

# **EXPRESSION OF INTEREST**

To provide

**Professional Engineering Design  
Services  
and  
Construction Monitoring Services  
for the**

**Ebenezer Run Highwall #9  
Brooke County, West Virginia  
DEP16130**

**Prepared for the  
West Virginia Department  
of Environmental Protection  
Office of AML&R**

**CTL Engineering of West Virginia, Inc.**

**733 Fairmont Road                      510 C Street  
Morgantown, WV 26501              South Charleston, WV 25303**

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## ***Statement of Qualifications to Provide Professional Engineering Services***

1. INTRODUCTION
2. PROJECT MANAGEMENT PLAN
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4. CCQQ – ATTACHMENT “B”
5. RPEM – ATTACHMENT “C”



March 11, 2013

**West Virginia Department of Environmental Protection**  
Office of Abandoned Mine Lands & Reclamation  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

**Re: RFQ #DEP 16130  
Expression of Interest  
Design Engineering Services Proposal  
Ebenezer Run Highwall #9 Project**

Gentlemen:

CTL Engineering of WV, Inc. is very pleased to present this proposal to provide design engineering and related services for the West Virginia Abandoned Mine Lands and Reclamation Program. With over 80 years in the business, we feel our firm can provide the professionals and facilities the State of West Virginia is looking for.

CTL has evolved into a recognized leader in the Abandoned Mine Lands Engineering Design and Investigation field. We offer the services necessary to provide a non-subcontract, quality product to support your program. Our capabilities include laboratory facilities, drilling rigs, surveying systems, design equipment, and a qualified staff. We have 12 Professional Engineers, five of which are registered in West Virginia and have direct AML Design Experience. Our in-house disciplines of professionals include: Civil & Mining Engineers, CAD Designers, Surveyors, Geologists, Hydrologists and Biologists. We are experienced in completing more than 50 projects annually that require aerial mapping, support surveying with GPS, and final contouring for design.

Our in-house ability reaches beyond simply being an AML design firm. We also have extensive contract administration and management experience with the procedures of the state of West Virginia. Our invoicing procedures and accounting software has been accepted, used, and audited by various state agencies.

CTL's primary staff has over 125 years of experience with mine reclamation engineering on both a national and international level. Our qualifications and facilities are unsurpassed when it comes to Abandoned Mine Reclamation Design. With offices in Charleston and Morgantown, we can effectively respond to any AML Design tasks throughout West Virginia. In addition, we have six full time design teams available to complete AML design projects. Our corporation and individual staff members have extensive experience relative to highwall elimination and design of drainage conveyances. The Ebenezer Run Highwall #9 Project is similar in scope to several of the AML design projects

we have successfully completed. Attached to this proposal are numerous examples of similar projects designed and completed by CTL Engineering of West Virginia, Inc..

We sincerely appreciate the opportunity to submit this proposal to you for consideration. Should you have any questions or need additional information, please contact our office.

Respectfully submitted,

**CTL Engineering of West Virginia, Inc.**

A handwritten signature in dark ink, appearing to read "Royden L. Loucks". The signature is fluid and cursive, with a long horizontal stroke at the end.

Royden L. Loucks  
Director Business Development





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

# Solicitation

NUMBER
DEP16130

PAGE
1

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

RFQ COPY

TYPE NAME/ADDRESS HERE

CTL Engineering of West Virginia, Inc  
733 Fairmont Road  
Morgantown, WV 26501

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

DATE PRINTED
02/11/2013

BID OPENING DATE: 03/14/2013

BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	QAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		
	EBENEZER RUN	HW #9		DESIGN		
EXPRESSION OF INTEREST						
THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ENGINEERING DESIGN SERVICES AND CONSTRUCTION MONITORING SERVICES AT THE EBENEZER RUN HW#9 PROJECT IN BROOKE COUNTY, WEST VIRGINIA, PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.						
***** THIS IS THE END OF RFQ DEP16130 ***** TOTAL:						

SIGNATURE	TELEPHONE	DATE
	(304) 292-1135	March 11, 2013
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Dir.-Business Dev.	55-063-1834	

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

# ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: DEP16130

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

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

## Addendum Numbers Received:

(Check the box next to each addendum received)

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

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

CTL Engineering of West Virginia, Inc.  
Company

  
Authorized Signature

March 11 2013

Date

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

RFQ No. DEP 16130STATE OF WEST VIRGINIA  
Purchasing Division**PURCHASING AFFIDAVIT**

**MANDATE:** Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

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

**DEFINITIONS:**

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

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

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

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

**WITNESS THE FOLLOWING SIGNATURE:**Vendor's Name: CTL Engineering of West Virginia, IncAuthorized Signature: \_\_\_\_\_ Date: March 11, 2013State of West VirginiaCounty of Monongalia, to-wit:Taken, subscribed, and sworn to before me this 11<sup>th</sup> day of March, 2013.My Commission expires January 17, 2020.

AFFIX SEAL HERE

NOTARY PUBLIC

Kathleen J O'Brien

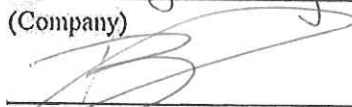
Purchasing Affidavit (Revised 07/01/2012)



CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

CTL Engineering of West Virginia, Inc.  
(Company)

  
(Authorized Signature)

President  
(Representative Name, Title)

(304) 292-1135 (304) 296-9302  
(Phone Number) (Fax Number)

March 11, 2013  
(Date)

ACORD™

Client#: 101489

CTLENG

## CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
1/15/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Huntington Insurance, Inc. 440 Polaris Parkway Westerville, OH 43082 888 576-7900		<b>CONTACT NAME:</b> Ivy Hughes <b>PHONE (A/C, No, Ext):</b> 614-899-8538 <b>E-MAIL ADDRESS:</b> ivy.hughes@huntington.com <b>FAX (A/C, No):</b> 877-829-4531	
<b>INSURED</b> CTL Engineering of WV Inc. 733 Fairmont Road Morgantown, WV 26501		<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Cincinnati Insurance Company <b>INSURER B:</b> <b>INSURER C:</b> <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>	
		<b>NAIC #</b> 10677	

## COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATION MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

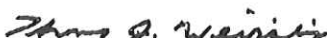
INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> BI/PD Ded:4,000 GENL AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC			CPP0895397	01/01/2013	01/01/2014	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$500,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS			CPP0895397	01/01/2013	01/01/2014	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$0		X	CPP0895397	01/01/2013	01/01/2014	EACH OCCURRENCE \$10,000,000 AGGREGATE \$10,000,000
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		X	WC1861217	01/01/2013	01/01/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
A	<b>Leased/Rented Inst. Fltr</b>			CPP0895397	01/01/2013	01/01/2014	\$200,000/\$2,500 Ded \$800,000/\$1,000 Ded

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Automatic Additional Insured including Waiver of Subrogation and Primary and Noncontributory included under General Liability per form GA233, where required by written contract, Automatic Additional Insured provided under the Auto per form AA4171, Blanket Waiver of Subrogation provided under the Auto per form AA4172, Blanket Waiver of Subrogation provided under the WC per form WC000313 (not applicable in KY), Broad form Employers Liability (code 23-4-2) included for West Virginia per form WC9906 140 per written contract.

## CERTIFICATE HOLDER

## CANCELLATION

For Information Only	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
1/7/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> STA, a Division of Oswald Companies 3401 Enterprise Parkway, Suite 101 Beachwood OH 44122		<b>CONTACT NAME:</b> Patricia Cholewa <b>PHONE (A/C, No, Ext):</b> 216-839-2807 <b>FAX (A/C, No):</b> 216-839-2815 <b>E-MAIL ADDRESS:</b> pcholewa@oswaldcompanies.com	
<b>INSURED</b> CTL Engineering of W.V., Inc. 733 Fairmont Road Morgantown WV 26501		<b>INSURER(S) AFFORDING COVERAGE</b> INSURER A: Evanston Insurance Company INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	
CTLEN-1		NAIC # 35378	

**COVERAGES**

CERTIFICATE NUMBER: 1221639039

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMPROP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE <b>DED</b> <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y/N (Mandatory In NH) If yes, describe under DESCRIPTION OF OPERATIONS below						WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A	Professional Liability Claims Made Retro Date: 1/1/1927	N	Y	AE822501	12/31/2012	12/31/2013	Each Claim \$2,000,000 Aggregate \$2,000,000 Pollution Liability Included

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Waiver of Subrogation as designated above is provided when required of the Named Insured by written contract or agreement.

**CERTIFICATE HOLDER****CANCELLATION**Specimen Certificate for Insurance  
Evidencing Purposes Only  
733 Fairmont Rd  
Morgantown WV 26501

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

*Patricia A Cholewa*

# *Project Management Plan*

Our approach to the **Ebenezer Run Highwall #9 Project** will be similar to other CTL AML highwall elimination projects. The Project Management Plan we have developed for these sites are as follows:

- The project manager will be solely responsible for expedient and accurate completion of each phase of the individual projects performed under this contract. He will review the project sites and discuss the specific scope of work for the project with the project representative from the WVDEP. A cost proposal will be prepared, in accordance with contract unit rates, based upon an estimate of manpower, equipment, and laboratory needs.
- CTL will then mobilize a fully equipped survey crew to set survey control and map the project sites. Permanent control monuments will be established to ensure that the construction contractor can tie into the necessary baselines. The project manager will supervise the surveying tasks and provide budgetary control for this portion of the work.
- A geotechnical investigation shall be performed to delineate the mine pool and to determine and design the optimum wet seals for each of the open and collapsed portals. If required, piezometers shall be installed to monitor the mine pool and determine hydraulic head associated with the pools. This investigation shall be performed with a focus on safety to insure the safety of the local inhabitants and dwellings as well as the safety of the drilling and geotechnical personnel.
- Should field conditions dictate that additional work or a major modification is required, the project manager will contact the WVDEP representative immediately to confirm the changed conditions.
- Following completion of the surveying, field investigation, and any material sampling, the analytical design work will begin. The Project Manager and Engineer will review the project data, evaluate the feasible alternatives and prepare a preliminary set of construction documents. The documents will include at a minimum:
  1. A site map indicating existing conditions;
  2. A tax map overlay with the parcels identified that may be impacted by the proposed design;

3. Proposed grading plans for elimination and backfilling of highwalls, including safely dewatering and excavation of all mine portals and collection pools;
  4. Design for all mine portal wet and/or dry seals and bat gates;
  5. Grading plans and stabilization for mine refuse and subsidence areas;
  6. Provide Sedimentation and Erosion Control Plan including revegetation plans;
  7. Site Profiles;
  8. Cross Sections;
  9. Drainage systems and control structures, with details;
  10. Survey control points;
  11. Miscellaneous Site details.
- CTL will also provide all necessary data for NPDES permits including S&E Control Plans as required for the site construction and if deemed necessary, perform environmental assessments.
  - In addition to preparation of the above-described drawings, a complete set of specifications will be prepared and outlined to describe in detail the scope and methods of work to be accomplished. An estimate of construction costs and the design calculations will also be submitted to the WVDEP for review and future reference.
  - Following the submission of the construction documents, a project design review meeting will be coordinated with the WVDEP, CTL, and appropriate individuals to review the proposed plans.
  - Recommendations for plan revisions will be discussed and implemented, as necessary, into the final design documents. Upon completion, all final documents, drawings, plans and specifications will be forwarded to the WVDEP for bidding purposes.
  - Construction observation will be provided during the construction phase of the projects
  - At the request of the WVDEP, CTL will provide construction observation personnel.

Our Project Manager and/or Engineer will coordinate the pre-bid and pre-construction conferences with the WVDEP to address any questions and supply the necessary survey control data. Periodic inspections may be conducted by our Project Manager, as deemed necessary by the WVDEP, to address specific problems that arise during construction. A report will be prepared by CTL following each of these meetings detailing the findings, conclusions, recommendations, and responses to pertinent questions.



# *Project Scope*

## **Ebenezer Run Highwall #9**

### Project Scope of Work:

Provide clearing and grubbing plan of site

Design diversion channels, ditches and/or underdrains to transport drainage and mine pools and ponds safely off-site

Design regrading plan to backfill highwall utilizing available material and borrowed soil to AOC. Also includes regrading and stabilization of mine refuse and mine subsidence areas within the project area.

Identify and provide plan for borrow area, if required

Design plan for draining mine portals and design mine wet and/or dry seals and bat gates.

Provide revegetation plan including soil cover for all areas disturbed during construction

Provide required data for clearing and grubbing, S&E Control Plans and NPDES Permit submittal by AML

# CTL Engineering of West Virginia, Inc.

*An Employee Owned Company*

**CTL Engineering of West Virginia, Inc.** (CTL of WV) is a full service consulting civil engineering, testing, inspection, and analytical services company. CTL Engineering of West Virginia, Inc. was formed in 1981 to service West Virginia, Maryland and Pennsylvania. CTL of WV is part of CTL Engineering, Inc. formerly known as Columbus Testing Laboratory, which was established in Columbus, Ohio in 1927 as an independent engineering testing laboratory serving the local community. During the early years, our expertise focused mainly on soils, foundation engineering, and construction testing and inspection services.

*The Engineering News-Record* ranked CTL Engineering, Inc. among top 500 architectural and engineering firms in the nation. CTL Engineering maintains a staff of over 200 employees, including registered engineers, architects, chemists, environmental scientists, geologists, hydrologists, wetland scientists and technicians.

CTL of WV provides total Civil Site Design for development projects throughout West Virginia. These designs include site layouts, utility design and interconnections, stormwater management design, parking and roadway design, permit preparation and submittal, and interaction with architects, owners and all interested parties to the projects.

CTL of WV provides all necessary surveying services required of projects including boundary and ALTA surveys, topographic surveys, aerial survey control, GPS surveys, and site construction surveys to assure proper construction and compliance with specifications of the project.

CTL of WV has become an industry leader in geotechnical design and investigations. In the past 5 years, CTL of WV has provided over 1000 geotechnical investigations including drilling, sampling and design for both the public and private sectors. CTL of WV is regularly called upon to provide unique geotechnical engineering design services for projects throughout the United States and Canada.

CTL of WV provides environmental services for developments throughout West Virginia and Maryland. Environmental Services include Phase I and II ESAs, wetland delineation and mitigation plans, State and Federal 401 and 404 Permit submittals, Ms4 Phase II storm water permitting, soil and groundwater sampling, asbestos surveys and sampling, lead based paint testing, mold testing, UST removal oversight, hazardous material identification and remedial design and other environmental services as required

CTL of WV provides construction, material and concrete testing and observation services. CTL of WV has ten field technicians providing dedicated construction observation and compliance testing. CTL's in-house material laboratory provides the much needed prompt turn-around required for projects to be successful.

Additional services provided by CTL include Nondestructive Testing and Inspection, Forensic Science, Accident Re-Construction, Roofing Consulting, Product Testing, Laboratories, Analytical Chemistry and Metallurgy Services.





