers, Nashville District. Senior Engineer. Performed research of geological data and mining maps, review of water quality data, and design of acid mine drainage abatement measures, including aerobic wetlands, successive alkalinity producing systems, metals settling ponds, open limestone channels, and fly ash quality data, and design of acid mine drainage abatement measures, including aerobic wetlands, successive alkalinity producing systems, metals settling ponds, open limestone channels, and fly ash quality data, and design of acid mine drainage abatement measures, including aerobic wetlands, successive alkalinity moducing systems, metals settling ponds, open limestone channels, and fly ash solid mendments. Prepared plans, specifications, and detailed cost estimates for the project, which included site grading, mine seals, collection and diversion ditches, soil cover, and revegetation.	EDUCATION (Degree, Year, Specialization) M.S., 1997, Civil Engineering; B.E., 1987, Civil Engine	MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	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	1 complete
UDARE & TITLE (1 act Elect Middle let)		YEARS OF EXPERIENCE	
Dooley, Michael J. Mapping Supervisor	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: -	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: -
Prief Explanation of Responsibilities			
Mr. Dooley has successfully managed at least 500 projects in a project manager or production manager role over the past 12 years. Projects ranged from large multi-million dollar nationwide mapping in the Caribbean utilizing various subcontractors, softwares and technologies to produce planimetry/topology and orthophotography to large-scale site mapping to provide high accuracy terrain data, planimetric data and pixel resolutions required for engineering specific projects.	ects in a project manager or production manager ares and technologies to produce planimetry/topc heering specific projects.	role over the past 12 years. Projects ranged from l blogy and orthophotography to large-scale site map	arge multi-million dollar nationwide mapping ping to provide high accuracy terrain data,
He is well-versed through either having worked directly in or acquired specific technical knowledge of: flight planning, control planning, airborne GPS/IMU operations, aerotriangulation (automated and manual), LIDAR operations, film based and digital cameras, DTM and DEM compilation, GIS Mapping, transmission line and pipeline profiling, volumetrics for volume reporting, orthophotography and image rectification, vector based CAD editing, quality control, preparation of responses to RFP/LOI/RFQ, estimating.	in or acquired specific technical knowledge of: flight planning, eras, DTM and DEM compilation, GIS Mapping, transmission ontrol, preparation of responses to RFP/LOI/RFQ, estimating.	ght planning, control planning, airborne GPS/IMU c transmission line and pipeline profiling, volumetrics), estimating.	perations, aerotriangulation (automated and for volume reporting, orthophotography and
He has served diversified customer contacts including multiple state and county governments, quasi-governmental organizations (E911, Councils of Government), city governments, public utilities, private utilities, mining and materials, appraisal districts. Engineering companies in support of oil and gas facilities and pipelines, electrical facilities and transmission. Engineering companies in support of residential, commercial and industrial development. FAA Commercial, International and General Aviation airports.	multiple state and county governments, quasi-go s. Engineering companies in support of oil and ga FAA Commercial, International and General Avia	vermmental organizations (E911, Councils of Gover is facilities and pipelines, electrical facilities and tra ition airports.	mment), city governments, public utilities, nsmission. Engineering companies in support
Experience			
Production Manager Tri-County Aerial Acquisition Project in conjunction with Frederick County, Maryland- 4 County Project – Frederick, Washington, Allegany, and Garrett Counties Utilized LiDAR data and addition of DEM breaklines, produced 6" orthoimagery tiles, 1"=100'planimetric data including; building footprints, edge of pavement, stream channels, forested areas, driveways, parking, medians, ponds, fences & railroad tracks and 2' contours for Allegany Gounty Government (allconet).	h Frederick County, Maryland- 4 County Project oduced 6" orthoimagery tiles, 1"=100'planimetric tracks and 2' contours for Allegany County Gover	 Frederick, Washington, Allegany, and Garrett Co c data including; building footprints, edge of pavem mment (allconet). 	unties ient, stream channels, forested areas,
Project Manager Berar Metro 911 Network District, San Antonio, Texas - 3 County Project – Bexar, Comal, and Guadalupe Counties Utilized digitally captured aerial photography, produce 6" pixel black and white orthoimagery, black and white was requested specifically by client. Generated DTM data which was yearly updated over three years. Digitized all roadway (public and private) centerline data, with yearly updates.	 3 County Project – Bexar, Comal, and Guadalu pixel black and white orthoimagery, black and enterline data, with yearly updates. 	pe Counties white was requested specifically by client. Generat	ed DTM data which was yearly updated over
Project Manager Dominican Republic, Countrywide mapping – "Irrigated Areas Mapping project - Irrigation Systems Management Studies" Flew entire country, provided 12,000 frames of imagery in both digital and hard copy form to The National Government". Produced 0.5m pixel CIR and color imagery for specific irrigated areas. Produced 1m contours from DTM acquired data, 1"=200' planimetric data.	I Areas Mapping project - Irrigation Systems Man y in both digital and hard copy form to The Natior 00' planimetric data.	agement Studies" aal Government". Produced 0.5m pixel CIR and col	lor imagery for specific irrigated areas.
EDUCATION (Degree, Year, Specialization) Suffolk County Community College – Civil Technology	1983 – 1987		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	Ø	REGISTRATION (Type, Year, State)	
West Virginia Department of Environmental Protection			

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\bigcirc	1 complete		YEARS OF DOMESTIC WATERLINE			g, laboratory testing, project analysis and is and coal mines. His design experience also	 Performed the geotechnical investigation sign included evaluation of buoyancy effects, he dry well. 	ned design analysis and prepared construction tion structure design, subsurface water control	Prepared construction plans, specifications and cost	Performed subsurface investigations to endation of remedial measures.	am for foundations of several support buildings,	Performed subsurface investigations and designed	eld investigation during development of acid ng implementation of remedial measures.	ampling and constructing groundwater				arbour County, West Virginia 13 of 40
	BLE FOR AML PROJECT DESIGN. (Furnish complete	YEARS OF EXPERIENCE	YEARS OF AML RELATED DESIGN	EXPERIENCE: 15	-	ience encompasses reconnaissance, field testing zardous waste studies, industrial facilities, airport	rn Columbiana County Regional Water District. Assistant Technical Manager. Performe I receiving water from a new intake system placed in the Ohio River. The design includ soft clay layer that would be encountered at the base of the excavation for the dry well.	t of Environmental Protection. Engineer. Perform s included regraded slope stability analysis, reten	West Virginia Department of Environmental Protection. Engineer. Prepare srground coal mines.	, Office of Surface Mining. Assistant Engineer. Inface distress cause determination and recomme	ssistant Engineer. Conducted field testing progra	surface Mining. Assistant Engineer. Performed s	Engineer. Conducted water sampling program and field investigation during development of acid a. Handled administration and office engineering during implementation of remedial measures.	ous Clients. Assistant Engineer. Assisted with s			REGISTRATION (Type, Year, State) Professional Engineer, 1985, PA	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia
Ð	STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIE		YEARS OF AML DESIGN EXPERIENCE:	15		investigation and design. His professional exper or roadways, railroads, earth dams, buildings, haz ve AMD abatement design.	Isville, Ohio. Southern Columbiana County Reg a 30 foot deep dry well receiving water from a new and remediation of a soft clay layer that would b	Plans, West Virginia. West Virginia Department of several abandoned coal refuse piles. Project and non-burning refuse piles.	e	Pennsylvania. U.S. Department of the Interior at several private residences. Project included su	Pennsylvania. Consolidation Coal Company. A	ania. U.S. Department of the Interior, Office of Surface Mining. Assistant Engineer. derground coal mine.	 Ohio Department of Natural Resources. Engi- underground coal mine and coal refuse area. H: 	npling, Pennsylvania and West Virginia. <i>Vari</i>				
\bigcirc	SONAL HISTORY	data but keep to essentials)	NAME & IIILE (Last, First, Middle Int.)	Zang, Scott U., P.E. Senior Engineer	Brief Explanation of Responsibilities	Mr. Zang is a geotechnical engineer experienced in site investigation and design. His professional experience encompasses reconnaissance, field testing, laboratory testing, project analysis and design, report preparation and construction inspection for roadways, railroads, earth dams, buildings, hazardous waste studies, industrial facilities, airports and coal mines. His design experience also includes abandoned mine land reclamation and innovative AMD abatement design.	Raw Water Pump Station & Transmission Main, Wellsville, Ohio. Southern Columbiana County Regional Water District. Assistant Technical Manager. Performed the geotechnical investigation and made design recommendations for construction of a 30 foot deep dry well receiving water from a new intake system placed in the Ohio River. The design included evaluation of buoyancy effects, temporary shoring for the dry well and the intake piping, and remediation of a soft clay layer that would be encountered at the base of the excavation for the dry well.	Coal Refuse Pile Remediation Design Analysis and Plans, West Virginia. West Virginia Department of Environmental Protection. Engineer. Performed design analysis and prepared construction plans, specifications and cost estimates for remediation of several abandoned coal refuse piles. Projects included regraded slope stability analysis, retention structure design, subsurface water control and facilities design for surface water control of burning and non-burning refuse piles.	Coal Mine Subsidence Remediation Construction Plans, West Virginia. West Virginia Depar estimates for remediation of areas affected by subsidence of abandoned underground coal mines.	Private Residence Subsidence Evaluations, Western Pennsylvania. U.S. Department of the Interior, Office of Surface Mining. Assistant Engineer. Performed subsurface investigate valuate subsurface investigates and subsurface incidents at several private residences. Project included surface distress cause determination and recommendation of remedial measures.	Manor Mine and Preparation Plant, Greene County, Pennsylvania. Consolidation Coal Company. Assistant Engineer. Conducted field testing program for foundations of several support buildings, a preparation plant, and coal storage silos.	Landini Mine Fire Remediation, Elizabeth, Pennsylvania. U.S. Departme. remedial measures to control a fire in an abandoned underground coal mine.	Acid Mine Drainage Abatement Project, Barton, Ohio. Ohio Department of Natural Resources. Engineer. Conducted water sampling program and field investigation during development of ac mine drainage abatement procedures at an abandoned underground coal mine and coal refuse area. Handled administration and office engineering during implementation of remedial measures.	Groundwater Monitoring Well Construction and Sampling, Pennsylvania and West Virginia. Various Clients. Assistant Engineer. Assisted with sampling and constructing groundwater monitoring wells at various locations.	Tours Anno Voor Sooola (trakina)	EDUCATION (Degree, Year, Specialization) BS, 1980, Geological Engineering	MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers	West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire

Water Treatment Plant Design, berwind, west Vrigina Livest Vrigina Recent Livest Li	Spring Alley and Mercer Road Water Pumping Stations, New Brighton Borough and Daugherty Township, Pennsylvania. Beaver Falls Municipal Authority. Project Manager. Performed design engineering evaluations, permitting and preparation of equipment purchasing bidding documents for the two (2) water pumping stations. Spring Alley Station consists of two 455 gallons per minute at 305 feet TDH pumps upgradable to 575 gallons per minute at 330 feet TDH. Mercer Road Station consists of three pumps with two at 300 gallons per minute at 128 feet TDH and one at 400 gallons per minute at 156 feet TDH.	nd, Pennsylvania. Various Pennsylvania Municipalities. Project Engineer and Project Manager. ige tanks. :y, Meadville, Baden and Koppel, Pennsylvania. Various Pennsylvania Municipalities. Techni	iylvania. V <i>ariou</i> Dennevlvania	Mr. Culler is a civil and environmental engineer with more than 25 years of experience in project planning, design, construction, operation and maintenance engineering services. His background includes municipal engineering representation, site engineering for industrial and commercial parks; municipal infrastructure design (roads, storm drainage, water and sewer); industrial and recreational facilities; wastewater and water planning and feasibility studies; and municipal and sanitary engineering designs (water and wastewater treatment, pumping, water storage and distribution, and wastewater collection and conveyance). He is also experienced in preparation of construction drawings and contract specifications; construction cost estimating; preparation of regulatory applications and supporting data; financial planning studies; and construction inspection services.	ies	Culler, James A., P.E., P.L.S. YEARS OF AML DESIGN EXPERIENCE: TEARS OF AML REIGN EXPERIENCE: TEARS OF AML REIGN EXPERIENCE: Engineering Manager 5 6 36		 PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN. (Furnish complete data but keep to essentials) 	
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Beric Explanation of Responsibilities. The fraction of geologic research, also incorring and reporting reache of geotechnical investigatories including geologic research, also recorreissance, proparing test chilling contracts, tast boring methods with reading the incorrent contract with the alternative restrict. The incorrent restrict restrict restrict. The incorrent restrict restrict. The incorrent restrict restrict. The incorrent restrict restrict. The incorrent restrict restric	Brief Explanation of Responsibilities Mr. Martin is a geologist with experience in conducting and reporting results of geotechnical investigations induding geologic research, sile reor inspreaction, and geotechnical laboratory testing. Morth Fork of Yellow Corea AMD Abatament, Jefferson County, Ohio. Nashville District, U.S. Army Corps of Engineers. Project Geologic tocarting borntys: inspecting test borntos, instending and reportings and thom auger currings and are meabling test porting area conclutating with the Project Manager during field activities. West Virginia. West Virginia Department of Energy. Project Geologic condinating with the Project Manager during field activities under standard preteration tests and logging rock core from M coordinating with the Project Manager during field activities under standard preteration tests and logging rock core from M coordinating with the Project Manager during field activities under standard preteration tests and logging rock core from M coordinating with the Project Manager during field activities the analysis, compaction tests and protection. Project Geologist coordinating with the Project Manager during field activities to produce mine stabilization program. Mine Barial ages Suburities in evolution program. Mine Barial Subsidiation Basteritoru, West Virginia Department of Environmental Protection. Project Geologist. C docation of coal mine Lands Project, Chaet Lak, West Virginia Department of Environmental Protection. Project Geologist. C Abandooned Mine Lands Project, Chaet Lak, West Virginia Department of Environmental Protection. Project Geologist. C docation of coal mine Lands Project, Chaet Lak, West Virginia Department of Environmental Protection. Project Geologist. C project Iocation of coal mine Lands Protection and and cock core, conducted bore hole premeability tests, and conduct and Radiological Wistle Investigation Master Virginia Department of Environmental Protection. Project Geologist and Radiological Waste Investigation Report.	
Ru, Martin a a geologic incention: and reporting and reporting treats of geodochrical investigations including geologic research, state normalisation, paraging in the contradis, last boling diamine and provident state and logic research. State included: Coordinating with the chilling form, corrently state in bordnose: and state and the contradist and diamonalisation (contradist and diamonalisation) and provident state and logic produce for the AMD. Among the chilling form and/or cuting and standard pretenties in mis voids: instanting provident provident instantion. The methods and children children country was in bordnose: and standard pretenties in mis voids: instanting provident prediction (contradist and diamonalisation). The provident state and provident instanting with the Physical hardware unity provident prediction. The physical cuting and mission comparison in the void instanting with the Physical hardware united provident state and states physical states and states physical states and states physical in the void instanting of the physical states and states and states and states physical states and states physical states and states physical states and stat	Mr. Martin is a geologist with experience in conducting and reporting results of geotechnical investigations inducting geologic research, site recrispection, and geotechnical laboratory testing. North: Fork Y editory. Care MD: Masatiment, Jefferson County, Ohio. Nashville District, U.S. Amy Corps of Engineers. Project Geologic rostencem in the portals and defineating use lift om suge curtings and Estinct, U.S. Amy Corps of Engineers. Project Geologic rostencem in the portals and defineating multiple strandoptic presenting test porting yeast defineating assint/per parts, and postmeters in mine portals and defineating multiple. Next Virginia Department of Ereviron water levels: performent water levels: performand predicting and positive and inscress over and molecular final test bong root defineating multiple. Next Virginia Department of Environmental Protection. Project Geologic rooting of identity rine voids and mastelle standytic performance. Multiple Department of Environmental Protection. Project Geologic rooting and produced final test bong rootids protocals protocal mine advisition pogram. Mine Dusideer Subsurface Investigation, MacArthir, West Virginia Department of Environmental Protection. Project Geologis rootid medicard medicard protocal mine spoil relative strandom defineage subsurface investigation. Rest Virginia Department of Environmental Protection. Project Geologist. C Iocant Lake, West Virginia Department of Environmental Protection. Project Geologist. C Iocation of coal mine spoiliretuse. Other Lake, West Virginia Department of Environmental Protection. Project Geologist. C Iocation for and mine spoiliretuse. Other advision for advision for advision for advision for advision. Deceave and produced final test bong records.	
Note: For of Yellow Creek AND Absentent, ulfreeson County Olia, Naturillo Datriet U.S. Anny Control of Engletic Conditionant Coordination and the adming firm: contradiation prime and provide instance and	North Fork of Yalow Creek AND Abatement, Jefferson Country, Ohio. Nashville District, U.S. Army Corps of Engineers. Project Geologia overburden thickness over time portils; induring togging soil time voids; installing standpipe prezonteters in mine voids; investing and standpipe prezonteters in mine voids; induring of adstracting the voids and the monitor valer vewsi: preparing typed boring) occomplete for laboratory testing than angled and the voids; installing standpipe prezonteters in mine voids; including datastications, nutrient analysis, compaction testing, and permeability testing; preparing typed boring occomplete for laboratoria of installed another analysis, compaction testing, and permeability testing; preparing typed boring to identify mine voids and installed another parameters to evaluate presence of mine pools for mine drainage investigation. Mine Drainage Subsurface Investigation, Carfsburg and Fairmont, West Virginia Department of Environmental Protection. Project Geologis, to identify mine voids and installed standpipe prezonteters to evaluate presence of mine pools for mine drainage investigation. Mine Busisticance Subsurface Investigation, MacArthur, West Virginia Department of Environmental Protection. Project Geologis, C voids and produced final test boring records to produce time stabilization program. Abandoned Mine Lands Project, Cheat Lake, West Virginia. <i>West Virginia Department of Environmental Protection</i> . Project Geologis, C project location. Oversaw test during admine dual and rock core) to determine a mountextent of coal mine spoiliretuse within the mine drainage locations, and produced final test boring records. Waterline frainage locations, and produced final test boring records. Waterline Facility/Extension Project, Elewind, West Virginia Department of Environmental Protection. Project Geologist, and Radiological Waste Investigation Report. Waterline Facility/Extension Project, Elewind, West Virginia Department of Environmental Protection. Project Geologist core along the pro	arch, site reconnaissance, preparing test drilling contracts, test boring
When Drainage Subsurface investigation, Clarksburg and Fairmont, West Virginia Department of Energy. Project Geologist. Conducted site reconnaissance, monitored test broins to identify mine voids and installed startope plearance of mine pools for mine drainage investigation. The Substance Investigation, MaaArtur, West Virginia Department of Environmental Protection. Project Geologist. Logged soil and rock core to identify mine voids and produced final test boring acords to produce mine stabilization program. Abandoned Mine Lands Project, Cheat Lake, West Virginia Department of Environmental Protection. Project Geologist. Logged soil and rock core to identify mine constant of coal mine spoilretises, collected acid mine drainage samples for testing, installed plezormental Protection. Project Geologist. Longged soil and rock core to identify in a baandoned Mine Lands Project, Cheat Lake, West Virginia Department of Environmental Protection. Project Geologist. Longed soil and rock core is not acid mine actinange iconstances, and produced final test boring records. Abandoned Mine Lands Project, Ely and Protect Creeks, Virginia. West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance at fran ac mine drainage location. Oversaw test chiling activities including togging soil and rock core, conducted been hole permetability tests, and conducted a site reconnaissance. To broin and Radiological Waste Investigation Report. Waterline Feature Forder Cale Stant Project Geologist. Conducted a site reconnaissance. To ac- moster anong the proposed alignment, collected water samples, and produced final tests, and conducted a site reconnaissance. Jogged soil and roc and Radiological Waste Investigation Report.	 Mine Drainage Subsurface Investigation, Clarksburg and Fairmont, West Virginia. West Virginia Department of Energy. Project Geolog bonnings to identify mine voids and installed standpipe plezometers to evaluate presence of mine pools for mine drainage investigation. Mine Subsidence Subsurface Investigation, MacArthur, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C and and produced final test boring records to produce mine stabilization program. Abandoned Mine Lands Project, Cheat Lake, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C and and cad mine spoilretuse, collected addine drainage samples for them in announdextent of coal mine spoilretuse within the mine drainage location. Oversaw test chiling activities (i.e., logging soli and rock core) to determine announdextent of coal mine spoilretuse within the mine drainage location. Oversaw test investigation program. West Virginia Department of Environmental Protection. Project Geologist C applect location. Sand produced final test boring records. Abandoned Mine Lands Project, Ely and Puckett Creeks, Virginia Department of Mines. Minerals and Energy. Project Geologist C and Radiongical Wate Investigation Report. Abandoned Mine Lands Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C and Radiongical Wate Investigation Report. Abandoned Mine Lands Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C and Radiogical Report. Abardoned Mine Lands Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C and Radiogical Wate Investigation Report. Abardoned Mine Lands Project, Berwind, West Virginia Department of Environmental Protection. Project Geologist Co and Radiogen Radiogen Report. Abardoned Mine Lands Project,	jject Geologist. Duties included: Coordinating with the drilling firm; k core from NX or NQ coring to determine coal refuse thickness, er levels; performing field permeability tests in boreholes; selecting typed boring logs from field originals using LogDraft program;