## *AML & Relevant Project Experience* *(2008 – 2012)*

### **HIGHWALLS**

- Anderson Highwalls, WVDEP
- Peninsula Highwalls, WVDEP
- St. Clair Portals, WVDEP
- Collins Mining, ODNR
- Miller Mining, ODNR

### **MINE DRAINAGE/STREAM RESTORATION**

- St. Clair Portals, WV DEP
- Aarons Run, MDE, AMLD
- Deckers Creek, WVDEP

### **REFUSE PILES**

- Ream Refuse Pile, WVDEP
- Williams Refuse Pile, Private
- Harrison Power Plant, Allegheny Power

### **OPEN PITS**

- Shinn's Run Portals, WVDEP
- Jones Trucking, ODNR
- General Clay #1 & #2, ODNR

## **OPEN MINE SHAFTS**

- Kennel Mine Closure, MDE, AMLD
- Frostburg North Closure, MDE, AMLD
- Zilman Closure, MDE, AMLD

## **MINE SUBSIDENCE**

- Fairmont Subsidence, WV DEP
- Lower Consol Road MDE, AMLD
- Terra Haute Airport, IN AML
- Farmington UMC, WV DEP Emergency
- Morningside Baptist, WV DEP Emergency
- Eccles Subsidence, WV DEP
- McArthur Subsidence, WV DEP
- Mark Kempner, NJ Private
- WV BRIM
- OMSIUA

## **LANDSLIDES**

- Douglas Avenue Landslide, MDE, AMLD
- Schramm Landslide, MDE, AMLD
- Gordon Landslide, MDE, AMLD
- East Franklin Landslide, MDE, AMLD
- Cheat Neck Landslide, WV DEP
- McCourt Landslide, ODNR
- Caldonia Hill Slope Stability, MDE, AMLD

## **WATER SUPPLY REPLACEMENT**

- Douglas Avenue Stormwater System Repair, MDE, AMLD
- Bald Knob & Potomas Hollow Water Investigations, MDE, AMLD
- Pee Wee Hill Supply Design, MDE, AMLD
- Pee Wee Will Water Feasibility Study, MDE, AMLD
- Fairview Water Feasibility, WV DEP
- Tioga Water Feasibility, WV DEP



**CTL Engineering Inc.**

## Professional Services

*Established 1927*

### Analytical Chemistry

- ♦ Soil
- ♦ Water
- ♦ Oils
- ♦ Sludges
- ♦ Solid and Hazardous Wastes
- ♦ Liquid and Solid Fuels
- ♦ Metals
- ♦ Organics
- ♦ Construction Materials

### Construction Inspection

- ♦ Soils, Concrete, Asphalt, Masonry, Fireproofing, and Steel
- ♦ Single and Multi-Story Structures
- ♦ Pavement for Streets, Airports, Etc.
- ♦ Embankments, Fill, Cut, Etc.
- ♦ Earth and Concrete Dams
- ♦ Pre and Post Construction Inspection
- ♦ Floor Flatness

### Drafting Services

- ♦ AutoCad
- ♦ Microstation
- ♦ Digitizing

### Environmental

- ♦ Site/Facility Assessment
- ♦ Hydrogeologic Studies and Aquifer Characterization
- ♦ Site Remediation
- ♦ Site Abandonment and Closure Planning
- ♦ Permit Preparation
- ♦ Underground Storage Tank Management
- ♦ Wellhead Protection
- ♦ Asbestos Survey
- ♦ Abatement Monitoring
- ♦ Wetlands Delineation
- ♦ Wetlands Mitigation
- ♦ Wetlands Permitting

### Existing Structure Evaluation

- ♦ Bridges/Buildings
- ♦ Sonic Velocity Testing
- ♦ Delamination Determination
- ♦ Half Cell Potential Tests

### Facilities Management -

#### Pavement

- ♦ Condition Assessment
- ♦ Maintenance & Rehabilitation Strategies
- ♦ Prioritization
- ♦ Deterioration Rates
- ♦ Network Needs & Long Range Goals
- ♦ Budgeting

### Forensic Science

- ♦ Landslide, Soils and Foundation Failures
- ♦ Building Failures
- ♦ Product Liability Investigations
- ♦ Accident Reconstruction
- ♦ Roofing Failures
- ♦ Product Failures
- ♦ Legal Testimony

### Geotechnical

- ♦ Site Selection
- ♦ Subsurface Exploration - Drilling Services
- ♦ Foundation Analysis & Design
- ♦ Embankment & Earth Dam Analysis
- ♦ Slope Stability Analysis
- ♦ Hydrogeologic Studies
- ♦ Bridges
- ♦ Pavement Design

### Materials Testing

- ♦ Concrete
- ♦ Soils and Rock
- ♦ Aggregates
- ♦ Concrete and Asphalt Mix Designs
- ♦ Bituminous Materials
- ♦ Clay and Masonry Products
- ♦ Petrographic Studies

### Metallurgy

- ♦ Fracture Analysis
- ♦ Metallography
- ♦ Application Recommendations
- ♦ Failure Analysis
- ♦ Corrosion studies
- ♦ Tensile and Hardness

### Mining Engineering

- ♦ Mine Reclamation Design
- ♦ Permit Preparation
- ♦ Mine Plan Design
- ♦ Refuse Disposal Design
- ♦ Drainage Control Structures
- ♦ Environmental Monitoring
- ♦ Subsidence Investigations

### Nondestructive Testing & Inspection

- ♦ X-ray Radiology
- ♦ Ultrasonic Inspections
- ♦ Magnetic Particle Inspection
- ♦ Liquid Penetrant Inspection
- ♦ Specialized Inspection / Test Programs
- ♦ Level III Services

### Product Testing

- ♦ Consumer Product Testing
- ♦ Mechanical and Physical Property Testing
- ♦ Hydrostatic Testing
- ♦ Load and Strength Testing
- ♦ Mechanical Engineering Design and Analysis
- ♦ Pressure Gauge Calibration

### Roofing Engineering Services

- ♦ Design & Construction Administration (Plans and Specifications)
- ♦ Quality Control/ Roof Inspection
- ♦ Roof Surveys Evaluation
- ♦ Moisture - Infrared & Nuclear
- ♦ Seminars Design
- ♦ Maintenance
- ♦ Management Programs
- ♦ Laboratory Testing

### Site/Civil Engineering

- ♦ Commercial Land Development
- ♦ Residential/Community Planning
- ♦ Infrastructure Planning

### Software Development

- ♦ Application Software
- ♦ Internet & Intranet

### Surveying & Mapping

- ♦ Property surveying & boundary determination
- ♦ Topographic mapping development
- ♦ Global Positioning System

### Welding & Quality Control

- ♦ Shop & Field Certified Welding Inspection
- ♦ Welding and Brazing Qualification
- ♦ Procedure Development
- ♦ QA/QC Programs

#### Corporate Headquarters

2860 Fisher Road **Columbus, Ohio 43204**  
 Phone: (614) 276-8123, Fax: (614) 276-6377  
[ctl@ctleng.com](mailto:ctl@ctleng.com)  
[www.ctleng.com](http://www.ctleng.com)

## OFFICES:

CTL of West Virginia.  
 733 Fairmont Road  
**Morgantown, WV 26501**  
 Phone: (304) 292-1135  
 Fax: (304) 296-9302  
[ctlwv@ctleng.com](mailto:ctlwv@ctleng.com)

510 C Street  
**South Charleston, WV 25303**  
 Phone: (304) 746-1140  
 Fax: (304) 746-1143

422 E. Wards Corner Road  
**Cincinnati, OH 45140**  
 Phone: (513) 722-8665  
 Fax: (513) 722-8669  
[ctlcinci@ctleng.com](mailto:ctlcinci@ctleng.com)

633 High Street  
**Minford, OH 45653**  
 Phone: (740) 820-8355  
 Fax: (740) 820-5698

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**Brunswick, OH 44212**  
 Phone: (330) 220-8900  
 Fax: (330) 220-8944  
[ctcleve@ctleng.com](mailto:ctcleve@ctleng.com)

102 Commerce Dr.  
**Wapakoneta, OH 45895**  
 Phone: (419) 738-1447  
 Fax: (419) 738-7670  
[ctlwapak@bright.net](mailto:ctlwapak@bright.net)

4343 Saguaro Trail  
**Indianapolis, IN 46268**  
 Phone: (317) 295-8650  
 Fax: (317) 295-8395  
[ctlin@ctleng.com](mailto:ctlin@ctleng.com)

## Services Include:

- ♦ Commercial Land Development
- ♦ Residential/Community Planning
- ♦ Infrastructure Planning & Design
- ♦ Pavement Design and Management
- ♦ Conceptual Designs/Presentations
- ♦ Recreational Resort/Facility Planning
- ♦ Erosion & Sediment Control Design
- ♦ Stormwater Management Systems
- ♦ Preliminary Cost Estimates/ Feasibility Analyses

CTL Engineering's in house staff provide a full array of services in concert with our Site/Civil Department including mapping and surveying services.

*From a Raw Piece of Property --  
CTL Engineering Provides Full Site Layout Design.*

- ♦ Topographic Mapping Development
- ♦ Global Positioning Systems (GPS) Services
- ♦ Aerial Mapping Layout & Control
- ♦ Construction Layout
- ♦ Wetlands Delineation/Flood Plain Determination & Certification
- ♦ Property Survey & Boundary Determination
- ♦ Micrometer Leveling



*CTL Engineering of West Virginia, Inc. provided site plans for this Advance Auto Parts Store in Morgantown, West Virginia*



*CTL Engineering of West Virginia, Inc. provided geotechnical engineering, materials testing, observation services and surveying services for this project.*



CTL Engineering has experienced engineers, geologists and mining technicians to provide the expertise to insure successful mining operations. We provide abandoned mine land reclamation design and project management, mine subsidence evaluations and remediation plans, hydraulic and hydrology studies, hydrogeologic evaluations, mine permitting, and coal reserve studies.

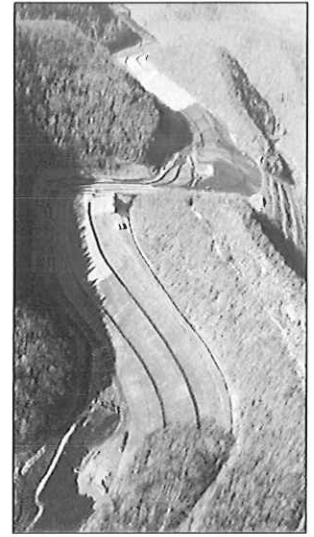
The CTL Mining Engineering Group coordinates with our drilling services and various testing departments to provide a full scope of services to the mining industry. Our laboratories are certified to perform the water and overburden analysis prescribed by federal regulatory programs.

CTL Engineering provides drainage control structure design to comply with the regulatory requirements for controlling and treating site damage. Exploration equipment and remote video camera monitoring are used by CTL Engineering to prepare accurate maps for reclamation, subsidence stabilization measures and mine closures.

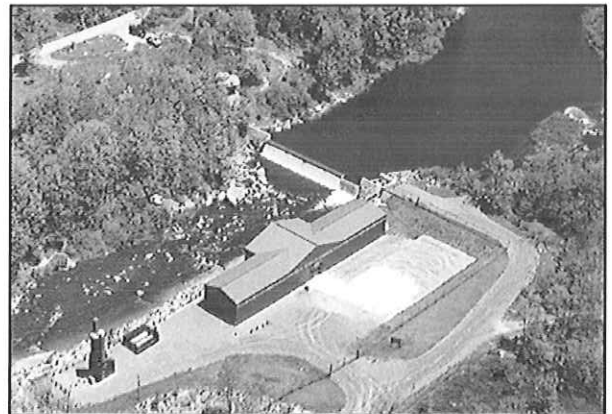
We have experienced mechanical and metallurgical engineers on staff to provide mine equipment evaluation and consultation services. CTL Engineering is a proven source for accurate and dependable technical information.

#### CTL Mining Services Include:

- ♦ Subsidence Investigations
- ♦ Abandoned Mine Reclamation Design
- ♦ Permit Preparation
- ♦ Mine Design Plan
- ♦ Refuse Disposal Facility
- ♦ Environmental Monitoring
- ♦ Coal, Water and Overburden Analysis
- ♦ Drainage Control Structure Design
- ♦ Failure Analysis
- ♦ Legal Testimony
- ♦ Acid Mine Drainage



*Taylor Creek Impoundment, West Virginia*  
Reclamation of a 120-acre burning refuse pile and dewatering and abandonment of a 24-acre coal-related impoundment.



*Blackwater River, Water Improvement Project,  
Davis, West Virginia*



*Jamison Burning Refuse Reclamation Project*





# Geotechnical Engineering

The Geotechnical Engineering Department at CTL Engineering routinely performs subsurface investigations, and soil and rock testing. We prepare engineering reports, make recommendations regarding foundation and construction techniques, and perform other pertinent geotechnical services, as dictated by a given project.

## Drilling Services

CTL Engineering owns and operates its own fleet of drill rigs, the largest of which has a capacity to drill and take samples up to 300 feet deep. Our rigs are equipped with large diameter soil and rock core samplers, *in-situ* pressure meters and cone penetrometers. These rotary drilling rigs conduct standard split spoon sampling. Our drill rigs have pumps, wireline and standard coring equipment for proper and efficient execution of subsurface investigations. We can perform pressure meter tests and vane shear tests in the field, in addition to conducting and/or monitoring of well pumps tests.

## Analytical Laboratory

Our Soils Laboratory has consolidometers, triaxial and direct shear apparatus, state-of-the-art permeability devices and normal soils classification equipment.

CTL Engineering provides a detailed analysis of the surface and subsurface composition and chemistry of the soils at the proposed site. For existing structures, we provide a foundation analysis. We also provide services for foundations under construction.



*CTL owns and operates a fleet of ten (10) drill rigs*

## Service Listing

- ♦ Complete Subsurface Exploration Study
- ♦ Foundation Analysis
- ♦ Pile, Pier and Caisson Analysis & Inspection
- ♦ Embankment & Earth Dam Analysis
- ♦ Slope Stability Analysis
- ♦ Settlement Analysis
- ♦ Pavement Design
- ♦ Rock & Mineral Testing
- ♦ Hydrogeologic Studies
- ♦ Field and Laboratory Testing of Soils
- ♦ Legal Testimony



*Soils engineers conduct soils tests in CTL's analytical laboratory*

**[www.ctleng.com](http://www.ctleng.com)**

CTL Engineering's Environmental Department staff has a combined total of 98 years of experience in managing various types of environmental projects. Our personnel are familiar with regulatory requirements and have established good working relationships with state and local agencies; such as the Ohio EPA, the State Fire Marshal's office, local fire and health departments, etc. Our personnel has conducted thousands of background researches and file reviews at numerous state agencies, including ODNr, OHPO, BUSTR, Ohio EPA, county courthouses and local fire and health departments.

CTL Engineering closely follows the ASTM Standard of Practice 1527-00 as well as any additional requirements placed by the client, such as wetlands assessment, delineation, permitting and mitigation; asbestos survey, sampling, evaluation and abatement monitoring; and similar non-ASTM scope considerations.

CTL Engineering maintains an in-house analytical laboratory as well as experienced geologists, hydrogeologists, and environmental scientists to conduct the background review and site reconnaissance to develop a list of constituents of concern. Our environmental staff has designed, constructed, installed, and operated various types of innovative remedial technologies, such as *in-situ* and *ex-situ* bioremediation, soil vapor extraction, groundwater extraction, free-product recovery, and bioslurping.