Mine Subsidence Subsurface Investigation, MacArthur, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. Logged soil and rock core to identify mine voids and produced mal test boring records to produce mine stabilization program. West Virginia Department of Environmental Protection. Project Geologist. Logged soil and rock core to identify mine activities to detarmine amount and coalendo coale mine spoiling test prime stabilization program. Abandoneed Mine Lands Project, Mascontown, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance at four areas within the four densinge incention. Project Ceelogist. Conducted a site reconnaissance at four areas within the datilogical West Minest Minerals and Energy. Project Geologist. Conducted a site reconnaissance for four sites in southwestern Virginia. West Virginia Department of Mines Minerals and Energy. Project Geologist. Conducted a site reconnaissance in order of a hteatotom. Flogical Ceelogist. Conducted a site reconnaissance in order of a hteatotoms. Toxic. Materine Fausibility/Ectennaion Project. Bornid. West Virginia. West Virginia Department of Mines Minerals and Energy. Project Geologist. Conducted a site reconnaissance. Toged condition activities to the start production. Project Geologist. Conducted a site reconnaissance in order or a data for a state activities to the station of the stability/Ectennaion Project. Bornid. West Virginia. West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance. Toged soil and rou core and reconnaissance for a flazardous. Toxic. Materine Fausibility/Ectennaion Project. Bornid. West Virginia. Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance. Toged soil and rou core and organized material protection. Project Geologist. Conducted a site reconnaissance. Toged soil and rou core and organized material protection. Project Geologist. Conducted	Mine Subsidence Subsurface Investigation, MacArthur, West Virginia. West Virginia Department of Environmental Protection. Project Geologist O toocation of coal mine spoilirefuse, collected acid mine drainage samples for testing, installed plezometers and produced final test boring record Abandoned Mine Lands Project, Cheat Lake, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C to location of coal mine spoilirefuse, collected acid mine drainage samples for testing, installed plezometers and produced final test boring record mine spoilirefuse, collected acid mine drainage samples for testing, installed plezometers and produced final test boring records mine drainage location. Oversawites fulling activities including boging soil and rock core, tooducted bore hole permeability tests, and conduct and Radiological Waste Investigation Report. Abandoned Mine Lands Project, Ely and Puckett Creeks, Virginia Department of Mines Minerals and Energy. Project Geologist conducted bore hole permeability tests, and conduct and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia Department of Environmental Protection. Project Geologist conducted to the proposed alignment, collected water samples, and produced final testing boring records.	roject Geologist. Conducted site reconnaissance, monitored test tion.
Abandoned Mine Lands Project, Cheat Lake, West Virginia. West Virginia Department of Environmental Protoction. Project Geologist. Oversaw test drilling activities to determine amount and location of coal mine spolificities, collected acid mine drainage samples for festing, installed plezometers and produced final test boring records. Determine amount and mine Lands Project, Russonom, Wast Virginia. West Virginia Department of Environmental Protoction. Project Geologist. Oversaw test drilling activities (La logging soil and rock core) to determine amount extent of coal mine spolificities within the four designated areas, collected water samples from at mine drainage locations, and produced final test boring records. Abandoned Mine Lands Project, Elay and Pucket Creeks, Virginia. <i>Virginia Department of Environmental Protocola</i> . Project Geologist. Conducted a site reconnaissance at four areas within the four designated areas, collected water samples in a corticated bore hole permeability tests, and conducted a survey of local residence for a Hazardous. Toxic, and Radiological Waste Investigation Report. Wast Virginia Department of Environmental Protoction. Project Geologist. Conducted a site reconnaissance for four attess in a corticated bore hole permeability tests, and conducted a survey of local residence for a Hazardous. Toxic, and Radiological Waste Investigation Report. Wast Virginia Department of Environ. Project Geologist. Conducted a survey of local residence for a Hazardous. Toxic, core along the proposed alignment, collected water samples, and produced final testing boring records.	 Abandoned Mine Lands Project, Cheat Lake, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. C location of coal mine spoil/refuse, collected acid mine drainage samples for testing, installed piezometers and produced final test boring record Abandoned Mine Lands Project, Masontown, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. C Abandoned Mine Lands Project, Masontown, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. C Abandoned Mine Lands Project, Masontown, West Virginia. West Virginia Department of Environmental Protection. Project Geologist C project location. Oversaw test drilling activities (i.e., logging soil and rock core) to determine amount/extent of coal mine spoil/refuse within the mine drainage locations, and produced final test boring records. Abandoned Mine Lands Project, Ely and Puckett Creeks, Virginia Department of Mines, Minerals and Energy. Project Geologist and Radiological Waste Investigation Report. Abandoned Mine Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologic and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologic and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia Department of Environmental Protection. Project Geologic and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologic and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia. Waterline Feasibility/Defease Virginia. Materline Feasibility/Defease Virginia. 	
Abandoned Mine Lands Project, Masontown, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance at four areas within the project location. Oversaw test dining activities (e., logging acti and rock core) to determine amountextent of coal mine spoliretuse within the four designated areas, collected water samples from ac project location. Some and produced final test brong process of determine amountextent of coal mine spoliretuse within the four designated areas, collected water samples from ac abandoned Mine Lands Project, Ely and Prockett Creeks, Virginia. Virginia Department of Mines Minerals and Energy. Project Geologist. Conducted a site reconnaissance for four sites in southwestern Virginia. Oversaw test childra activities including logging soil and rock core, conducted bore hole permeability tests, and conducted a survey of local residence for a Hazardous. Toxic, and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance, logged soil and roc core along the proposed alignment, collected water samples, and produced final testing boring records. Waterline Feasibility/Extension Project, Berwind, West Virginia. Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance, logged soil and roc core along the proposed alignment, collected water samples, and produced final testing boring records. Waterline Feasibility/Extension Project, Berwind, West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance, logged soil and roc core along the proposed alignment, collected water samples, and produced final testing poring records. Materian Easibility/Extension Project, Berwind, West Virginia Department of Environmental Protection. Bers, 1985. Geology MEMERENTIN PROFESSIONAL OKEANIZATION	Abandoned Mine Lands Project, Masontown, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. C project location. Oversaw test drilling activities (i.e., logging soil and rock core) to determine amount/extent of coal mine spoil/refuse within the mine drainage locations, and produced final test boring records. Abandoned Mine Lands Project, Ely and Puckett Creeks, Virginia. Virginia Department of Mines, Minerals and Energy. Project Geologist southwestern Virginia. Oversaw test drilling activities including logging soil and rock core, conducted bore hole permeability tests, and conduct and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologi core along the proposed alignment, collected water samples, and produced final testing boring records. Protection: Project Geologi core along the proposed alignment, collected water samples, and produced final testing boring records. Protection: Project Geologi core along the proposed alignment, collected water samples, and produced final testing boring records.	Geologist. Oversaw test drilling activities to determine amount and boring records.
Abandoned Mine Lands Project, Ely and Puckett Creeks, Virginia. Virginia. Virginia Department of Mines, Minerals and Energy. Project Geologist. Conducted a site reconnaissance for four sites in southwestern Virginia. Oversaw test dilling activities including logging soil and rock core, conducted bore hole permeability tests, and conducted a survey of local residence for a Hazardous. Toxic, and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance, logged soil and roc core along the proposed alignment, collected water samples, and produced final testing boring records. Waterline Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologist. Conducted a site reconnaissance, logged soil and roc core along the proposed alignment, collected water samples, and produced final testing boring records. Best State Stat	Abandoned Mine Lands Project, Ely and Puckett Creeks, Virginia. Virginia Department of Mines, Minerals and Energy. Project Geologist southwestem Virginia. Oversaw test drilling activities including logging soil and rock core, conducted bore hole permeability tests, and conduct and Radiological Waste Investigation Report. Waterline Feasibility/Extension Project, Berwind, West Virginia. West Virginia Department of Environmental Protection. Project Geologi: core along the proposed alignment, collected water samples, and produced final testing boring records.	t Geologist. Conducted a site reconnaissance at four areas within the use within the four designated areas, collected water samples from acid
ironmental Protection. REGISTRATION (Professional Ceolo	ironmental Protection.	ect Geologist. Conducted a site reconnaissance for four sites in , and conducted a survey of local residence for a Hazardous, Toxic,
Year, Specialization) VESSIONAL ORGANIZATIONS Professional Geologict,		oject Geologist. Conducted a site reconnaissance, logged soil and rock
Year, Specialization) DESSIONAL ORGANIZATIONS Professional Geologist.	- CONTRACTOR	
DESSIONAL ORGANIZATIONS REGISTRATION (Type, Professional Geologist,		
	DESSIONAL ORGANIZATIONS Professional Geologist.	pe, Year, State) st. 1995, PA