The following is a listing of services CTL Engineering provides:

## Environmental Management

### Compliance Strategies

- › NPDES
- ♦ RCRA
- ♦ TSCA
- ♦ Solid Hazardous Waste
- ♦ Regulatory Analysis

## Management Systems Analysis

### Wetland Systems

- ♦ Wetlands & "Jurisdictional Waters of the State Delineation"
- ♦ Wetland Permitting & Mitigation

### Landfill

- ♦ Site Characterizations
- ♦ Explosive Gas Monitoring
- ♦ Liner and Cover Design
- ♦ Leachate Sampling & Testing

### Pilot Testing Services

- ♦ Soil Vapor Extraction
- ♦ Groundwater Sparging
- ♦ Aquifer Testing
- ♦ Slug Testing
- ♦ Soil Gas Surveys

## Analytical Chemistry

- ♦ GC/MS, AA and IR
- ♦ Solid and Hazardous Waste Characterization
- ♦ Metals and Organics
- ♦ BTEX, TPH and PNA
- ♦ TCLP
- ♦ Liquid and Solid Fuels
- ♦ PCB Analysis

## UST Services

- ♦ Removal & Closure Assessments
- ♦ Contaminant Migration Assessments
- ♦ Remedial Corrective Actions

## Hydrogeologic Investigations

- ♦ Hollow Stem Auger Drilling
- ♦ Soil and Rock Sampling
- ♦ Monitoring Well Installation
- ♦ Wellhead Protection Planning
- ♦ Water Resources Assessment

## Environmental Permitting

- ♦ NPDES Permitting Support
- ♦ Wastewater Treatment
- ♦ Part B Permit Application Preparation
- ♦ Solid-Waste Landfill Permitting
- ♦ Construction Demolition and Debris Landfill Licensing
- ♦ Permit to Install (PTI)
- ♦ Permit to Operate (PTO)

## Property Assessments

- ♦ Phase I Environmental Assessments
- ♦ Phase II Environmental Assessments
- ♦ Asbestos Hazard Evaluation
- ♦ Asbestos Abatement Monitoring

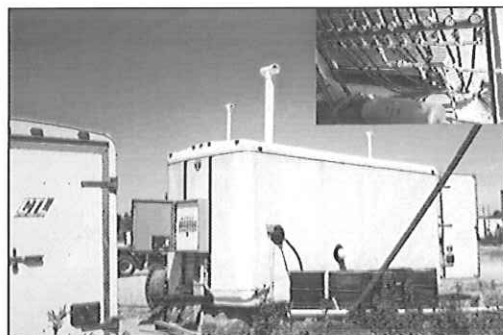
## Environmental Restoration

### Design, Procure, Install and Operation

- ♦ Soil Vapor Extraction Systems
- ♦ Bio Venting
- ♦ Landfarm
- ♦ Beneficial Reuse Projects
- ♦ Free Product Recovery
- ♦ Activated Carbon Filtration
- ♦ Air Stripping
- ♦ Groundwater Sparging
- ♦ Bioremediation



*UST Site Assessment, Riverview Local School*



*In Ohio, CTL was the first to employ a patented gaseous nutrient injection technology, PHOSTER™, to remediate soil/groundwater contaminated with gasoline and diesel in accordance with BUSTR action levels.*

CTL Engineering is a leader in providing analytical services to the construction industry. We maintain a staff of experienced personnel and accurate equipment to guarantee dependable results. We evaluate all types of construction materials. Additionally, CTL can prepare and test Portland cement and bituminous concrete mixes for optimization studies to insure the proper mix design for specific jobs.

**We provide complete testing of the following:**

## Aggregates

- Component Analysis (sand, gravel, limestone)–Department of Transportation
- Filter Sand – Environmental Protection Agency (EPA)
- Railroad Ballast – American Railroad Engineering Association
- Rip-Rap – U.S. Soil Conservation Service

## Soils

- Classification
- Compaction Parameters
- Permeability Tests

## Concrete

- Mix Designs
- Mix Verification Tests to verify strength, air content, consistency and yield of concrete
- Compression Tests
- Flexural and Split Tensile Strength Tests
- Modulus of Elasticity
- Creep Testing



**CTL Engineering offers petrographic examination of construction materials.** These specialized microscopic evaluations allow us to closely evaluate concrete quality and determine the causes and extent of failures in concrete in addition to potential future performance.

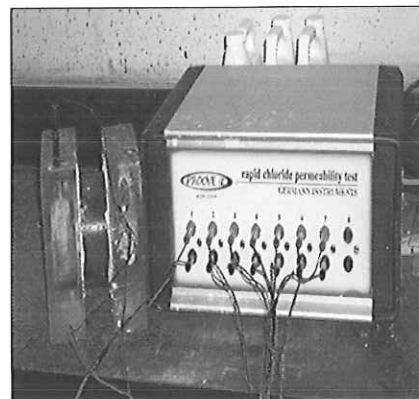
In addition to the standard ASTM tests of strength, absorption, dimensions unit weights, etc. CTL Engineering provides several specialty tests on concrete block and brick including the fire rating test specified by the BOCA and efflorescence testing required by many architectural firms.

## Asphalts

- Mix Designs
- Nuclear Gauge Calibrations Extraction and Grading
- Core Testing for Density and Strength.

**You can be assured of complete quality testing for all your construction mixes.**

**[www.ctleng.com](http://www.ctleng.com)**



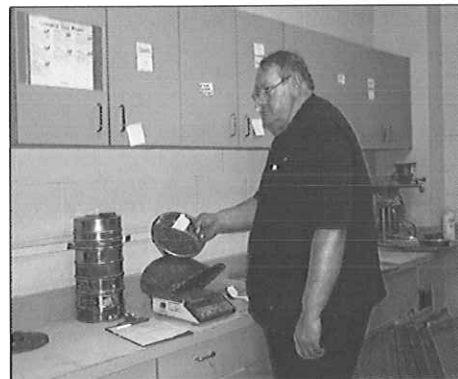
*Rapid Chloride Permeameter*

## Clay-brick, Pipe & Tile

CTL Engineering provides complete and thorough analysis of clay products. Some of the more common tests include:

- Compressive Strength
- Absorption
- Freeze-thaw
- Efflorescence
- Dimensional Analysis
- Acid resistance.

In addition to the standard tests that are required by specification, we perform specific tests on construction materials as dictated by the needs of the customer.



A project's construction phase requires quality control inspections and reliable testing. Building owners, architects, engineers and contractors choose CTL Engineering for field inspections because they know that we are accurate, dependable and perform our services in a timely manner. Our experienced engineers and inspectors are your partners in construction. We help provide a finished quality product.

**CTL Engineering provides inspections of the following:**

- ♦ **Earthwork including Embankment & Foundations**
- ♦ **Reinforced Concrete**
- ♦ **Floor Flatness**
- ♦ **Roofing Systems**
- ♦ **Structural Steel**
- ♦ **Masonry**
- ♦ **Sprayed-on Fire Proofing Installation**
- ♦ **Bituminous & Portland Cement Concrete Paving**
- ♦ **Single & Multi-Story Building Structures**
- ♦ **Pavement for Streets, Airports Runways, etc.**
- ♦ **Parking Garages & Bridges**
- ♦ **Water & Wastewater Treatment Facilities & Associated Piping Systems**



We perform quality control testing of the above materials and structures in addition to destructive and nondestructive testing of finished pavements and structures.

CTL Engineering examines existing structures to evaluate potential problems. Failed structures are analyzed to determine the cause and extent of damage. We evaluate structural integrity during initial construction and at regular intervals after completion. Our work includes steel reinforced concrete structures. CTL Engineering routinely evaluates metal and concrete pipes.

We perform audio/video surveys, sonic velocity testing, x-ray examinations, half-cell potential and other destructive and nondestructive tests.



CTL Engineering's technicians maintain the following certifications:

- **ACI (American Concrete Institute)**
- **NICET Certification**
- **Hazardous Material Certification**
- **Confined Space Entry Training**
- **Radiation Safety Training**
- **Soil Technicians**



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

**"Attachment 3"**

PROJECT NAME Ebenezer Run Highwall #9 (DEP16130)		DATE (DAY, MONTH, YEAR) 11/3/2013		FEIN 55-063-1834					
1. FIRM NAME CTL Engineering of West Virginia, Inc.		2. HOME OFFICE BUSINESS ADDRESS 2860 Fisher Road Columbus, OH 43204		3. FORMER FIRM NAME Columbus Testing Laboratories					
4. HOME OFFICE TELEPHONE  (614)276-8123	5. ESTABLISHED (YEAR)  CTL-1927      CTL-WV 1983	6. TYPE OWNERSHIP Individual <u>Corporation</u> Partnership      Joint-Venture		6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES <u>NO</u>					
6. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE 733 Fairmont Road, Morgantown, WV 26501/ 304-292-1135/ Patrick E. Gallagher, President / Morgantown - 16									
7. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Patrick E. Gallagher, President CK Satyapriya, VP/Sec.			8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS Ali Jamshidi, Treasurer (614) 276-8123						
9. PERSONNEL BY DISCIPLINE									
<table style="width:100%; border: none;"> <tr> <td style="width:25%; vertical-align: top;"> <u>5</u> ADMINISTRATIVE  <u>-</u> ARCHITECTS  <u>1</u> BIOLOGIST  <u>3</u> CADD DESIGNERS  <u>-</u> CHEMICAL ENGINEERS  <u>3</u> CIVIL ENGINEERS  <u>9</u> CONSTRUCTION INSPECTORS  <u>2</u> DESIGNERS  <u>0</u> DRAFTSMEN </td> <td style="width:25%; vertical-align: top;"> <u>-</u> ECOLOGISTS  <u>-</u> ECONOMISTS  <u>-</u> ELECTRICAL ENGINEERS  <u>4</u> ENVIRONMENTALISTS  <u>-</u> ESTIMATORS  <u>1</u> GEOLOGISTS/GEOTECH ENG.  <u>-</u> HISTORIANS  <u>1</u> HYDROLOGISTS </td> <td style="width:25%; vertical-align: top;"> <u>-</u> LANDSCAPE ARCHITECTS  <u>-</u> MECHANICAL ENGINEERS  <u>1</u> MINING ENGINEERS  <u>-</u> PHOTOGRAMMETRISTS  <u>-</u> PLANNERS: URBAN/REGIONAL  <u>1</u> SANITARY ENGINEERS  <u>2</u> SOILS ENGINEERS  <u>-</u> SPECIFICATION WRITERS </td> <td style="width:25%; vertical-align: top;"> <u>1</u> STRUCTURAL ENGINEERS  <u>6</u> SURVEYORS/RODMEN  <u>-</u> TRAFFIC ENGINEERS  <u>X</u> OTHER,  <u>3</u> Geotechnical Drillers  <u>2</u> Driller Helpers  <u>2</u> Geotechnical Engineers  <u>4</u> Laboratory Technicians </td> </tr> </table>						<u>5</u> ADMINISTRATIVE <u>-</u> ARCHITECTS <u>1</u> BIOLOGIST <u>3</u> CADD DESIGNERS <u>-</u> CHEMICAL ENGINEERS <u>3</u> CIVIL ENGINEERS <u>9</u> CONSTRUCTION INSPECTORS <u>2</u> DESIGNERS <u>0</u> DRAFTSMEN	<u>-</u> ECOLOGISTS <u>-</u> ECONOMISTS <u>-</u> ELECTRICAL ENGINEERS <u>4</u> ENVIRONMENTALISTS <u>-</u> ESTIMATORS <u>1</u> GEOLOGISTS/GEOTECH ENG. <u>-</u> HISTORIANS <u>1</u> HYDROLOGISTS	<u>-</u> LANDSCAPE ARCHITECTS <u>-</u> MECHANICAL ENGINEERS <u>1</u> MINING ENGINEERS <u>-</u> PHOTOGRAMMETRISTS <u>-</u> PLANNERS: URBAN/REGIONAL <u>1</u> SANITARY ENGINEERS <u>2</u> SOILS ENGINEERS <u>-</u> SPECIFICATION WRITERS	<u>1</u> STRUCTURAL ENGINEERS <u>6</u> SURVEYORS/RODMEN <u>-</u> TRAFFIC ENGINEERS <u>X</u> OTHER, <u>3</u> Geotechnical Drillers <u>2</u> Driller Helpers <u>2</u> Geotechnical Engineers <u>4</u> Laboratory Technicians
<u>5</u> ADMINISTRATIVE <u>-</u> ARCHITECTS <u>1</u> BIOLOGIST <u>3</u> CADD DESIGNERS <u>-</u> CHEMICAL ENGINEERS <u>3</u> CIVIL ENGINEERS <u>9</u> CONSTRUCTION INSPECTORS <u>2</u> DESIGNERS <u>0</u> DRAFTSMEN	<u>-</u> ECOLOGISTS <u>-</u> ECONOMISTS <u>-</u> ELECTRICAL ENGINEERS <u>4</u> ENVIRONMENTALISTS <u>-</u> ESTIMATORS <u>1</u> GEOLOGISTS/GEOTECH ENG. <u>-</u> HISTORIANS <u>1</u> HYDROLOGISTS	<u>-</u> LANDSCAPE ARCHITECTS <u>-</u> MECHANICAL ENGINEERS <u>1</u> MINING ENGINEERS <u>-</u> PHOTOGRAMMETRISTS <u>-</u> PLANNERS: URBAN/REGIONAL <u>1</u> SANITARY ENGINEERS <u>2</u> SOILS ENGINEERS <u>-</u> SPECIFICATION WRITERS	<u>1</u> STRUCTURAL ENGINEERS <u>6</u> SURVEYORS/RODMEN <u>-</u> TRAFFIC ENGINEERS <u>X</u> OTHER, <u>3</u> Geotechnical Drillers <u>2</u> Driller Helpers <u>2</u> Geotechnical Engineers <u>4</u> Laboratory Technicians						
<p>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>4</u></p> <p>*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.</p>									
<p align="right"><u>51</u> TOTAL PERSONNEL</p>									
The TOTAL PERSONNEL number is for CTL Engineering of West Virginia, Inc.									
TOTAL PERSONNEL for CTL Engineering, Inc. is 180, which includes CTL Engineering of WV.									
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO									

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Confidential Qualification Questionnaire" for each if copy is not on file with AML.

[illegible]

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

**YES** Description and Number of Projects: CTL Engineering has completed more than 800 AML related projects nationally and internationally. See attached "AML Past Project Experience" for some specific examples.

NO

B. Is your firm experienced in Soil Analysis?

**YES** Description and Number of Projects: Our in-house laboratories perform all ASTM mechanical, organic and in-organic analyses for soils. Our labs are certified by WVDOH, OEPA and US Corps of Engineers.

NO

C. Is your firm experienced in hydrology and hydraulics?

**YES** Description and Number of Projects: Each of our site design and AML projects require hydrology & hydraulic evaluations. We estimate that annually, we complete more than 100 projects requiring hydrology design.

NO

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

**YES** Description and Number of Projects:

**NO** However, we annually complete more than 25 projects requiring aerial photography & mapping. While we sub-contract the aerial photography, in-house we provide GPS, surveying and develop the contouring as needed.