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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASS	OCIATES		
data but keep to essentials) NAME & TITLE (Last, First, Middle Int.)	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN	YEARS OF DOMESTIC WATERLINE
David K. Saylor, P.E. Geotechnical Project Manager	14	EXPERIENCE: 25	DESIGN EXPERIENCE:
Brief Explanation of Responsibilities			
Southern Expressway Construction, Pittsburgh International Airport: Onsite professional engineer for excavation and disposal of municipal wastes within the ngnt-or-way of a major ingrivent construction project. Excavated wastes were disposed in a permitted onsite landfill while contaminated industrial wastes were disposed offsite in a non-RCRA disposal facility. Drums encountered during excavation project. Excavated wastes were disposed in a permitted onsite landfill while contaminated industrial wastes were disposed offsite in a non-RCRA disposal facility. Drums encountered during excavation were overpacked and delivered to an offsite RCRA incinerator and disposal facility. Approximately 465,000 cubic yards of solid waste and 280,000 cubic yards of unclassified soils were excavated.	onal Airport: Onsite professional engineer for excava in a permitted onsite landfill while contaminated indu offsite RCRA incinerator and disposal facility. Appro	ttion and disposal of municipal wastes within th ustrial wastes were disposed offsite in a non-R ¹ ximately 465,000 cubic yards of solid waste an	e right-or-way or a major migriway CRA disposal facility. Drums encountered d 280,000 cubic yards of unclassified soils
EPA Superfund Site, Summit Ohio: Investigator for field investigation, drilling, sampling, and well installation for an abandoned hazardous waste incinerator site listed as a priority EPA Superrund site. Fieldwork was performed to support RIFS work.	eld investigation, drilling, sampling, and well installat	tion for an abandoned hazardous waste inciner	ator site listed as a priority EPA Supertund
Abandoned Mine Land Reclamation Program, West Virginia: Engineer for abandoned mined land projects in West Virginia. The majority of these projects involved the reclamation of abandoned, Abandoned Mine Land Reclamation Program, West Virginia: Engineering and vegetation properties of materials, analyzed data to develop stable final configurations, and prepared unstable coal refuse embankments. Prepared investigation programs to evaluate engineering and vegetation for these projects.	Virginia: Engineer for abandoned mined land proje tion programs to evaluate engineering and vegetatio and cost estimates. Supervised the monitoring of co	cts in West Virginia. The majority of these proj in properties of materials, analyzed data to dev instruction for these projects.	ects involved the reclamation of abandoned, slop stable final configurations, and prepared
ontract documents, including download provide the Tri-State area as a contractor of Office of Surface Mining Contractor: Performed investigations and designed mitigation methods for numerous structures damaged by deep mine subsidence in the Tri-State area as a contractor of Office of Surface Mining.	estigations and designed mitigation methods for num	rerous structures damaged by deep mine subsi	dence in the Tri-State area as a contractor of
General Geotechnical Projects: Performed and directed numerous geotechnical foundation investigations to develop recommendations for the design of foundation systems for both individual General Geotechnical Projects: Performed and directed numerous geotechnical foundation investigation programs, logged materials encountered, prepared geologic sections, and developed laboratory commercial office buildings and major mall developments. Scoped and implemented investigation programs, logged materials encountered, prepared geologic sections, and developed laboratory commercial office buildings and major mall developments. Scoped and implemented investigation programs, logged materials encountered, prepared geologic sections, and developed laboratory	ted numerous geotechnical foundation investigations nts. Scoped and implemented investigation program evelop opinions and on most appropriate foundation	 to develop recommendations for the design of s, logged materials encountered, prepared geo systems and parameters for system design. 	foundation systems for both individual logic sections, and developed laboratory
General Coal Refuse Design Projects: Designed coal refuse slurry impoundments and refuse piles in West Virginia, Virginia, and Kentucky. Monitored investigation programs, including the drilling of General Coal Refuse Design Projects: Designed coal refuse slurry impoundments and refuse piles in West Virginia, Virginia, and Kentucky. Monitored investigation programs, including the drilling of General Coal Refuse Design Projects: Designed coal refuse slurry impoundments and refuse piles in West Virginia, Virginia, and Kentucky. Monitored investigation programs, including the drilling of borings and performance of in-place bedrock permeability packer testing. Services provided include stormwater runoff calculations, flood routing, embankment stability, permit application preparation, borings and performance of in-place bedrock permeability packer testing. Services provided include stormwater runoff calculations, flood routing, embankment stability, permit application preparation, design drawings, and report development.	al refuse slurry impoundments and refuse piles in W lity packer testing. Services provided include stormw	est Virginia, Virginia, and Kentucky. Monitored vater runoff calculations, flood routing, embank	investigation programs, including the drilling of ment stability, permit application preparation,
Grove City Factory Shops, Grove City Pennsylvania: Engineer of record for the design of a water supply, storage, treatment, and distribution system for a major retail center in Pennsylvania. Grove City Factory Shops, Grove City Pennsylvania: Engineer of record for the design of a water supply, storage, treatment, and distribution system for a major retail center in Pennsylvania. water distribution system was approximately 2.5 miles long and supplied water to residences and businesses along the route. The source of water was a new community groundwater well.	 Engineer of record for the design of a water suppl long and supplied water to residences and business 	y, storage, treatment, and distribution system f es along the route. The source of water was a	or a major retail center in Pennsylvania. The new community groundwater well.
Grove City Factory Shops, Grove City Pennsylvania: Engineer of record for the design of an approximate 5 mile long sanitary sewer system to provide sewer for a major retail center in western Pennsylvania. The system was designed as a gravity flow system and required two pump stations to overcome hilly terrain. The system was designed as a gravity system to permit residences along the route to tap in and eliminate their on lot systems.	 Engineer of record for the design of an approxima flow system and required two pump stations to over 	ate 5 mile long sanitary sewer system to provide come hilly terrain. The system was designed a	e sewer for a major retail center in western s a gravity system to permit residences along
AEG Building, Southpointe Business Park, Canonsburg, Pennsylvania: Developed investigation plan and designed an Southwestern Pennsylvania. The toe of the embankment was immediately adjacent to a public roadway and public utilities.	sburg, Pennsylvania: Developed investigation plan ent was immediately adjacent to a public roadway at	Developed investigation plan and designed and implemented repair for a landslide at a major industrial facility in djacent to a public roadway and public utilities.	dslide at a major industrial facility in
Allegheny Power Company, Hatfield Power Station, Greene County, Pennsylvania: Project manager for the redesign, repermitting, and construction of an approximate 30-acre dry coal combustion byproduct disposal area designed in accordance with revised Pennsylvania Residual Waste Regulations. Mr. Saylor served as Engineer-of-Record for both the design and construction of the facility.	, Greene County, Pennsylvania: Project manager rdance with revised Pennsylvania Residual Waste R	for the redesign, repermitting, and constructior egulations. Mr. Saylor served as Engineer-of-R	l of an approximate 30-acre dry coal ecord for both the design and construction of
EDUCATION (Degree, Year, Specialization) B.S., 1981, Civil Engineering, A.S., 1975, Business Administration	dministration		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers	9	REGISTRATION (Type, Year, State) Professional Engineer, PA, 1988; Professional Engineer, OH, 1995	al Engineer, OH, 1995
West Virginia Department of Environmental Protection	F	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia	arbour County, West Virginia 19 of 40

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ERSONAL HISTORY	STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN. (Fumish complete	
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE YEARS OF EXPERIENCE YEARS OF DOMESTIC WATERI INE	INE
Smithson, Jason, T., P.S. Project Manager/Senior Eng. Technician	11 EXPERIENCE: EXPERIENCE: 8	
Brief Explanation of Responsibilities		
Since joining the company in 2006, Mr. Smithson has been assigned to the Civil Services Del analysis, civil design, and environmental assignments and functioned as a survey party chief.	Since joining the company in 2006, Mr. Smithson has been assigned to the Civil Services Department and is currently a Project Manager. During his career, Mr. Smithson has performed geotechnical analysis, civil design, and environmental assignments and functioned as a survey party chief.	technical
WVDEP14176, Kanawha County. Wet mine seals, the in (Marmet (Wells Drive), Cabin Creek (Stapler), East Bank (WDEP14176, Kanawha County. 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.	our sites
WVDEP14387, Crooked Run #5, Harrison County. As a coordinated drilling activities, and assisted in the design of is comprised of six (6) work sites. These sites included nur areas.	WVDEP14387, Crooked Run #5, Harrison County. As a Senior Engineering Technician, performed research of geological data and mine maps, collected and reviewed water quality data, coordinated drilling activities, and assisted in the design of open limestone channels. Assisted in the development of construction plans and specifications for the project. The Crooked Run #5 project is comprised of six (6) work sites. These sites included numerous abandoned (draining) mine portals, refuse areas, a bench pond, trash dump areas and miscellaneous mine debris and subsidence areas.	45 project sidence
Abandoned Mine Lands, Statewide Contract, Various L (AML) projects throughout West Virginia. During these pro correction, retaining wall design, site grading, drainage im establishing horizontal and vertical control surveys for aeri- physical and topographic features of each unique site.	Abandoned Mine Lands, Statewide Contract, Various Locations, West Virginia. As a Project Surveyor, Mr. Smithson provided services for topographic mapping for various Abandoned Mine Land (AML) projects throughout West Virginia. During these projects he provided topographic mapping and coordinated aerial photogrammetry. This data was incorporated in the design of landslide correction, retaining wall design, site grading, drainage improvements, acid mine drainage collection and neutralization, water line upgrade and extensions. Work on these projects also included: establishing horizontal and vertical control surveys for aerial photogrammetry mapping, baseline layout, referencing control points, generating check cross sections and site surveys including all physical and topographic features of each unique site.	Mine Land de ded: all
West Virginia Department of Environmental Protection, Photogrametric establishing horizontal and vertical control surveys for aerial photogrammetry methods.	n, Photogrametric Control Surveys, Various Locations, West Virginia. Work performed by Mr. Smithson on these projects included ial photogrammetry mapping, baseline layout, and referencing control points. This work was performed utilizing GPS and conventional survey	ded nal survey
Mine Safety and Health Administration - Martin County the coordination of drilling activities with multiple drillin activities, the creation of bedrock contour maps, report	Mine Safety and Health Administration - Martin County Coal, Slurry Impoundment Failure Investigation, Martin County, Kentucky. As a Project Geologist, Mr. Smithson's duties included the coordination of drilling activities with multiple drilling crews supported by a team of engineers and geologists. He supervised and participated in the subsurface investigation log ging activities, the creation of bedrock contour maps, report preparation, and analytical testing on samples extracted from the drilling efforts.	included og ging
CSX Hotels, Inc., d.b.a. The Greenbrier, White Sulphur in an alluvium/karst aquifer type to determine overburden Geologist, assisted the Licensed Remediation Specialist in tasks included performing Geoprobe® direct-push investig	CSX Hotels, Inc., d.b.a. The Greenbrier, White Sulphur Springs, West Virginia . As an Environmental/Geotechnical Geologist, Mr. Smithson was responsible for subsurface investigation activities, in an alluvium/karst aquifer type to determine overburden and bedrock descriptions and groundwater flow analysis, along with the supervision of multiple environmental delineation crews. As a Geologist, assisted the Licensed Remediation Specialist in performing site characterization investigations at the four parcels entered into the West Virginia Voluntary Remediation Program. Work tasks included performing Geopoe® direct-push investigations, groundwater sampling, landfill gas monitoring, and surface water and sediment sampling.	i activities, a Work
USACE West Virginia Ordnance Works, Point Pleasan consisting of over 8,000 acres. This site has two groundw included; preparing scopes of work and budgets, selecting others within the district when necessary.	USACE West Virginia Ordnance Works, Point Pleasant, WV. Performed as the technical manager for the former West Virginia Ordnance Works (WVOW) NPL Site located in Point Pleasant, WV consisting of over 8,000 acres. This site has two groundwater pump and treat systems that require weekly maintenance along with over 200 monitoring and extraction wells. Associated responsibilities included; preparing scopes of work and budgets, selecting consultants/contractors, overseeing consultant/contractor work, meeting with Region 3 EPA, WVDEP, and WVDNR and distributing work to others within the district when necessary.	ant, WV onsibilities ig work to
USACE Section 202 Program, Various Sites in WV, VA 202 Flood Prevention Programs in West Virginia, Virginia, FY2012.	USACE Section 202 Program, Various Sites in WV, VA, & KY. As a geologist in the HTRW section for the Huntington District, performed multiple environmental site assessments for the Section 202 Flood Prevention Programs in West Virginia, Virginia, and Kentucky. One notable project for Dickenson County Schools in Virginia was selected as project of the year for the Huntington District for FY2012.	Section District for
USACE Solutia, Nitro, WV. As a Geologist with the HTR/ overseeing all aspects of the construction of 3 bentonite s	USACE Solutia, Nitro, WV. As a Geologist with the HTRW section for the Huntington District, represented and coordinated directly with the EPA Regon 3 Project Manager. Responsibilities included overseeing all aspects of the construction of 3 bentonite slurry walls to help resolve contamination issues at the site.	included
EDUCATION (Degree, Year, Specialization) B.S. 1999. Geology		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) Licensed Professional Surveyor, 2007, WV OSHA 40-Hour HAZWOPER Certification, 1999, WV	
West Virginia Department of Environmental Protection	DEP15596 – Lilhern Pritt Hinhwall Design. Barbour County. West Virginia 21 o	21 of 40