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

**YES** Description and Number of Projects: We have completed numerous waterline design projects and our in-house staff has more than 50 years of combined experience with aquifer degradation.

NO

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

**YES** Description and Number of Projects: CTL has developed more than 20 active and passive treatment systems for AMD. More than 50 of our AML Design projects required some form of AMD evaluation and design.

NO

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Gallagher, Patrick E., PE President, Project Manager	34	34	27

**Brief Explanation of Responsibilities**  
 President of CTL Engineering of WV, Inc.; responsible for the overall administration of the Morgantown, WV office along with the management of the individual engineering projects. His administration and management responsibilities include marketing, proposal preparation, client contact, supervision of design personnel, scheduling, budget control, and report preparation. Projects successfully completed by Mr. Gallagher include: Geotechnical Investigations, Foundation Design Investigations, Dam Stability Analyses, Mine Subsidence Evaluations, Mineral Reserve Studies, Landslide Investigations, Mine Reclamation Designs, Failure Investigations, and Mining Permits.

**EDUCATION (Degree, Year, Specialization)**

B.S., 1975, Civil Engineering  
 B.S., 1975, Equivalent, Geology

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

American Society of Civil Engineers  
 Society of Mining Engineers of A.I.M.E.  
 Triangle Fraternity of Engineers, Architects and Scientists  
 International Society of Soil Mechanics and Foundation Engineers  
 American Institute of Professional Geologists

**REGISTRATION (Type, Year, State)**

Registered Professional Engineer; 1983-West Virginia, 1984-Ohio, 1983-Maryland, 1993-Pennsylvania, 2006-Wyoming, 2006-North Carolina  
 Certified Professional Geological Scientist - 1984  
 Professional Surveyor, 1995-West Virginia

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Selfridge, Carl G. Department Head, Geotechnical Services	3	3	

**Brief Explanation of Responsibilities**  
 Department Head Geotechnical Engineering. Responsible for subsurface investigations, geotechnical reporting, foundation analysis & recommendations, program development for investigative and laboratory analysis.

**EDUCATION (Degree, Year, Specialization)**

Graduate Studies, 1996-1999, Civil Engineering (Geotechnical)  
 B.S., 1996, Civil Engineering, Geotechnical and Structural  
 A.S., 1994, Engineering Science  
 A.A.S., 1991, Mechanical Technology - Design & Drafting

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

Fellow of the American Society of Civil Engineers, The GEO-Institute, Timber Framers Guild, Construction Institute (ASCE)

**REGISTRATION (Type, Year, State)**

Engineering Intern (EI), 1996, New York  
 Level II Drilling Inspector, 1999, PennDOT



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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE
Darrah, Timothy A. Civil Site Dept. Mgr., Project Manager	20	20	20

Brief Explanation of Responsibilities

Mr. Darrah is presently responsible for Management and Design for various types of civil engineering projects including reclamation design, commercial and residential development projects. He is also responsible for scheduling, invoicing and client contacts for all surveying projects including topographic, property and construction layout. Mr. Darrah's duties include drafting, writing of property descriptions, hydrology calculations, quantity calculations and various other forms of surveying and civil engineering related duties. He is also proficient in computer software including AutoCAD, Civilsoft, HEC-1, HEC-RAS and various other engineering software.

EDUCATION (Degree, Year, Specialization)  
B.S., 1988, Civil Engineering Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Moore, David P.E. Project Manager/Project Engineer	1	1	25

Brief Explanation of Responsibilities Thirty years experience in design and construction. He has designed and constructed numerous dams, ponds, irrigation lakes, stormwater management ponds, sediment and erosion control ponds. He has designed ponds and lakes for residential, commercial, and industrial projects as well as golf courses combining water features, irrigation, stormwater management and water quality unto aesthetically pleasing amenities.

EDUCATION (Degree, Year, Specialization)  
M.S, 1983, Civil Engineering Civil Design  
B.S., 1978, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
ASCE, AIA, Home Builders Assoc., SAME

REGISTRATION (Type, Year, State)  
Registered Professional Engineer:  
1986, MD; 2008, NV; 2006, WY; 1984, CO; 2008, Alberta CAN; 2009, WV; 2010, OH; 2010, KY

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.) <b>Stanley, Joseph</b> <b>Project/ Staff Engineer</b>	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: <b>6</b>	YEARS OF AML RELATED DESIGN EXPERIENCE: <b>6</b>	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: <b>2</b>
Brief Explanation of Responsibilities			
Mr. Stanley is responsible for Reclamation Design, Drafting Hydrology, Quantity Calculations, Stability Analysis, Residential Development, Valley Fill Footprinting, Surveying, Subsidence Surveys, Pre-Blast Surveys, Acid Base Accounts, Groundwater Inventory. PC Software includes Hydrologic TR-20, TR-55, Excel, Harstad Methods, Word, AutoCADD Land, Quarttro, Access.			
EDUCATION (Degree, Year, Specialization)			
A.S., 2001 Civil -Engineering Technology Drafting & Design			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.) <b>Foreman, Gregory P.E.</b>	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: <b>3</b>	YEARS OF AML RELATED DESIGN EXPERIENCE: <b>17</b>	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: <b>17</b>
Brief Explanation of Responsibilities			
Mr. Foreman serves as Project Manager and Design Engineer for various civil site design projects including reclamation, water supply, sanitary design for public and private projects. Design services provided include site grading, potable water, sanitary sewer, storm sewer, pedestrian walkways, vehicular thoroughfares, preparation of permits, project specifications, plans and engineering calculations.			
EDUCATION (Degree, Year, Specialization)			
A.S, Fairmont State, 1989, Drafting & Design A.S., Fairmont State, 1989, Mechanical B.S., Fairmont, 1989, Civil Engineering Technology			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	
		Registered Professional Engineer, 1999, WV (no. 014165)	

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

NAME & TITLE (Last, First, Middle Int.)

Waltz, Charles P.E.

YEARS OF EXPERIENCE

YEARS OF AML DESIGN EXPERIENCE:  
8

YEARS OF AML RELATED DESIGN  
EXPERIENCE:  
12

YEARS OF DOMESTIC  
WATERLINE DESIGN  
EXPERIENCE:  
0

Brief Explanation of Responsibilities

Project Engineer / Staff Engineer providing engineering services for a variety of projects including, site development, geotechnical subsurface investigations and foundation recommendations and road construction.

EDUCATION (Degree, Year, Specialization)

B.A., Fairmont State, Business Administration

B.S., Fairmont State, Civil Engineering

Graduate Studies, West Virginia University, Geotechnical Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)

Registered Professional Engineer, WV (no.17626), VA  
(no. 37038)

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

OFFICE EQUIPMENT

3 HP Color Plotters  
HP Color Scanner  
Duplicating equipment, copiers, blueprinting, laser printers, etc.  
Facsimile Machine

DESIGN SOFTWARE

Windows XP & 2000 based operating systems

Microsoft Office 2000 & 2002 is used for word processing, spreadsheet creation, data processing, and presentation creation. Alternative software including Corel Suite is available, if necessary Project designs and specifications are produced in our Computer Aided Drafting and Design (CADD) section using all versions of AutoCAD including Release 2013.

Hydrogeologic Studies

MODFLO

MODPATH

SURFER

CAPZONE

GWPATN

SKUGIS

PHREEQCI

WATEQ4F

Groundwater for Windows

Civil Engineering Software

Civil 3D 2013(AutoCADD) - 13 Seats

Profiling

Civilsoft

TR-20 & TR-55

SEDCAD

HEC 1 & 2

HEC-RAS

Arc GIS

ArcPAD

Carson Software

Geotechnical

GINT

STABL6

SHAFT

WSPRO

Various Bridge, Pavement, Pile and Foundation Software

## SURVEY EQUIPMENT

- 2 - Trimble GPS Systems - 3-R8 Receivers & 1- R10 Receiver
- 6 Total Stations ( 1- Robotic)
- NAK Micrometer Level System & Direct Levels
- 4X4 Vehicles, including ATV for off-road use
- 2-Way Radios

## SUBSURFACE INVESTIGATION EQUIPMENT

- 3 - CME 75 Drilling Rigs, 4-Wheel Drive Truck Mounted
- 2 - CME 75 HD Drilling Rigs, 2-Wheel Drive Truck Mounted
- 1 - CME 55 HD Drilling Rig, All-Terrain Mounted
- 1 - CME 45 Drill Rig, 2-Wheel Drive Truck Mounted
- 1 - CME 45 Drill Rig, 2-Wheel Drive Skid Mounted
- 1 Simco 4000 Track Rig
- 4-Wheel Drive Support Vehicles
- Portable barges for water borne drilling (including supply boats w/outboard motors)
- In-situ permeability apparatus
- Single or double ring field infiltrometers for hydraulic conductivity testing
- Down hole temperature gauges
- Color Borehole Camera with 300 foot range
- Ground Penetrating Radar Undisturbed Shelby tube sampling devices
- Standard penetration testing equipment (1", 2", 3" split spoons)
- Settlement probes
- Tripod portable drilling equipment for interior drilling with 7 feet of clearance
- CBR equipment
- Hand Augers
- Solid flight augers - 4" O.D.
- Hollow stem augers - 33", 43", 63" 83" I.D.
- Rotary drilling capability up to 12" O.D.
- Hydro Punch - In-situ groundwater monitoring
- Conventional and wireline coring capabilities - (1", 2", 3", & 4")
- Soil-gas survey equipment
- Pump testing equipment
- Decontamination Equipment - Steam cleaners, drums, generators, etc.
- Electronic Data Loggers
- Field Sampling equipment for soil, water and groundwater
- Nuclear Densometer - Soil Compaction
- PID, FID, CGI and various field monitoring equipment
- Groundwater and Soil Remediation Equipment
- Mobile activated carbon system
- Air and chemical stripping of soils and water

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD (AML Projects)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Open Contract to provide engineering design services throughout the State of Ohio (2 year contract)	OH Department of Natural Resources AML Emergency Program 1855 Fountain Square Court, 2nd Floor Columbus, Ohio 43224	Reclamation Design, geotechnical drilling, mine subsidence, slope stability analysis and design, pressure grout stabilization design, risk assessment, acid mine drainage, burning refuse extinguishment and earthwork calculations	\$75,000 /year Fees	50%
Open Contract to provide engineering design services throughout the State of Maryland. (5 year contract)	MD Department of Environment-AMLD 160 S. Water St. Frostburg, MD 21532	Reclamation Design, geotechnical drilling, mine subsidence, slope stability analysis and design, pressure grout stabilization design, risk assessment, acid mine drainage, burning refuse extinguishment and earthwork calculations	\$500,000 Fees \$15,000,000+ Const.	40%
Anderson Highwalls, AML Project, Monongalia County, WV	WVDEP - AML 601 57 <sup>th</sup> Street SE Charleston, WV 25304	Draining mine portal remediation design, mine seals, drainage systems, grading design, specifications		Design - 35%
Douglas Avenue Landslide Repair Project, MD AMLD Project, Allegany County, MD	MD Department of Environment-AMLD 160 S. Water St. Frostburg, MD 21532	Landslide remediation including H-Pile design, drainage systems, grading design, construction specifications. Included geotechnical investigation & surveying.	\$1,200,000	Design 95%
TOTAL NUMBER OF PROJECTS: 4	TOTAL ESTIMATED CONSTRUCTION COSTS: +\$18,000,000			

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUBCONSULTANT TO OTHERS  
(AML Projects)

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY

## 17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (AML Projects)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Peninsula Highwalls, AML Project, Monongalia County, WV	WVDEP- AML 601 57 <sup>th</sup> Street SE Charleston, WV 25304	\$244,000	2009	YES
St. Clair Portals, AML Project, Monongalia County, WV	WVDEP- AML 601 57 <sup>th</sup> Street SE Charleston, WV 25304	\$1,462,000	2009	YES
Shinn's Run Portals & AMD, AML Project, Harrison County, WV	WVDEP- AML 601 57 <sup>th</sup> Street SE Charleston, WV 25304	\$1,887,000	2012	YES
Pee Wee Hill Water Supply, MD AML Project, Garrett County, MD	MD Department of Environment 160 S. Water St. Frostburg, MD 21532	\$650,000	2011	YES
Terra Haute Airport, IN AMLD, Subsidence Grouting	Indiana Abandoned Mine Land Division Indianapolis, IN	\$6,500,000	2010	YES



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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
WV Blue Cross / Blue Shield Headquarters Parkersburg, WV	Civil Site Design, utilities, storm water, foundation, grading, coordination	Oxford Development Pittsburgh, PA	2008	\$8,000,000	\$100,000
Hazelton Prison #4, Hazelton, WV	Subsurface investigations and Geotechnical Drilling, Construction Observation	US Federal Bureau of Prisons	2012	\$12,000,000	\$300,000
Nelsonville, ODOT, Nelsonville, OH	Subsurface investigations and Geotechnical Drilling, Construction Observation	Ohio Department of Transportation, District 10 338 Muskingum Drive Marietta, OH 45750	2012	\$100,000,000	\$2,000,000

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.  
For the past 25 years, CTL has successfully designed more than 200 AML projects. We have worked nationally and internationally on a variety of AML problem sites. We have developed unique solutions that have been applied to site development, AMD Treatment, Mine Subsidence Abatement, Mine Fires and Highwall Elimination. Routinely, CTL is involved with highwall and refuse pile stabilization and extinguishment.

20. The foregoing is a statement of facts.

Signature:   
Printed Name: Patrick E. Gallagher, P.E.

Title: President

Date: March 11, 2013

NOTE: THIS DOCUMENT WILL BECOME VOID AFTER DECEMBER 31 IN CALENDAR YEAR OF DATE HEREON.

# CTL Engineering of West Virginia, Inc.

## PROJECT ORGANIZATION CHART & KEY PERSONNEL

**Patrick Gallagher, P.E.,  
CPGS, WV PS**  
President, Project Executive

**Geotechnical  
Engineering/Drilling  
Services**

**Carl Selfridge**  
Department Manager

**Charles Waltz, P.E.  
Ruben Mick**  
Project Engineers

**Drillers / Driller Helpers**

**Surveying/  
Civil Site Design  
Services**

**Tim Darrah**  
Department Manager

**David Moore, P.E.  
Gregory Foreman, P.E.  
Joseph Stanley**  
Project Engineers

**Steve Hegedis  
Bucky Nicholson**  
Staff Engineers /  
CAD Designers

**J B Chambers**  
Survey Party Chief  
4 Field Survey Crews

**Natural Stream  
Engineering**

**Tim Darrah**  
ROSGEN Level 1

**Construction Services  
& Materials  
Laboratory**

**James Gowarty, Jr.**  
Department Manager

**Charles Huff**  
Department Supervisor

**Field &  
Lab Technicians**



***Expertise:***

Mr. Gallagher serves as President of CTL Engineering of West Virginia, Inc. Projects successfully completed under Mr. Gallagher's direction include: Civil Site Design, Foundation Design, Storm Water Management, Waste Water Design, Roadway design, Parking Lot Design, Geotechnical Investigations & Design, Site Stability Analyses, Mine Subsidence Evaluations, Failure Investigations and Environmental Investigations and Permitting.