AML Consultant Qualification Questionnaire

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13. PERSONAL HISTORY STATEMENT OF PRII data but keen to essentials)	STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIB	BLE FOR AML PROJECT DESIGN. (Furnish complete	complete
NAME & TITLE (Last. First. Middle Int.)		YEARS OF EXPERIENCE	
McCrady, Charles, E.I.T. Mining Engineer	YEARS OF AML DESIGN EXPERIENCE: 5	YEARS OF AML RELATED DESIGN EXPERIENCE: 5	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 4
Brief Explanation of Responsibilities	_	-	
Mr. McCrady is an Engineer-In-Training and Task Manager at Baker with a background in geotechnical and mining engineering. His experience includes subsurface investigations, foundation design, mine permitting, hydrogeology, coal refuse disposal alternatives analysis, water line feasibility studies, reclamation of abandoned mine lands, including , earthwork, channel design, subsidence investigations and reclamation of coal refuse piles. He also has an extensive knowledge of both the Clean Water Act and NEPA and is responsible for these components of coal mine permitting and compliance at Baker.	ager at Baker with a background in geotechnical ar ernatives analysis, water line feasibility studies, rec also has an extensive knowledge of both the Clear	ld mining engineering. His experience includes s lamation of abandoned mine lands, including , e. n Water Act and NEPA and is responsible for the	His experience includes subsurface investigations, foundation design, d mine lands, including , earthwork, channel design, subsidence , and is responsible for these components of coal mine permitting and
WVDEP, Various Counties. Phase I Water Supply Feasibility. Conducted a feasibility study which included: on-site interviews with residents, local agencies, and government officials, research using public and private sources, and collecting water samples within project area to determine impacts past mining activities imposed on private water supplies. Provided alternatives and recommendations to identify the most cost-effective remedial measures that could be made.	easibility. Conducted a feasibility study which inc samples within project area to determine impacts p medial measures that could be made.	luded: on-site interviews with residents, local age ast mining activities imposed on private water su	ncies, and government officials, research pplies. Provided alternatives and
WVDEP14387, Harrison County. Wet mine seals, the installation of bat gates, open limestone channel design, culvert and structure design, structure removal and reclamation grading at six (6) sites at the Crooked Run #5 Complex in Harrison County near Clarksburg.	e installation of bat gates, open limestone channel ar Clarksburg.	design, culvert and structure design, structure re	moval and reclamation grading at six (6) sites
WVDEP14800, Marion County. 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.	slopment and the preparation of construction plans sluded grout injection as well as surface depression	and specifications for the abatement of mine sub regarding and minor drainage improvements.	sidence at four (4) sites in or near the City of
WVDEP, Miller Mountain Waterline Feasibility Study. Performed research of geological data and mining maps, evaluated impacts of past mining activities on groundwater within the study area, and evaluated existing water distribution systems. Project included performing field research and sampling of surface and groundwater, plotting laboratory test results on Piper Trilinear Diagrams, identifying possible solutions to water quality problems, and providing preliminary construction cost estimates for recommended alternatives. The Miller Mountain Waterline Feasibility Study included detailed research of the local hydrogeology, geology, and past mining activities, as well as collection and analysis of representative water samples and interviewing residents. Conclusions regarding the impact of that past mining activities have had upon local hydrogeology conditions as well as on water quality and quantity were formulated based upon information collected as part of the investigation. Finally, the report presented recommendations regarding remedial actions including extension of the Miller Mountain water distribution system and upon local hydrogeology conditions extension of the Miller Mountain water distribution system and upon information collected as part of the investigation. Finally, the report presented recommendations regarding remedial actions including extension of the Miller Mountain water distribution system and upor information regarding treatment.	Y. Performed research of geological data and minir included performing field research and sampling of , and providing preliminary construction cost estima geology, and past mining activities, as well as coll is had upon local hydrogeology conditions as well as that upon local hydrogeology conditions as well as attions regarding remedial actions including extens	of geological data and mining maps, evaluated impacts of past mining activities on groundwater within the study area, and Id research and sampling of surface and groundwater, plotting laboratory test results on Piper Trilinear Diagrams, nary construction cost estimates for recommended alternatives. The Miller Mountain Waterline Feasibility Study included ing activities, as well as collection and analysis of representative water samples and interviewing residents. Conclusions feology conditions as well as on water quality and quantity were formulated based upon information collected as part of the dial actions including extension of the Miller Mountain wystern and upgrades to the existing treatment.	ies on groundwater within the study area, and t results on Piper Trilinear Diagrams, ountain Waterline Feasibility Study included ales and interviewing residents. Conclusions ased upon information collected as part of the sm and upgrades to the existing treatment
WVDEP , Preston County. 9 County Roads Feasibility Study. Performed research of geological data and mining maps, evaluated impacts of past mining activities on groundwater within the study area, and evaluated existing water distribution systems. Baker was selected to provide the engineering services necessary to develop a water supply study for the specified area. The object of the study was to investigate the area's current water supply, make a determination as to how it has been affected by past mining, and recommend alternatives for water supply replacement. Baker compiled information and documentation to support an AML & R grant request to OSM for funding to extend and/or install water systems in impacted areas. The work was performed in 2 phases. The purpose of Phase 1 was to determine the potential impact of past mining activities on water supply sources.	ity Study. Performed research of geological data a s. Baker was selected to provide the engineering s. y, make a determination as to how it has been affer AML & R grant request to OSM for funding to exter act of past mining activities on water supplies withi geology, and water supply sources.	esearch of geological data and mining maps, evaluated impacts of past mining activities on groundwater within the stud to provide the engineering services necessary to develop a water supply study for the specified area. The object of the an as to how it has been affected by past mining, and recommend alternatives for water supply replacement. Baker st to OSM for funding to extend and/or install water systems in impacted areas. The work was performed in 2 phases. ⁷ vities on water supplies within the study area. When a potential impact was established, Phase 2 began, which involved pply sources.	ng activities on groundwater within the study by for the specified area. The object of the s for water supply replacement. Baker s. The work was performed in 2 phases. The established, Phase 2 began, which involved a
Foundation Mining, L.P., Design/Permitting for Shaft and Slope Site, Surface Facilities, Batch Weight System and RR Spur and Siding. Assisted in preparation of permit for Foundation Mine Surface Facilities. Prepared PA DEP permit applications for the slope, shaft, railroad, and surface facilities. Assisted in design of all sites, provided E&S design for all sites, constructed pre- and post-hydrologic and hydraulic models on streams to analyze potential flooding, conducted resident interviews, and collected ground and surface water samples. Responsible for E&S design and floodplain analysis using HEC-RAS.	aft and Slope Site, Surface Facilities, Batch Wei, ons for the slope, shaft, railroad, and surface facilitie e potential flooding, conducted resident interviews,	ght System and RR Spur and Siding. Assisted es. Assisted in design of all sites, provided E&S and collected ground and surface water samples	i in preparation of permit for Foundation Mine design for all sites, constructed pre- and post- . Responsible for E&S design and floodplain
EDUCATION (Degree, Year, Specialization) B.S., 1986, Environmental Conservation			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers	2	REGISTRATION (Type, Year, State) Engineer-In-Training, 2006, WV	

0	complete		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 20	e is a registered professional civil engineer s refuse disposal and coal transportation. eserve investigation and feasibility evaluation to supervised drafting of construction plans, buring this engagement, Mr. See developed ng. design, structure removal and reclamation, and revegetation. subsidence at four (4) sites in or near the City of ubsidence at four (4) sites in or near the City of n in Boone County and the Bragg Fork Refuse		arbour County, West Virginia 25 of 40
	SLE FOR AML PROJECT DESIGN. (Furnish complete	YEARS OF EXPERIENCE	YEARS OF AML RELATED DESIGN EXPERIENCE: 30	ng related projects throughout the state. Mr. See pment studies and mine production as well as r eparation plant facilities. Duties ranged from res and vertical alignments, drainage computations, st and vertical alignments, drainage computations, st to f laboratory experiments and student advising. annel design, culvert design, sediment control de sediment control design, reclamation grading an regarding and minor drainage improvements. Inty, Hill Fork Surface Mine Permit Application i	REGISTRATION (Type, Year, State) Professional Engineer, 1972, WV Professional Surveyor, 1995, WV	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia
e	NCIPALS AND ASSOCIATES RESPONSIBLE		YEARS OF AML DESIGN EXPERIENCE: 20	t, and quality control for transportation and minince covers numerous projects for mine develop round mines as well as refuse disposal and pre on operations. ighway design. Duties ranged from horizontal a ontract quantities for highway and railroad design. Generating Technology, at West Virginia Instituis is sessions as well as assisted in the development sis sessions as well as assisted in the development open channel design, culvert design, underdrains open channel design, culvert design, underdrains shopment and the preparation of construction plans and grout injection as well as surface depression Surface Mine Permit application in Mingo Court	<u>y</u>	-
C	13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASS	data but keep to essentials)	NAME & IIILE (Last, riist, midde iii.) See, John, P., P.E., P.S. Mining Engineer	Eriel Expanation of Responsibilities for Expandion of Responsibilities include technical oversight, and quality control for transportation and mining related projects throughout the state. Mr. See is a registered professional colit engineer with a neglocated professional surveyor. The spectreme overs furnerous projects tronuction plant facilities. Durise representation, with a neglocated professional surveyor. The spectreme overs furnerous projects for mine development and reacting for surface and underground mines as with a single and information. The project of the service overs furnerous projects for mine development and subsequent daily mine production as with an and reacting of a surveyor. The program of the provincing and the spectreme on an intervent of an and reacting of a surveyor, and estimated control negative and the structure and underground mines as with a service and underground mines are development and subsequent daily method. The provident and subsequent daily methods and information prediction as and reacting of a and highway design. Display and retripting of the specific on a service and underground mines are analysis and estimated control design. The provesting the transmoter provident and subsequent daily of the second and transmoter and subsequent. Mr. See is a registered professional for the analysis are and the provesting and the second and transmoter and subsequent and subsequent and subsequent and subsequence and underground mines are associated professional and the second and the	EDUCATION (Degree, Year, Specialization) B.S.C.E., 1967, Civil Engineering M.S.C.E., 1971, Civil Engineering MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers	West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire

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

SURVEYING AND MAPPING

SURVEY EQUIPMENT AND SOFTWARE

Survey/Global Positioning System (GPS) Leica System 500 - SR 530 RTK - GPS Receiver Leica GS50 C/A Code Receiver with Racal Correction Service Trimble Pathfinder Pro XRS - with Omnistar Correction Service Trimble 4000SSi - Dual Frequency Receiver Trimble - RTK - Dual Frequency Receivers

Pipe/Cable Locators Metrotech Model 9890 CAT & Jenny Locators Metrotech Model 810

Total Stations Topcon GTS 3B Nikon DTM A5LG Wild TC 2000

<u>Total Stations with Onboard Data Collection</u> Leica TCRM 1103 – Motorized w/Reflectorless EDM Leica TCA 1103 - Robotic w/Auto-Target Recognition (ATR) High Precision Wild T3

Levels (Engineering)	Zeiss Ni 2	Leica NA 2002 Digital	Wild N-3	Zeiss Ni 1
Data Collectors	Trimble TSC2	PENTAX SC5	Leitz SDR33	

02 Digital Level w/2 rods

<u>Magnetic Locators</u> Chicago Steel Tape - FT - 60 Schoenstedt

Fathometer

1 - Innerspace Tech Model 456 - 200 KHz 8° Transducer

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

CD Writer

Hewlett Packard HP Sure Store CD Writer 6020es Software: Easy CD Pro 95 Version 1.0 and Easy CD Pro Win 3.1 Version 3.0

Server Compaq Proliant 5500 Pentium II Processor Xeon 400 MHz 1.7 GB Memory 106 GB Disc Storage

External 40/80 Compaq DLT Drives

1.2 Terrabyte Network Attached Storage

Software

BINGO – AERIAL, version 4.0 MrSID, version 1.3 j f k RABATS/BRATS, June 1997 ABC32, version 1.3 IRAS – C, version 8.0 Adobe Photo Shop 5, version 5.05 CADDMAPP/DGN, version 5.05 CADDMAPP/DGN, version 5.05 ImageStation Digital Mensuration-ISDM, version 4.0 ImageStation Digital Mensuration-ISDM, version 4.0 ImageStation DTM Collection-ISDC, version 3.2 ZI Ortho Pro/Geo Media, version 3.1 MicroStation – J & SE versions

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		ESTIMATED CONSTRUCTION COST	YOUR FIRM'S RESPONSIBILITY	\$79,071 (Fee)
		ESTIMATED CON	ENTIRE PROJECT	
ANT TO OTHERS		ESTIMATED COMPLETION	DAIE	12/2010
T HERODAUE AS A SUB-CONSULT		NAME AND ADDRESS OF OWNER		David Miller Associates 130 Park St SE Vienna, VA 22180
A SUB-CONSULTANT TO OTHERS ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS		NATURE OF FIRMS	RESPONSIBILITY	Feasibility level engineering design, cost estimating, and reporting for reclamation of numerous abandoned mine sites in the Powell River Basin
A CTUDENT ACTIVITIES O	10. CONNENT ACTIVITES	PROJECT NAME, TYPE	AND LOCATION	General Investigation Feasibility Study, Powell River Basin Lee County, Virginia

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		YEAR	2006	2006	2005	2005	2008	2009	2010	2010
	D ENGINEER OF RECORD	ESTIMATED CONSTRUCTION COST	\$48,699 (Fee)	\$48,699 (Fee)	\$1,400,000 (Fee)	\$9,996 (Fee)	\$121,524 (Fee)	\$82,939 (Fee)	\$54,683 (Fee)	\$65,659 (Fee)
	17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD	NAME AND ADDRESS OF OWNER	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304	CONSOL Energy, Inc. 1800 Washington Road Pittsburgh, PA 15241	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304	West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation 601 57 th Street, SE Charleston, WV 25304
0	17. COMPLETED WORK WITHIN LAST 5 1	PROJECT NAME, TYPE AND LOCATION	Lenox/Cuzzart Waterline Feasibility Study West Virginia	Lenox/Cuzzart Waterline Feasibility Study West Virginia	Buckeye Reclamation Landfill CERCLA Site, Remediation Design and Const. Mgt. Belmont County, OH	Leslie (Nelson) Drainage and Portal West Virginia	Marmet, East Bank, Cabin Creek, and Mill Hollow Complex Drainage and Portals Kanawha County, WV	Crooked Run #5 Drainage, Refuse and Portals Harrison County, WV	Maybeury (Oakley) Landslide McDowell County, WV	Fairmont Five Subsidence Marion County, WV

West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire

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. 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.	supporting your firm's gram.
Michael Baker Jr., Inc. (Baker) has been providing abandoned mine lands (AML) reclamation and acid mine drainage (AMD) remediation since the federal government first enacted legislation. Our work experience in AML/AMD started with Operation Scarlift in the 1970's,	 Mapping and Aerial Photography Surveying Environmental Evaluations and Assessments Data Acquisitioned Interpretation
and since 1983, we have been providing our engineering services in these areas to the West Virginia Department of Environmental Protection (WVDEP), Pennsylvania Department of Environmental Protection (PADEP), Ohio Department of Natural Resources (ODNR), and U.S. Office of Surface Mining (OSM), to name a few. Our recent	 Geotechnical Engineering Engineering Design Plan/Specifications Preparation Construction Management
experience on numerous AML reclamation and AMD remediation projects for the WVDEP, ODNR, PADEP and Nashville District of the U.S. Army Corps of Engineers, illustrates our track record for the completion of assignments on time and within budget.	Since we can furnish all of the engineering related services required for abandoned mine lands reclamation projects, 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
Although the projects presented in the Project Experience Matrix of Attachment "C" of the Consultant Confidential Qualification Questionnaire (CCQQ) clearly show Baker's AML/AMD design, water system design, and related experience, they only hint at the extensive human and material resources which especially qualify our firm for this project. The following narrative further describes our experience and provides insight into the special capabilities of Baker.	(LiDAR) se Iution to dig collection. d positionin siency. Fror system offe hat are imp
Comprehensive Services The civil and mining engineering, surveying and mapping, and environmental and geotechnical services of Michael Baker Jr., Inc.	the requirements of your project. With up to four range measurements, including first, second, third, and last return-point capture, you can be assured that all project data is accurately captured and available for classification
are available to immediately respond to the needs of WVUEP. Working from our Charleston, West Virginia office, which provides excellent highway and airline transportation, Baker can provide the full spectrum of services needed in water distribution system design as well as mine reclamation and mine drainage abatement operations. Some of the more important services our firm can provide to WVDEP include:	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 bareearth DEM files, with the option of upgrading to digital terrain models for contour generation.
West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia 37 of 40