Prior to joining CTL Engineering, Mr. Gallagher was the chief of the Abandoned Mine Reclamation Program for the State of Maryland, Department of Natural Resources, and Bureau of Mines. In addition, he was also responsible for overall engineering/geologic support to the Maryland Bureau of Mines Program.

***Education:***

B.S., Civil Engineering

Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 1975

B.S., Geology

Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 1975

***Professional Registration / Certifications:***

Registered Professional Engineer

Ohio, # 48459; Maryland, # 13256; West Virginia, # 9297; Pennsylvania, # PE-044930-R; Wyoming, # 11033; North Carolina, # 0 32503; Kentucky, # 24988

Certified Professional Geological Scientist, # 6575

Professional Surveyor, WV

Adjunct Professor – Civil Engineering – Fairmont State College 2001 – 2002

***Career Experience:***

CTL Engineering, Inc.- 29 years

Other – 6 years

***Project Experience:***

***Mining Related***

***Abandoned Mine Lands and Reclamation Projects***

Project manager overseeing the design of various abandoned mine lands and reclamation projects for the West Virginia Department of Environmental Protection. These projects include coal refuse pile stabilization, burning refuse extinguishment and stabilization, acid mine drainage abatement plans, storm water management plans, mine permits, slope stability analysis and hydraulic analysis.

***American Bituminous Power Partners, LLP***

Project manager for services involving permitting and environmental issues. Conducted on-going inspections and certifications of the impounding refuse facilities and all drainage/sediment control structures for all permitted facilities.

***Ohio Valley Plaza, St. Clairsville, Ohio***

Project manager for the engineering design services for the dynamic compactions of surface mine spoil for this project. This site was in need of major overhaul; no building could take place without the deep dynamic compaction activities, which made this site fit for construction, while reducing site development costs.

***Newpointe Center, Clarksburg, West Virginia***

Project Manager for geotechnical engineering, materials testing, and observation services and surveying services for this project. CTL is currently performing materials testing and observation for Phase II of this development.

***Ohio Department of Natural Resources (ODNR)***

Project manager overseeing mine subsidence investigations throughout the state of Ohio. These projects include hydrology/hydraulic evaluations, floodplain designs, wetland delineations, slope stability designs, surface and deep mine permitting, refuse pile analysis/certification, earthwork calculations, storm water management design, pressure grout abatement, and numerous emergency projects under the ODNR-AML Emergency Program.

***Amigo Coal Refuse Facility, Amigo, West Virginia***

Project Manager responsible for designing two 42 inch microtunnels beneath an existing and active railroad line. The twin 42 inch culverts were for the diversion of Amigo Creek beneath the railroad. The twin culvert system was approximately 750 lf in total length and required 2 weeks to complete.

***Highway / Landslide / Slope Stability***

***PENNDOT, Open-End Contract, Pennsylvania***

Project Manager/Engineer responsible for overseeing geotechnical investigations for 30 separate transportation projects.

***Star City Bridge, Star City, WV***

Project Manager/Engineer for geotechnical investigations, borings and road relocation during construction of the Star City Bridge.

***WVDOH Open-End Contract***

Project Manager/Engineer providing geotechnical support to 40 separate projects including new roads and landslides.

***Allegheny Restorations, West Virginia***

Provided geotechnical engineering, surveying services and shoring design, in coordination with the West Virginia Department of Transportation, for 3 covered bridge projects in West Virginia.

***Foundations / Structure***

***WVU Wise Library***

Project Manager/Engineer provided geotechnical oversight of investigations for the building foundation systems on the construction of a new six (6) story library, which included the design of an extensive tie-back/soldier pile wall system.

***WVU Eye Institute***

Project Manager/Engineer providing geotechnical oversight for the geotechnical investigations and foundation recommendations performed for this \$5 M dollar patient care facility.

***Physicians Office Center, WVU Hospital***

Project Engineer responsible for the oversight of the geotechnical drilling and site investigations for this project.

***WVU Life Sciences Building***

Project Manager/Engineer providing geotechnical oversight of the drilling and investigations and recommendations needed for the construction of the Life Sciences Building.

***Civil Site Geotechnical Design***

***Suncrest Executive Plaza***

Under Phase 1 of this five-story office complex project, CTL provided the following services: surveying, geotechnical and civil site design. The civil site design included sedimentation and erosion control plans and permits, storm water management design utilizing 1,600 feet of 48' GCMP for storage, grading plans, utility coordination and WV DOH entrance permits for turning lane access to the site. CTL also provided construction drawings for the project.

***WVU Hospitals, Morgantown, WV***

CTL provided geotechnical, surveying and civil site design support services in conjunction with WVDOH and WVU for a new access road and parking area design for surrounding hospital area.

***Chaplin Hill Business Park, Morgantown, West Virginia***

Responsible for site conceptual design, hydrology, stormwater management, grant preparation, supervision during bidding phase, construction management, and final grant approval.

***Blanchette Rockefeller Neuroscience Building, WVU Hospitals, Morgantown, WV***

Project included Site Plan, Site Grading, Utility Coordination, Sedimentation & Erosion Control, Bid Documents & Pre-Bid Conference. Design required close tie to existing facilities and utilities. Coordination between WVU Hospitals and architect to meet site needs and limit day to day disruptions from construction and traffic.

***Glenmark Center, Shopping Plaza, Morgantown, West Virginia***

CTL provided geotechnical engineering, Phase 1 environmental assessment, civil site design, "site specific" storm water management, surveying, sanitary treatment facilities for this ten plus acre plaza.

***E A Development, The District, Student Housing, Morgantown, WV***

This is a 30 acre development including 20 apartment buildings, clubhouse. CTL provided geotechnical investigations, conceptual and final plans, road layout, bridge location, DOH permit and design for access, grading plans, retaining wall design, storm water systems and detention. CTL was responsible for permitting, including: Sediment & Erosion Control, DOH Highway Access, Stream Crossing Permit, Right of Access and License Agreement for temporary and permanent culverts and stream crossing, 100 year Flood Study for Monongalia County Development Permit, 401 Water Quality Certification and the Section 404 Permit.

***Summersville Fresh Water Intake, Summersville, West Virginia***

Responsible for site review and rock mechanics evaluation for North American drillers where approximately 500 lf of a 48 inch micro tunnel was constructed for the intake at the City of Summersville WV water treatment facility adjacent to Summersville Lake. The tunnel was installed through excessively hard, 25,000 psi, crystallized sandstone requiring specialized bits and techniques to overcome the difficult horizontal boring.

***Construction Observation & Testing***

***Allegheny Power Systems (open-ended contract for transmission distribution and power station projects)***

CTL performs construction testing and observation, material testing, structural steel and surveying for various projects under this contract.

***Fayette Energy Facility, Masontown, PA***

Project Manager responsible for overseeing the concrete, soils, aggregates, asphalt and bolted connections for the project site. CTL has provided specialty-testing including: soil resistivity testing, and Windsor Pin testing

***Cheat Lake Waste Water Treatment Plant Expansion, Morgantown, WV***

Project Manager responsible for providing oversight and recommendations for this project. The project included increasing the capacity from 250,000 gallons/day to 750,000 gallons/day.

***Chaplin Hill Sewer and Water System Expansion, Morgantown, WV***

Project Manager responsible for overseeing quality assurance for corrosion protection, utility trenching, line expansion and construction methods for this project.

***Warrior Run Generation Plant, Cumberland, MD***

Project manager for the construction observation and structural steel inspection services for this project.

**PATRICK E. GALLAGHER, P.E., C.P.G.S.**

*President*

***Professional Affiliations:***

American Society of Civil Engineers

Society of Mining Engineers, of A.I.M.E.

Triangle Fraternity of Engineers, Architects, and Scientists

International Society for Soil Mechanics and Foundation Engineers

American Institute of Professional Geologists



***Expertise***

Mr. Darrah is presently responsible for department management for civil site design and surveying projects including topographic, property and construction layout. Mr. Darrah also serves as project manager on various types of civil engineering projects including residential and commercial developments, and reclamation design projects. Engineering design responsibilities include site designs, hydrology, quantity calculations, and various other forms of engineering related duties.

***Education***

B.S. Civil Engineering Technology, 1988  
Fairmont State College, Fairmont, West Virginia

***Certifications***

- West Virginia Dept. of Highways Compaction Technician
- West Virginia Department of Highways Concrete Technician
- Fundamental Land Surveyor (FLS)

***Professional Experience***

*22 Years Experience with CTL Engineering, Inc.*

***Project Experience***

*A partial listing of Mr. Darrah's relevant project experience includes:*

**Mine Related*****Shinns Run Portals & AMD; Harrison County, West Virginia***

- Project Manager responsible for providing surveying, reclamation design, and subsurface investigations for this WVDEP project

***Fairmont Subsidence Project; Fairmont, West Virginia***

- Project Manager responsible for providing and overseeing surveying, reclamation design, and subsurface investigations for this WVDEP AML project

***Farmington Culvert Design; Farmington, West Virginia***

- Project Manager whose work consisted of providing dredging studies and design as well as surveying, platting, mapping and flood plain studies for the installation of a box culvert extension in Little Laurel Run in Farmington, WV

***Cheat Neck Landslide; Monongalia County, West Virginia***

- Project Manager responsible for providing the client with services including surveying and reconnaissance, subsurface investigation, design drawings and specifications in order to redesign the slope where the failure took place

***McDowell County Ream Refuse Piles; McDowell County, West Virginia***

- Project Manager for this ream refuse pile project consisting of surveying and reconnaissance, a subsurface investigation and testing, laboratory testing, design drawings, and slope stability analyses

*St. Clair Portals; Monongalia County, West Virginia*

- Project Manager for this AML project which consisted of the construction of wet mine seals in seventeen mine entries, regrading and covering coal refuse, backfilling highwalls, removing impoundments, and upgrading a stream

*Morning Star Baptist Church Subsidence--AML; Marion County, West Virginia*

- Project Manager responsible for providing engineering services including surveying, mapping, and reconnaissance, subsurface investigation and testing, as well as Preliminary Mine Subsidence Evaluation Report for the above church which has been adversely affected by mine subsidence

*Farmington United Methodist Church/WVDEP AML; Farmington, West Virginia*

- CTL conducted a subsurface geotechnical investigation to determine the root cause of the subsidence occurring at the above church
- Upon discovering an open mine void, CTL presented the WVDEP with recommendations going forward

*Eccles and MacArthur Subsidence; Beckley, West Virginia*

- Project Manager for this assignment in which CTL provided surveying services and completed a subsurface geotechnical investigation in order to determine whether or not a crack in the related parking lot was the result of mine subsidence

Healthcare

*WVU Animal Facility Annex; Morgantown, West Virginia*

For this project CTL engineering provided geotechnical and surveying services to document and evaluate site conditions for the proposed Animal Facility Annex addition at the current WVU Hospital Facilities

Power Plants

*Conveyor Grading Redesign; Monongalia County, West Virginia*

- Project Manager responsible for conducting reconnaissance, surveying, developing a grading plan, and performing slope stability analysis for the Longview Power Plant conveyor grading redesign

Building Development

*Hornbeck Road Development; Morgantown, West Virginia*

- Project Manager responsible for overseeing the completion of land surveying services as well as a subsurface geotechnical investigation for a number of proposed residential building lots

*Beitzel Development Parcel 6 at Mylan Business Park; Morgantown, West Virginia*

- Project Manager responsible for providing civil site design including grading plans, utility locations outside the structures, stormwater design for parking area, and a subsurface geotechnical investigation for this proposed development

*Mountain View Apartments—Phase 1 & 2 ALTA Survey; Monongalia County, West Virginia*

- Project Manager responsible for completing Phase I and Phase II ALTA Surveys for Mountain View Apartments

*West Run Development Complex; Morgantown, West Virginia*

- Project Manager responsible for overseeing a geotechnical investigation including laboratory analysis and recommendations as well as limited environmental services for this proposed housing development

*Clinton Hill Developments; Morgantown, West Virginia*

- CTL Engineering provided surveying and geotechnical services in support of the Clinton Hills Developments

*District Apartments—ALTA Surveying; Morgantown, West Virginia*

- Project Manager responsible for providing oversight of ALTA Surveying for the District Apartment complex

*Mountaineer Property Company—Surveying; Morgantown, West Virginia*

- Project Manager in charge of providing topographic surveying and mapping services

*Suburban Extended Stay Hotel; Morgantown, West Virginia*

- Project Manager for this assignment which comprised of design build preparation services including compaction testing and retaining wall design

Other

*Scotts Run Settlement House; Morgantown, West Virginia*

- Project Manager for this assignment in which CTL provided surveying services for a water line and an access road

*Mylan Park - Various Designs; Morgantown, West Virginia*

- Project Manager responsible for providing construction management services for various designs at Mylan Park

*North American Drillers; Monongalia County, West Virginia*

- Project Manager responsible for providing the client with surveying and mapping, erosion and sedimentation control plans, and site design and layout services

**Expertise:**

Annually manages 100+ various geotechnical projects including; education, transportation, commercial development and a variety of public and private clients. Mr. Selfridge is responsible for directing all aspects of the geotechnical engineering for CTL WV. This includes the management of field drilling activities, field classification of soil and rock, field and laboratory safety procedures, the assignment of a laboratory testing program, and performing geotechnical evaluations. Engineering evaluations include foundation recommendations, settlement analysis, slope stability analysis, earth pressure coefficients and report preparation.

**Education:**

A.A.S., Mechanical Technology - Design & Drafting, 1991  
Adirondack Community College; Queensbury, NY

A.S., Engineering Science, 1994  
Adirondack Community College; Queensbury, NY

B.S., Civil Engineering (Geotechnical & Structural), 1996  
Rensselaer Polytechnic Institute; Troy, NY

Graduate Studies, Civil Engineering (Geotechnical), 1996-1999  
Rensselaer Polytechnic Institute; Troy, NY

**Registrations / Certifications:**

- Engineer Intern (EI); New York, 1996
- Pennsylvania Dept of Transportation Level II Drilling Inspector, 1999

**Career Experience**

CTL Experience – 5 years  
Other Engineering – 8 years

***Project Experience*****Transportation*****Surveying Mepco Overland Conveyor, CCC Group, Inc.***

- Project Engineer responsible for performing geotechnical investigations to evaluate the current site conditions and to propose design and recommendations for crane pads for a proposed truck-mounted crane with a telescoping hydraulic boom and outriggers

***WV DOH—Dick Henderson Bridge; Kanawha County, West Virginia***

- Geotechnical Services Manager for this project which included 6 over water borings, 5 land borings on the St. Albans side, and 5 land borings on the Nitro side of the river for a total of 16 borings and 2 bag samples

***Benedum Airport Lighting Towers; Harrison County, West Virginia***

- Project Manager responsible for providing foundation design for the GP-1 Tower located at the North Central West Virginia Airport

***Morgantown Airport Alternative Access Road; Morgantown, West Virginia***

- Project Manager responsible for conducting a geotechnical investigation to provide evaluation and recommendations based on the subsurface conditions encountered at the site for the design and construction of an access road alignment connecting WV-857 and the South Eastern portions of the Morgantown Airport

***I-81 North Martinsburg to Marlowe Interchange; Martinsburg, West Virginia***

- Geotechnical Services Department Manager for the design build project which included field reconnaissance, exploratory borings, laboratory analysis of core boring, geotechnical report, slope stability analysis, and perform field inspection and testing/QC for the duration of the construction project

**Healthcare**

***WVU Animal Facility Annex; Morgantown, West Virginia***

- Project Manager responsible for overseeing this project consisting of geotechnical and surveying services to document and evaluate current site conditions for the Animal Facility Annex addition at the current WVU Hospital Facilities

***West Virginia University Hospitals Data Center; Morgantown, West Virginia***

- Project Manager in charge of providing construction observation and testing, and engineering services for the site preparation, earthwork, and construction of the foundation system for the WVU Hospitals Data Center

***Davis Memorial Hospital Addition; Davis, West Virginia***

- Project Manager responsible for conducting a geotechnical field investigation, laboratory testing services, and preliminary geotechnical investigation report for an addition to the existing Davis Memorial Hospital

**Water/Wastewater Treatment Plants and Water Tanks**

***Water Treatment Plant Corrective Action Design, City of Fairmont***

- Project Manager responsible for providing and overseeing geotechnical subsurface investigations, laboratory testing services, as well as a Geotechnical Investigation Report of Findings and recommendations for the Water Treatment Plant Corrective Action Design in Fairmont, West Virginia

**Building Development**

***Hazelton Prison Phase II; Hazelton, West Virginia***

- Project Manager whose duties consisted of overseeing a subsurface geotechnical investigation for the new construction phase of the Federal Correctional Institution facility

***Morgan Place Apartment Complex, Morgantown, West Virginia***

- Project Manager responsible for providing a geotechnical investigation, laboratory testing and recommendations for the construction of a new apartment complex

***Mountain Valley Apartments, Phase II; Morgantown, West Virginia***

- Project Engineer for this job which included 10 geotechnical test borings, laboratory testing and analysis, and recommendations for the development of several multi-unit three to four-story slab-on-grade apartment buildings

***Proposed University Town Centre Car Dealership, Morgantown, WV***

- Project Manager responsible for managing a geotechnical investigation to provide evaluation and recommendations of the subsurface conditions encountered at the site for the design and construction of a new automotive dealership facility for Premier Chevrolet Buick GMC

***Suncrest Town Centre Building; Morgantown, West Virginia***

- Project Manager for this job responsible for providing client with structural design services and recommendations

***Quiet Dell United Methodist Church; Harrison County, West Virginia***

- Project Manager responsible for overseeing a total of six geotechnical test borings and laboratory testing services for the proposed development as well as providing recommendations for that development

***Pillar Office Building; Morgantown, West Virginia***

- Project Manager responsible for providing subsurface geotechnical services for the construction of a two-story, slab-on-grade office building
- Duties also included providing recommendations drawn for the geotechnical investigation results

**Telecommunication**

**Verizon – Various Locales**

- CTL has provided geotechnical investigation as well as site and foundation recommendations to over 150 cell tower sites

***Raccoon Branch PCS / Spinks; Danville, West Virginia***

- Project Manager in charge of providing Verizon Wireless with a two-man drilling crew to conduct a geotechnical investigation of the site
- From the information gathered in the above activities Mr. Selfridge was responsible for supplying Verizon with a Preliminary Mine Subsidence Evaluation Report as well as recommendations

**Other**

***Hughes Creek Landslide; Kanawha County, West Virginia***

- Project Manager responsible for overseeing the geotechnical investigation comprising of 34 borings, including six over water borings

***Ridge Point Development Slope Investigation and Recommendations; Morgantown, West Virginia***

- Department Manager responsible for providing drilling, engineering, and surveying services in order to investigate, evaluate, and provide recommendations for the Ridge Point Development Pond Embankment Distress

***Buzzard Pond Dam; Marshal County, West Virginia***

- Project Manager for this project which included a geotechnical field investigation, stability analysis, laboratory testing services, and a geotechnical investigation report

***Tunnel Ridge Slurry Cell A / Piezometer Installations; Ohio County, West Virginia***

- Project Manager responsible for providing geotechnical services to investigate, document, and evaluate the current site conditions for the construction of a 200 ton refuse bin and radial stacker

***BFS – Charles Point; Bridgeport, West Virginia***

- Project Manager responsible for overseeing an office review, site reconnaissance, subsurface exploration, laboratory testing, geologic and geotechnical data review, engineering evaluation and analysis and preparation/development of the preliminary geotechnical findings and recommendations report for the proposed site preparation and earthwork

***Gateway Development; Monongalia County***

- Geotechnical Services Manager for the project consisting of site reconnaissance, subsurface exploration, laboratory testing, geologic and geotechnical data review, mining history, as well as, engineering evaluation and analysis for the preparation and development of the preliminary geotechnical services report

***Immaculate Conception Church Parish Center; Clarksburg, West Virginia***

- Project Manager responsible for administering a geotechnical investigation to provide evaluation and recommendations based on the subsurface conditions encountered at the site for the design and construction of a new parish center for the church

***Elkins Aggregate Quarry; Elkins, West Virginia***

- Geotechnical Services Manager for this project which consisted of providing highwall evaluation services

***Gawthrop Greens - Charles Pointe; Bridgeport, West Virginia***

- Project engineer (Geotechnical) for this project which consisted of reviewing and making recommendations pertaining to a distressed retaining wall



## **CHARLES T. WALTZ, P.E.**

## ***Geotechnical Project Manager***

### ***Expertise:***

Mr. Waltz serves as a Project Manager in the Geotechnical Engineering Services Department of CTL Engineering of West Virginia, Inc.

A recent addition to CTL's staff, Mr. Waltz was with Triad Engineering where he was Staff Engineer/Project Engineer and provided engineering services to a variety of projects, including site development, geotechnical subsurface investigations, and road construction. The majority of these projects were performed in West Virginia where concerns for mine subsidence and slope stability were routinely investigated.

### ***Education:***

B.A., Business Administration  
Fairmont State University

B.S., Engineering  
Fairmont State University

Graduate Studies, Geotechnical Engineering  
West Virginia University

### ***Professional Registration / Certifications:***

Registered Professional Engineer  
▪ West Virginia, # 17626; Virginia, # 37038

### ***Project Experience:***

#### Transportation

##### ***I-81 North Martinsburg to Marlowe Interchange – Design Build; Morgantown, West Virginia***

- Geotechnical Engineer for this project which consisted of a subsurface geotechnical investigation, slope stability analysis, laboratory testing, and foundation recommendations for the interchange

##### ***Brownsville Interchange Pavement Cores; Brownsville, Pennsylvania***

- Geotechnical Engineer for this project which comprised of geotechnical and laboratory services for the PA Turnpike Commission

#### Education

##### ***East Preston School; Terra Alta, West Virginia***

- Project Engineer for this job which included a geotechnical subsurface investigation accompanied by recommendations concerning geotechnical related issues for the school

##### ***Bruceton Mills School; Bruceton Mills, West Virginia***

- Geotechnical Engineer for this project which comprised of a geotechnical field investigation and testing services as well as laboratory testing services

##### ***Central Preston Middle School; Kingwood, West Virginia***

- Project Engineer for this project which consisted of a geotechnical subsurface investigation of the site along with laboratory testing and recommendations



Healthcare

***Preston County Memorial Hospital; Preston County, West Virginia***

- Project Engineer responsible for providing geotechnical engineering services for the proposed hospital development

Building Development

***Charles Pointe Landslide Remediation; Bridgeport, West Virginia***

- Project Manager responsible for providing the client a geotechnical field investigation and testing services, laboratory testing services, soldier pile wall design and plans, and a geotechnical investigation report with stability analysis as well as remediation recommendations

***Suburban Extended Stay Hotel; Morgantown, West Virginia***

- Project Engineer for this project comprising of a geotechnical investigation and related services for the proposed construction of a new hotel

***Sabraton Walgreens; Morgantown, West Virginia***

- Project Engineer for this project in which CTL provided geotechnical services to investigate, document, and evaluate current site conditions for a proposed Walgreens building

***Stewart Street/Mason Street Development Project; Morgantown, West Virginia***

- Project Engineer for this job in which CTL provided the client with geotechnical engineering services for the subsurface investigation, evaluation, recommendations, and foundation design for the proposed development

Other

***Williams Site Geotechnical Work; Harrison County, West Virginia***

- Project Manager responsible for providing and completing geotechnical services for this project

***Southern States; Morgantown, West Virginia***

- Project Engineer, for this project conducted a geotechnical subsurface investigation then provided recommendations based upon the investigations results

***WV Board of Risk & Insurance Management—Subsidence Claim; Brooke County, West Virginia***

- Project Manager for this job comprised of a geotechnical investigation as well as laboratory testing services to investigate a subsidence claim

***WV Board of Risk & Insurance Management—Subsidence Claim; Shinnston, West Virginia***

- Project Manager responsible for completion of a geotechnical investigation and laboratory testing services as well as providing the client with conclusions drawn from the investigation

***Norfolk Southern Railroad Tracks Retaining Wall; Marion County, West Virginia***

- Geotechnical Engineer for this project which consisted of geotechnical drilling, sampling, and testing for the construction of a new retaining wall

***Vienna Tanks; Wood County, West Virginia***

- Geotechnical Engineer for this project in which CTL provided geotechnical services as well as construction monitoring and testing

**CHARLES T. WALTZ, P.E.**

*Geotechnical Project Manager*

*Tunnel Ridge Refuse Bin and Radial Stacker; Ohio County, West Virginia*

- Project Engineer for this assignment in which CTL provided geotechnical services to investigate, document, and evaluate current site conditions for a proposed 200 ton refuse bin and radial stacker

*Cunningham Compressor Pad; Harrison County, West Virginia*

- Geotechnical Engineer for this project in which CTL completed a variety geotechnical investigations for a proposed compressor pad

# Gregory L. Foreman, P.E.

## Project Manager – Water Systems

### **EXPERTISE:**

Mr. Foreman serves as Project Manager and Design Engineer for a multitude of civil site design projects. Mr. Foreman provides civil site design services for a multitude of clients, including municipal, commercial and private developers. Design services provided include site grading, potable water, sanitary sewer, storm sewer, pedestrian walkways, vehicular thoroughfares, preparation of permits, project specifications, plans and engineering calculations.

### **EDUCATION:**

Bachelors of Civil Engineering Technology Fairmont State College, Fairmont, West Virginia, 1989

Associates of Science (Mechanical) Fairmont State College, Fairmont, West Virginia, 1989

Associates of Science (Drafting and Design) Fairmont State College, Fairmont, West Virginia, 1989

### **PROFESSIONAL REGISTRATION / CERTIFICATIONS:**

- Registered Professional Engineer: West Virginia, 1999, No. 014165.

### **CAREER EXPERIENCE:**

- CTL Experience – 6 years
- Other Engineering – 18 years

### **RELEVANT PROJECT EXPERIENCE**

#### **Mine Related**

##### ***WVDEP Feasibility Studies—AML; Marion County, West Virginia***

- Project Manager responsible for seeing that the initial field reconnaissance, technical investigation & research, field investigations, sampling, water analysis, and mapping are all properly completed for the clients proposed water line

##### ***WVDEP Feasibility Study for Office of AML; Hancock County, West Virginia***

- Project Manager responsible for seeing that the initial field reconnaissance, technical investigation & research, field investigations, sampling, water analysis, and mapping are all properly completed for the proposed water line

#### **Water/Wastewater Treatment Plants and Water Tanks**

##### ***Palisades Place; Morgantown, West Virginia***

- Project Manager responsible for providing surveying, design engineering, and construction services in support of the installation of a waste water treatment plant

#### **Power Plants**

##### ***Pipeline Remediation—Harrison Power Station; Harrison County, West Virginia***

- Project Manager responsible for presenting a site remediation plan for repairing the pipe supports as well as seeing that environmental permits are in place for the construction activity



### Building Development

#### *Immaculate Conception Church; Harrison County, West Virginia*

- Project Manager responsible for providing completing an initial topographic and feature location survey and providing construction documents including grading plans, utility design/relocation, and construction plan development

#### *Hornbeck Road Development; Morgantown, West Virginia*

- For this project CTL provided geotechnical engineering services to investigate a number of proposed residential building lots

#### *Quiet Dell United Methodist Church; Harrison County, West Virginia*

- Project Manager responsible for providing civil site design services for the proposed construction of a recreational center to coincide with the church

#### *Premier Chevrolet; Fairmont, West Virginia*

- For this project CTL provided various site design and layout services for the construction of a new building

#### *Fire Department Foundation Repair; Fairmont, West Virginia*

- Project Manager responsible for overseeing the completion of this project that consisted of geotechnical drilling services and structural evaluation for the remediation of a structural crack at the Fire Station

#### *Mountain State Blue Cross Blue Shield; Parkersburg, West Virginia*

- Project Manager responsible for providing the client with surveying, site investigation and field reconnaissance, storm water design and plans, as well as site design and grading plans

### Other

#### *Miller Hill Development Road Permitting; Morgantown, West Virginia*

- Project Engineer for this project in which CTL provided various road permits for entrance to the new development

#### *Stone Energy Corporation-Mason Colon Unit 1; Wetzel County, West Virginia*

- Professional Engineer on this project in which CTL provided a variety of engineering services including environmental impact studies

#### *Small City Block Grant; Monongalia County, West Virginia*

- Project Engineer for this project in which CTL provided the client with surveying, mapping, design, right of ways, and permitting services during our time monitoring and investigating an existing sanitary sewer line

#### *Charles Pointe Storm Water Ponds; Bridgeport, West Virginia*

- Project Engineer for this project in which CTL was responsible for completing a variety of testing and inspection services for the development of the above storm water ponds

#### *Mylan Park-Variou Designs; Morgantown, West Virginia*

- Project Engineer for this project in which CTL provided construction management services for various designs at Mylan Park

#### *West Run Flood Plain; Morgantown, West Virginia*

- Project Engineer for this job in which CTL conducted surveying, platting, mapping, and flood plain studies for a large apartment complex in Morgantown, West Virginia

# Gregory L. Foreman, P.E.

Project Manager – Water Systems

## *Stone Energy Marcellus Shale Gas Development– Various, WV*

- Project Engineer responsible for Impoundments and Pad Design

## *Atlas Energy Resources Marcellus Shale Gas Development– Various, WV*

- Project Engineer responsible for Impoundments and Pad Design

### ***PROFESSIONAL AFFILIATIONS:***

American Society of Civil Engineers  
The GEO-Institute  
Timber Framers Guild  
Construction Institute (ASCE)

***Expertise:***

Mr. Moore has thirty years experience in design and construction in the fields of planning, civil engineering, structural engineering, general contracting, expert testimony, land development, surveying, landscape architecture, project and business management.

Presently Mr. Moore manages the civil engineering department of the CTL Engineering South Charleston WV office. This office performs consulting engineering in the fields of civil engineering, environmental engineering, geotechnical engineering and testing.

Prior to his current position Mr. Moore founded Alliance Consulting Engineers and Surveyors a consulting engineering firm with offices in Arvada and Longmont Colorado. Mr. Moore managed and directed multiple projects and employees in the fields of planning, civil engineering, structural engineering, marketing, business administration, land development, surveying, landscape architecture, water resources, design build and construction management.