qualifications to perform work for the West Virginia Abandoned Mine Lands Program.	am.
blishment of the provide positive ne entries, AMD revegetation of	Baker's qualifications to provide engineering services for waterline and abandoned mine land projects, we offer the following response to the evaluation factors: 1. <u>Bidder Experience</u> in all aspects of surveying and mapping, subsurface investigation, and design engineering.
Specifications for revegetation and reforestation of selected areas included soil amendments, seed mixtures, tree plantings, and mulching. Stream restoration designs required to reconstruct two unnamed tributaries in the Potomac watershed employed natural design techniques including a serpentine layout with pools and riffles.	 Extensive experience in each area. Items 17 and 18 of the CCQQ describe various projects for which we provided these services during the last five years. Projects listed under item 12 of the CCQQ describes typical of various projects for which we provided our services to WVDEP.
The site included numerous mine seals and collection points to abate the AMD seepage. Mine seals consisting of clay seals, aggregate material, and PVC outlet pipes were proposed, with modified entries required to meet site specific artesian conditions. Conveyance pipes and limestone lined conveyance channels were provided to transfer AMD to a treatment system consisting of an equalization pond, successive alkalinity producing system (SAPS pond), and aerobic wetland. Project construction was completed in 2009. Summary	Strong capabilities in each area. Item 13 of the CCQQ lists our personnel by discipline. Our large multi-disciplinary staff is experienced in all aspects of water distribution 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.
As a large, diverse engineering firm, Baker has facilities available to properly conduct water distribution extension, abandoned mine land reclamation, and AMD remediation projects. The use of in-house facilities can speed project completion and facilitate tracking of progress. The in-house facilities include: Data Processing Interactive Graphics and AutoCAD Word Processing Printing and Reproduction 	
West Virginia Department of Environmental Protection AML Consultant Qualification Questionnaire	DEP15596 – Lilbern Pritt Highwall Design, Barbour County, West Virginia 39 of 40

ATTACHMENT "C"

AML AND RELATED PROJECT EXPERIENCE MATRIX

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		pe					Proj	ject l	xibiei	ence	Req	uirem	ents						Prima *** M =			
PROJECT	*Exp. Basis C = Corp. P + Personal	*** Additional Info Provided In Section(s)	Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Eval. / Mitigation / Replacement	Construction Inspection/Management	Water Treatment	Equipment / Structure Removal	Stream Restoration	Geotechnical/Stability	N.K. Chakravorti P.E M	Lois M. Muller P.E M	Greg P. Hynes P.E P & M (WV PE)	Ronald Ciucci P.E P & M	
Wymer Portals (WVDEP)	C & P	15	x		×	*					x	×		¥	×	×	×			×		
Davidson Highwall Project (WVDEP)	C & P	15	×		×	×					×	x		×		×	×			×		
Fort Gordon, Georgia (USACE)	C&P	17	sc			×					×				sc					ગર		
Kempton Refuse & AMD (WVDEP)	C & P	17	×		×	×					×	sc		×		×	×	×		×		
Chalk Mountain Mine (The Feldspar Corp)	C & P	17	x			×					x				×		sc			×		
Borgman Refuse & Portals (WVDEP)	C & P	17	x	x	×	×					×	x		x				sc		x		
Mineral-Zoar Road AMD Reclamation (ODNR)	C & P	17		×	×	×				×	x	×		×		×	x	3C		x		
Flemington Portals & Drainage No. 2 AML/AMD (WVDEP)	C & P	17	×	x	x	x					×			36			ĸ	sc		×	3	
Beech Bottom Refuse (WVDEP)	C & P	17	x		x	x					x				×	કર	se	3¢		36		
Marmet, East Bank, Cabin Creek, Mill Hollow Complex Portals & Drainage (WVDEP14176)	C & P	17	×	x	×	×					×	x		×	×				x			
Mabeury (Oakley) Landslide (WVDEP14439)	C & P	17	×	x	x	×					×	×		×	×		×		×			
Crooked Run #5 Drainage, Refuse and Portals(WVDEP14387)	C & P	17	×	×	×	×				2	ж	×		¥	x				¥	×		
Fairmont Five Subsidence (WVDEP14800)	C & P	17				x			×		x			સ			sc		ગર			

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

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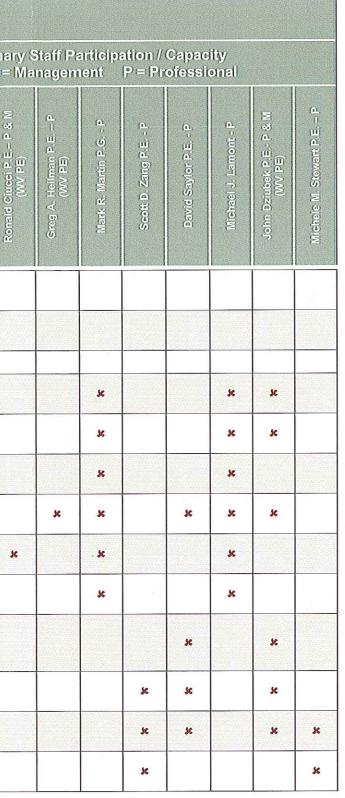
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*** List Primary Design personnel and their functional capacity for the projects listed.



DEP15596 - Lilbern Pritt Highwall Design, Barbour County, West Virginia

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	Basis P + Personal	ed					Pro	ject l	Exper	itence	Req	uinem	ents							IPri ****	imei M=1
PROJECT		** Additional Info Provided In Section(s)	Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Eval. / Mitigation / Replacement	Construction Inspection/Management	Water Treatment	Equipment / Structure Removal	Stream Restoration	Geotechnical/Stability	N.K. Chakravorti P.E M	Lois M. Muller P.E M	Greg P. Hynes P.E. P & M (MV PE)	Ronald Clucci P.E P & M
Emoryville Mine Complex AML/AMD (WVDEP)	C & P		×	×	×	×					×	×		×	d Eministration		x	×		×	
Masontown No. 4 Reclamation (WVDEP)	C&P		×	sc	x	x					×	sc		x	×	×	×	×		sc	
Jed-Havaco Dump Reclamation (WVDEP	C & P		×			×		sc			sc	-			x	×	×	પ્ર			
McArthur Subsidence (WVDEP)	C & P			×		×			×	111543	×						×	×		×	
County Route (9) Waterline Extension (WVDEP)	C & P	17				x					se	x					×	×		sc	×
Buckeye Reclamation Landfill CERCLA Site (Consol)	C & P	15	×			×				×	×	×	x	×		×	×		×		
Maple Run Portals & AMD (WVDEP)	C & P		×	sc	sc	×					se	×		×		×	10000000	sc		se	
Mount Eaton Subsidence Stabilization (ODNR)	C & P	17				×			×		se						×	×		x	
Watson Portals & Refuse Reclamation (WVDEP)	C & P		x	×	x	×					x	×		×	×	×	×	×	1	×	
Columbia Portland AML Reclamation (ODNR)	C & P		×	×	×	×					x	×					×	×		×	×
Tibbs Run Portals and Tipples - AML Reclamation (WVDEP)	C & P			x	x	×					×	×						×		st	
Powell River Ecosystem Restoration, Ely & Puckett Creek, Virginia (USACE)	C & P	18	×	st	×	×	- income			x	ĸ	*		x	14	ж	×	×		×	x
No. 6 Shaft and Dewatering Pipeline (Cumberland Coal Resources LP)	C & P	15			પ્ર	×			-		×	×	unariasiteirikä							×	
Ruthbelle Refuse Fire (WVDEP)	С&Р		×		×	×		×			36				×		×	×			

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

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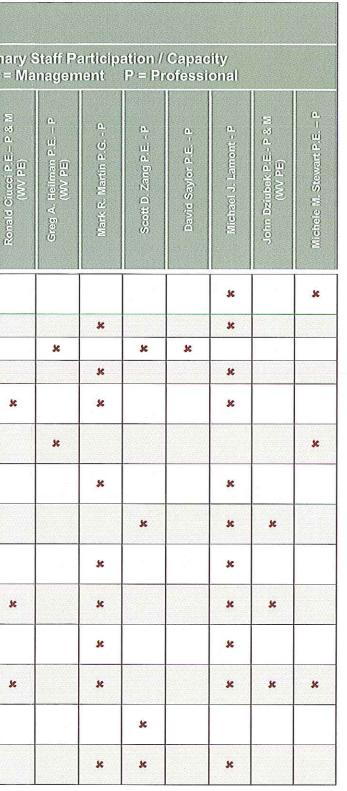
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** Use this area to provide specific sections or pages if needed for reference.

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



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