During Mr. Moore's tenure with Jehn Engineering and Kidde Consultants he performed professional engineering duties encompassing civil and structural design, expert testimony, surveying, marketing, water resources, public presentations, project management, quality assurance and quality control. These professional engineering duties were performed for a diverse array of private and public clients and encompassed a broad spectrum of duties.

While employed by Fluor-Daniel Mr. Moore was a civil construction engineer on large power plant projects throughout the United States. Mr. Moore performed design-build civil engineering services on hydroelectric and gas plants in Virginia, Texas and Wyoming. These projects were in the hundreds of millions to billions of dollars in magnitude and were designed and built by Fluor-Daniel encompassing design, procurement, construction and implementation.

***Education:***

B.S., Civil Engineering  
West Virginia University Institute of Technology, Montgomery WV 1974-1978

M.S., Civil Engineering  
Colorado University, Boulder CO 1981-1983

***Professional Registration:***

Registered Professional Engineer, Maryland, # 15100; Nevada, # 19250; West Virginia; Wyoming, # 11010; Colorado # 22495; Alberta Canada # 98121

***Career Experience:***

CTL Experience – 1 year  
Other – 29 years





***Project Experience:******Residential Subdivisions and Commercial Sites***

Mr. Moore has performed design, project management and construction management of numerous residential subdivisions and commercial sites in Maryland and Colorado. Residential subdivisions included small one to two lot subdivisions up to subdivisions with 400-500 lots. Commercial project experience includes banks, restaurants, multi-story commercial buildings, hotels, malls and car sale and maintenance facilities. These projects include annexation, zoning, planning, platting, road design, utility design, grading, drainage, storm water management, landscaping, development agreements, cost estimates, and construction.

***Golf Courses***

Mr. Moore was project manager, engineering designer and construction administrator for the City of Arvada West Woods Ranch public golf course encompassing an initial 18 holes and the later addition of nine more holes. This project also encompassed over 400 acres of residential development, design and construction of 1.5 miles of four-lane boulevard, major bridge design to pass 3500 cfs Ralston Creek, two miles of trail design, wetland mitigation, irrigation design pedestrian bridge and golf cart bridge designs.

***Water Resources and Drainage Projects***

Mr. Moore designed and performed construction administration on water resources and drainage projects for developers, builders, and municipalities, ditch companies and water districts. Practically every project requires a drainage report and plan encompassing storm water management, flood studies, Letters of Map Revisions (LOMAR's or CLOMAR's) or storm drain design. Several notable projects include the Ralston Creek/Croke Canal overpass, Church Ditch flow limiter, Farmers Highline Canal realignment, and various flood studies on creeks and rivers.

***Landscape Architecture***

Mr. Moore performed design of landscape plans on many residential and commercial projects including a design/build regional park for the Town of Erie, Colorado encompassing an all purpose athletic field, baseball field with bleachers, backstops and dugouts. Additional design build projects include Candlelight Ridge Estates (125 lots) and Ryan Ranch Subdivision (130 lots).

***Colorado Department of Transportation Road Design***

State road design projects include 2 miles of US 60 road design in Johnstown, Colorado; Platte River Bridge/Culvert replacement in Littleton, CO; US 119 road improvements in Black Hawk and Longmont Colorado and State Highway 52 road re-design in Boulder County, Colorado.

***Seniors Housing***

Design of senior housing projects include the Golden Pond Seniors Housing encompassing a campus of senior apartments, assisted living and Alzheimer's facilities in Golden, CO; Arvada Estates senior housing an 118 unit senior housing project in Arvada, CO; Broomfield Retirement an 118 unit senior housing project in Broomfield, CO and Orchard Gardens an 85 unit Alzheimer's facility in Arvada, CO.

***Land Development***

Mr. Moore has assisted many developers through the land development process as a consultant, owner and partner. Project experience includes preparation of feasibility studies, project proforma's, preparation of loan packages, negotiation of development agreements and construction administration. Notable projects include Ryan Ranch Subdivision in Jefferson County, Colorado; Candlelight Ridge in Erie, Colorado; Ridgeview Estates in Adams County, Colorado, and Legend Ridge in Niwot, Colorado.

***Structural Engineering***

Mr. Moore has performed structural design, inspections, retaining wall designs, and box culvert designs, on residential, commercial and public projects. Larger projects include the Ralston Creek Bridge, trail and equestrian underpass for the City of Arvada, CO; Platte Canyon Road box culvert replacement for the State of Colorado and the Sheridan Community College dormitory buildings in Sheridan, Wyoming.

***Utility Projects and Pump Stations***

Preparation of utility reports and design and construction of water and sewer transmission lines, holding ponds, buildings and pump station facilities for raw water, potable water and sewer for developers, utility districts and municipalities. Projects include the regional sewer pump station for the Clear View project in Johnstown, CO; the raw water reservoirs and pump station for the City of Arvada Church Ditch takeout project in Arvada, CO.

***Power Projects***

Mr. Moore was project civil/construction engineer on the 1.3 billion dollar Bath County Pumped Storage project for Virginia Electric and Power Company (VEPCO) and in Bath County, Virginia. This project involved two earthen dams of which one was the tallest earth fill dam in the world at that time, design and construction of the powerhouse, tunnels and related appurtenances. Mr. Moore was a civil/construction engineer on the Chevron Carter Creek Gas Project in Evanston, Wyoming. This project was a 500 million dollar gas purification facility that was designed and constructed to purify natural gas. On both projects Mr. Moore was in the field performing design, direction of field personnel, inspections, quality control, material and equipment procurement, and related civil engineering duties.

***Professional Affiliations:***

American Society of Civil Engineers  
American Institute of Architects  
Home Builders Association  
Society of American Military Engineers

## JOSEPH STANLEY

*Staff Engineer*

### *Expertise*

Mr. Stanley is a Staff Engineer/CAD Designer in the Morgantown, WV office. His responsibilities include assisting in the planning and design of civil site design projects involving land planning and development aspects. He is familiar with various engineering software programs including AutoCad 2004 and AutoCad Land Desktop 2004, which provide support for the planning and design projects.

### *Education*

A.S., Drafting and Design  
Fairmont State College; Fairmont, West Virginia, 2001

### *Professional Registrations/ Certifications*

Advanced GPS Training Course

### *Career Experience*

7 Years with CTL Engineering Inc.

### *Experience*

#### Mine Related

- AML Fairmont (Jackson Addition) Subsidence Project, Fairmont, West Virginia
- WVDEP Shinns Run Portals and AMD; Harrison County, West Virginia

#### Transportation

- Scotts Run Water Line, Wiles Hill Tank & MUB Access Road Surveying Services; Monongalia County, West Virginia

#### Education

- Mon County Schools Foundation—Mylan Park; Morgantown, West Virginia

#### Water/Wastewater Treatment Plants and Water Tanks

- Palisades Place Waste Water Treatment Plant Upgrade; Morgantown, West Virginia

#### Power Plants

- Harrison Power Station Phase IV-C CCB Landfill Expansion; Haywood, West Virginia
- Harrison Power Station—Pipeline Remediation; Haywood, West Virginia



## JOSEPH STANLEY

*Staff Engineer*

### Building Development

- MAGCS, LLC—Commercial Development; Monongalia County, West Virginia
- Mountaineer Property Co., LLC—Topographic Survey; Morgantown, West Virginia
- Mountain View Apartments Phase 1 & 2 ALTA Survey; Morgantown, West Virginia
- Suburban Extended Stay Hotel; Morgantown, West Virginia
- Phase I ESA, Asbestos Inspection, and Property Survey for Development; Marion County, West Virginia
- West Run Development Complex; Morgantown, West Virginia
- Alta Survey for District Apartments; Morgantown, West Virginia
- University Town Center; Morgantown, West Virginia
- Mylan Park—Various Designs; Morgantown, West Virginia
- Chateau Royale Apartment Complex; Morgantown, West Virginia

### Other

- First Energy Phase V Step II Landfill; Harrison County, West Virginia
- VIC-83 Design, Survey & Plat, and environmental review; Wetzel County, West Virginia
- Monongalia County Industrial Park Design; Morgantown, West Virginia

*Expertise:*

As the Construction Services Manager for CTL Engineering of West Virginia Inc., Mr. Gowarty is responsible for supervising field and laboratory technicians. He is also responsible for report writing for field and laboratory testing, project management, client contact, estimating, proposals and invoicing for Construction Services Department. Mr. Gowarty's experience also includes surveying, pre-mining and pre-blast surveys, field supervision of drilling crews, Phase I Environmental Site Assessments and radiation safety officer and corporate safety officer. In addition, Mr. Gowarty is the Construction Materials Testing Supervisor, providing concrete, compaction, and aggregate testing and has over twenty (20) years of experience with Nuclear Gauge Operation.

Mr. Gowarty has been CTL's Corporate Safety Officer since Fall 2008.

Mr. Gowarty is CTL's USNRC Safety Officer.

*Education:*

B.S., Civil Engineering Technology, 1990  
Fairmont State College; Fairmont, West Virginia

A.S., Mechanical Engineering Technology, 1990  
Fairmont State College; Fairmont, West Virginia

*Professional Registrations/ Certifications:*

*Safety*

Radiation Safety Training, CPN Corporation  
Radiation Safety Officer Training, Troxler Electronics  
Principals of Fire Protection, Fairmont State University  
Certified Forklift Trainer, Brickstreet Insurance  
Drug Free Workplace Employee Trainer, Working Partners  
Drug Free Workplace Supervisor Trainer, Working Partners

*Other*

West Virginia DOT Certified Compaction Technician  
West Virginia DOT Certified Bituminous Concrete Technician  
West Virginia DOT Certified Portland Cement Concrete Technician  
West Virginia DOT Certified Aggregate Sampler  
NICET Level III Asphalt & Concrete  
NICET Level II Soils  
Certified Dipfloor Profiler Operator, Face Company

*Career Experience:*

CTL Experience – 21 years

*Project Experience:*

Transportation

- I-81 North Martinsburg to Marlowe Interchange, Martinsburg, WV
- Monongahela Blvd, Morgantown, WV
- Fairmont Airport, Fairmont, WV
- Benedum Airport, Bridgeport, WV
- Route 7, Morgantown, WV
- Various Projects for WVDOT, WV
- Colonial Drive Roadway Evaluation, Waynesburg, PA
- I-79 Paving, Morgantown, WV
- Clarksburg Streetscape, Clarksburg, WV
- High Street Streetscape, Morgantown, WV
- Mont Chateau Road Paving, Cheat Lake, WV
- Route 50 Paving, Preston County, WV
- Route 72 Paving, Preston County, WV
- WVU Research Park Roadway, Morgantown, WV
- Route 250 Gradations, Fairmont, WV
- Hunter Lane Paving Project, Morgantown, WV
- WVU Route 705, Morgantown, WV
- Route 20 Utility Compaction, Pineville, WV
- Osage Bridge S331-19-01.98, Morgantown, WV
- WVDOT Bridge Replacement, Grant Town, WV
- Mon Fayette Expressway, Cheat Lake, WV
- Morgantown Airport, Morgantown, WV
- Marshall County Airport, Moundsville, WV
- Blue Sulphur Bridge, Ona, West Virginia

Education

- WVU Health Sciences Center Animal Facility Annex, Morgantown, WV
- Alderson-Broadbush College Football Stadium Survey, Barbour County, WV
- South Jefferson High School, Charles Town, WV
- Waynesburg College Eberly Hall, Waynesburg, PA

## **JAMES P. GOWARTY, JR.**

## ***Construction Services Manager***

- Waynesburg College Benedum Hall, Waynesburg, PA
- Petrograph West Taylor Elementary School, Flemington, WV
- Clay Battelle School, Blacksville, WV
- WVU Wise Library, Morgantown, WV
- WVU Life Sciences Building, Morgantown, WV
- WVU Student Recreation Facility, Morgantown, WV
- Suncrest Junior High School Construction Project, Morgantown, West Virginia

### **Power Facilities**

- Harrison Power Station Phase V Step 1, Harrison County, WV
- Tunnel Ridge Coal, Wellsburg, WV
- ICG Tygart #1, Grafton, WV
- First Energy Phase V Step II Landfill, Harrison County, WV
- Harrison Power Station Slope Stability Assessment, Harrison County, WV
- Hatfield Power Station, Masontown, PA
- Albright Power Station, Albright, WV
- Pleasants Power Station Landfill, Willow Island, WV
- Blackoak Substation, Allegany County, WV
- Fort Martin Power Station, Morgantown, WV
- Linden Substation, Front Royal, VA
- Malden Substation, California, PA
- Graymont Substation, Pleasant Gap, PA
- Grable Substation, Washington, PA
- Meadowbrook Substation, Stephens City, VA
- Maidstone Substation, Berkeley County, WV
- Lamberton Substation, Ellenboro, WV
- Lake Lynn Power Station, Lake Lynn, PA
- Mitchell Substation, Monongahela, WV
- Fayette Energy Facility, Masontown, PA
- Warrior Run Company, Generation Plant, Cumberland, MD
- Harrison Power Station, Haywood, WV
- John Amos Power Plant, Nitro, WV



## **JAMES P. GOWARTY, JR.**

*Construction Services Manager*

- Grant Town Power Plant, Marion County, WV

### **Building Development**

- Charles Pointe, Bridgeport, WV
- Kohl's Shopping Center, Pavement Coring, Clarksburg, WV
- Super Wal-Mart, Fairmont, WV
- Eastpointe Commercial Development, Harrison County, WV
- Avery Church, Morgantown, WV
- Fairmont Federal Credit Union, Bridgeport, WV
- Rite Aid, Westover, WV
- FedEx Ground Facility, Clarksburg, WV
- Centra Bank, Westover, WV
- Bridgeport Development, Bridgeport, WV
- Little Caesars, Washington, PA
- GA Brown Hi Tech Building, Fairmont, WV
- Super Wal-Mart, Kingwood, WV
- Japanese Steakhouse, Morgantown, WV
- United Federal Credit Union, Mount Pleasant, PA
- Kroger, Suncrest Town Center, Morgantown, WV
- Hampshire County Judicial Center, Romney, WV
- Evergreen Technology Park, Waynesburg, PA
- Beckley Federal Courthouse, Beckley, WV
- Glenmark Centre, Morgantown, WV
- Newpointe Center, Clarksburg, WV

### **Other**

- Water Treatment Plant Corrective Action Design, Fairmont, WV

# **PENINSULA HIGHWALL #1 & #2**

## **DEP 14233**

### ***HIGHWALL & SUBSIDENCE RECLAMATION – MINE SEALS***



**CTL Engineering Inc.**

## **Morgantown, Monongalia County, West Virginia**

#### **CTL Professional Services**

- **Surveying**
- **Geotechnical**
- **Civil Site Design**
- **Construction Documents**

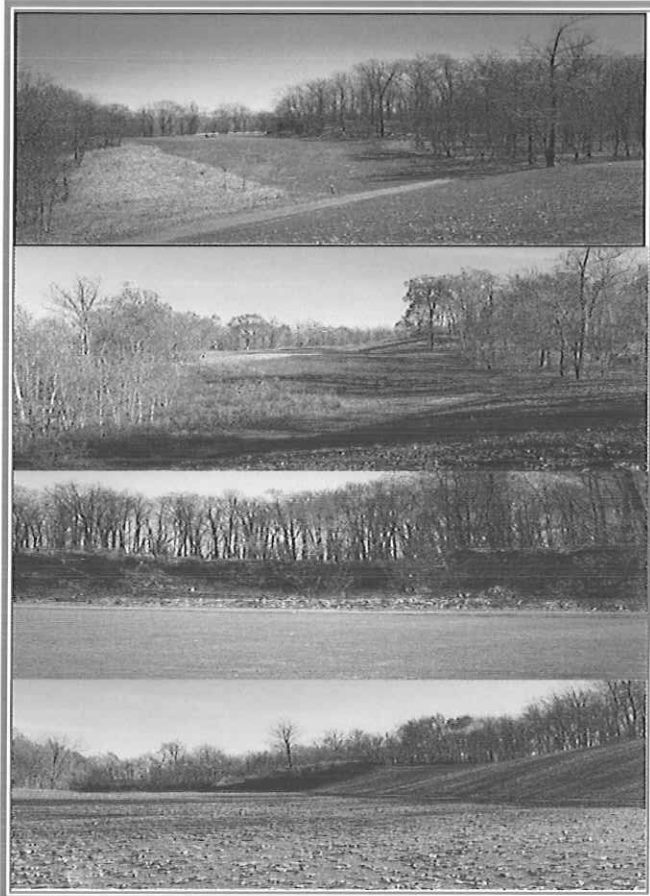
#### **Project Background**

This site contained 1,800 LF of vertical to sloughed highwalls 15 to 25 feet high, 7 partially of totally collapsed mine portals, 1 open mine portal, subsidence depressions behind the portals and water present at or flowing from the portals.

#### **Project Scope**

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- **Access road into the site**
- **Wet seal 2 portals**
- **Regrade face of 2 portals**
- **Riprap channel and additional channel to carry water off site**
- **Backfill of highwalls and subsidence areas**
- **Restoration of golf path asphalt**
- **Conditioning and revegetation of all disturbed areas**



#### **Client / Contact**

**WV DEP-AML&R**

**601 57<sup>th</sup> Street**

**Charleston, WV 25304**

#### **Design Completion Date**

**November 2009**

#### **Estimated Construction Cost**

**\$219,000**

# ST. CLAIR PORTALS DEP 14233

## ***MINE PORTALS, COAL REFUSE, HIGHWALLS & MINE DRAINAGE***



**CTL Engineering Inc.**

**Morgantown, Monongalia County, West Virginia**

### CTL Professional Services

- **Surveying**
- **Geotechnical**
- **Civil Site Design**
- **Construction Documents**
- **Natural Stream Design**

### Project Background

The site consisted of coal refuse, acid mine drainage with impounded water, collapsed mine portals and highwalls. 17 portals were found along the highwall bench. Three impoundments of approximately 70,000 sq.ft. had water flowing at 300 gpm with a pH value of 3.1 and iron >10 mgl. A 35' to 45' high refuse pile was in the middle of the site as well as scattered refuse throughout the site.

### Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Excavation and wet seal of at least 17 mine portals
- Dewater three impoundments
- 2000 LF of stream reconstruction
- Regrade and cover of coal refuse and spoil areas on mine bench
- Drainage control channels to carry water off site
- Backfill of highwalls using spoil material to original contour
- Conditioning and revegetation of all disturbed areas



### Client / Contact

**WV DEP-AML&R**

**601 57<sup>th</sup> Street**

**Charleston, WV 25304**

### Design Completion Date

**March 2010**

### Estimated Project Cost

**\$1,500,000**

# **CHEAT NECK (LENHART) LANDSLIDE DEP14233**

## ***LANDSLIDE, MINE PORTALS & MINE DRAINAGE***



**CTL Engineering Inc.**

**Morgantown, Monongalia County West Virginia**

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### **CTL Professional Services**

- **Surveying**
- **Geotechnical**
- **Civil Site Design**
- **Construction Documents**

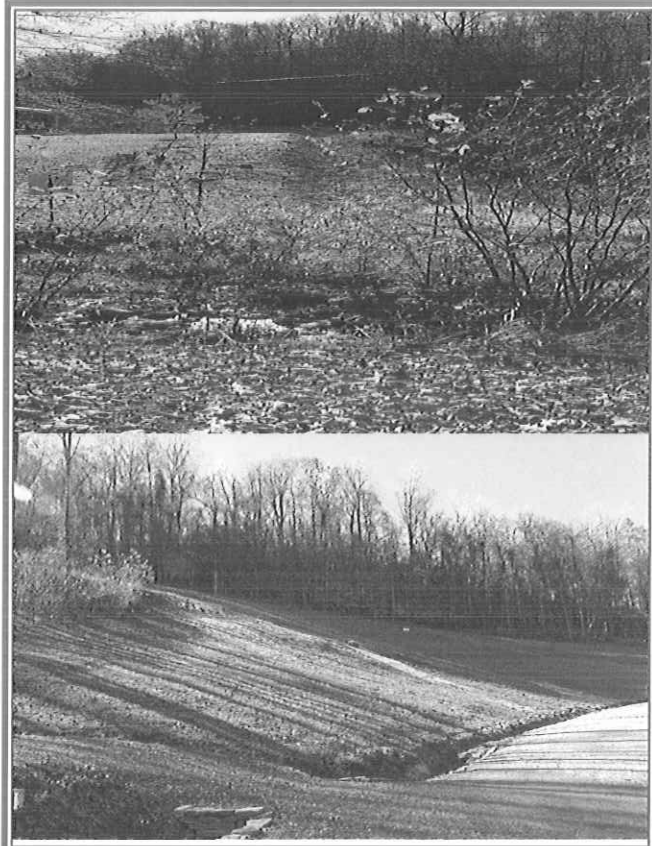
### **Project Background**

Drainage from two collapsed deep mine portals located behind the Lenhart residence created a small landslide. The slide measured about 50' wide and 80' long and the toe was within 20' of the residence and 10' of the LP gas tank.

### **Project Scope**

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- **Regrade and or removal of the slipping material**
- **Excavation, dewatering and wet seal of each deep mine portal**
- **Drainage control channels to carry water off site**
- **Conditioning and revegetation of all disturbed areas**



### **Client / Contact**

**WV DEP-AML&R  
601 57<sup>th</sup> Street  
Charleston, WV 25304**

### **Design Completion Date**

**June 2009**

### **Estimated Construction Cost**

**\$175,000**

# REAM REFUSE PILE DEP15004

## REFUSE PILE REMEDIATION & DRAINAGE

McDowell County, West Virginia



**CTL Engineering Inc.**

### CTL Professional Services

- **Surveying**
- **Geotechnical**
- **Civil Site Design**
- **Construction Documents**

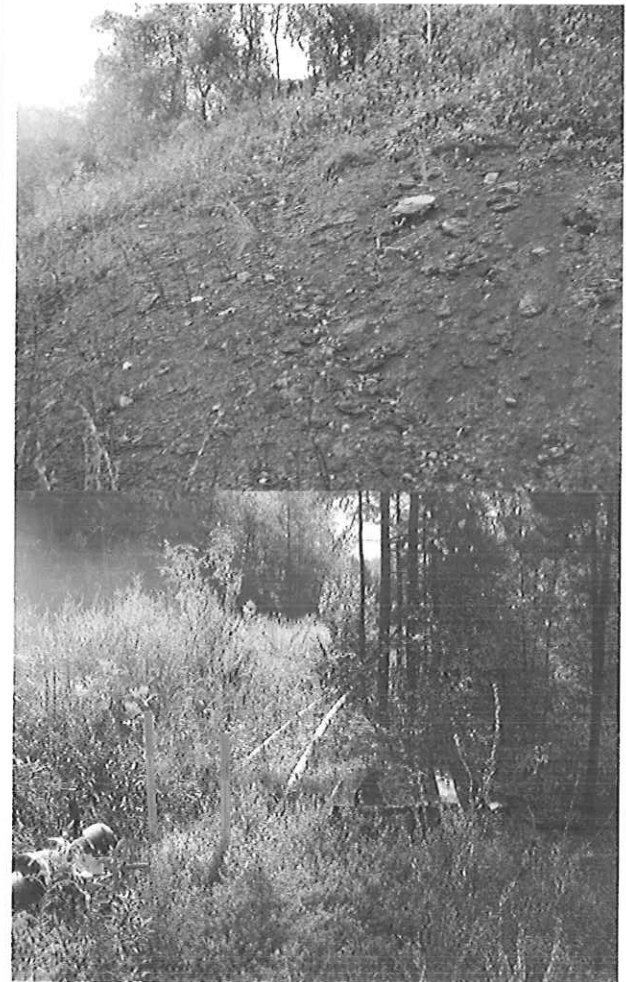
### Project Background

Project includes two refuse piles, one about 25 acres, brick building, concrete foundations, retaining walls, and coke ovens. One pile needed to be stabilized to keep from eroding into the creek.

### Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Design grading plan for all refuse areas.
- Design drainage control channels, ditches and underdrains to carry water safely off site
- Provide plan to demolish and dispose of hazardous equipment and facilities.
- Provide plan for reclamation and revegetation of all disturbed areas



### Client / Contact

**WV DEP-AML&R**  
**601 57<sup>th</sup> Street**  
**Charleston, WV 25304**

### Design Completion Date

**On-Going 2011**

### Estimated Construction Cost

**\$400,000**





# ***HIGHWALL AND MINE SITE REMEDIATION & REGRADING***

**Location: Washington Twp., Lawrence County, Ohio**

## **CTL Professional Services**

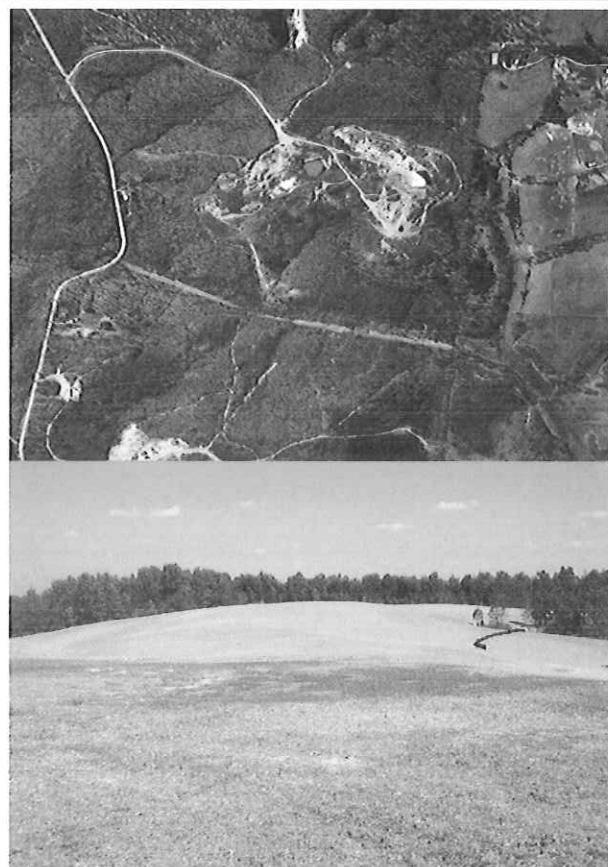
Site Review & Reconnaissance  
Surveying & Mapping  
Geotechnical Evaluation  
Slope Stability  
Civil Site Design  
Construction Specifications

## **Project Scope**

CTL Engineering of West Virginia, Inc. was retained to provide the following design services:

- Remediate existing highwalls
- Controlled discharge structures on two ponds
- Grading plan to specific grades
- Pond removal
- Temporary E&S Controls
- Revegetation Plan

This 34-acre site represents one of the last forfeited unreclaimed coal mining projects to be restored by the ODNR. 288 forfeited coal permits have been reclaimed by ODNR over a thirty year period.



## **Client / Contact**

**ODNR - FORFEITURE**  
**2050 East Wheeling Ave.**  
**Cambridge, OH 43725**

## **Design Completion Date**

**November 2008**

## **Estimated Construction Cost**

**\$ 332,000**



***HIGHWALL RECLAMATION –  
POND & DRAINAGE CONTROL***

**Location: Wadesworth, Medina County, Ohio**

**CTL Professional Services**

**Surveying  
Civil Site Design  
Hydrology  
Construction Specifications**

**Project Scope**

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Remediate existing highwalls
- Regrading slopes to minimize highwall areas
- Provide positive drainage from the site
- Removal of low lying areas and diversion ditches
- Sealing of existing pond outlets
- Installation of new pond outlets
- Temporary erosion and sedimentation controls



**Client / Contact**

**ODNR - FORFEITURE  
2050 East Wheeling Ave.  
Cambridge, OH 43725**

**Design Completion Date**

**June 2008**

**Estimated Construction Cost**

**\$322,000**





**CTL Engineering Inc.**

***HIGHWALL RECLAMATION –  
DRAINAGE CONTROL***

**Location: Summit Station, Hocking County, Ohio**

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**CTL Professional Services**

**Surveying  
Civil Site Design  
Hydrology  
Construction Specifications**

**Project Scope**

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Remediate existing highwalls
- Regrading slopes to minimize highwall areas
- Provide positive drainage from the site
- Removal of low lying areas and diversion ditches
- Removal and offsite disposal of existing culvert
- Installation of new 18-inch PE-PVC culvert
- Temporary erosion and sedimentation controls
- Two zero discharge runoff berms



**Client / Contact**

**ODNR - FORFEITURE  
2050 East Wheeling Ave.  
Cambridge, OH 43725**

**Design Completion Date**

**March 2008**

**Estimated Construction Cost**

**\$149,000**

# **McCOURT LANDSLIDE ODNR CL-Yc-09-F**

## ***LANDSLIDE STABILIZATION***



**CTL Engineering Inc.**

**Location: Yellow Creek Twp., Columbiana County,  
Ohio**

### **CTL Professional Services**

**Site Review & Reconnaissance  
Surveying & Mapping  
Geotechnical Evaluation  
Slope Stability  
Civil Site Design  
Construction Specifications**



### **Project Scope**

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Remediate existing landslide area by regarding slopes
- Toe Key Design
- Provide positive drainage from the site
- Provide multiple bonding benches
- Underdrain for site
- Temporary erosion and sedimentation control

### **Client / Contact**

**ODNR - FORFEITURE  
2050 East Wheeling Ave.  
Cambridge, OH 43725**

### **Design Completion Date**

**November 2008**

### **Estimated Construction Cost**

**\$ 101,700**



## *Firm's Equipment*

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### Geotechnical Equipment

CTL Engineering Inc.'s subsurface exploration equipment is adaptable for use of barges or all terrain vehicles (ATV's). CTL can mobilize special equipment or a fleet of drilling rigs to a particular project requiring multiple units. CTL Engineering owns and operates ten (10) drill rigs with a capacity of drilling to a depth of 300 feet. Other equipment includes large diameter soil and rock core sampling equipment, in-situ pressure meters and cone penetrometers.

CTL's drill rigs are rotary drilling rigs equipped to conduct standard split-spoon sampling with the use of hollow-stem augering, casing advancer or mud rotary. The rigs are also equipped with Moyno pumps, wire-line or standard coring equipment for proper and efficient execution of a subsurface investigation program.

For field and laboratory materials analysis, CTL is equipped to conduct pressure meter tests, vane shear tests and cone penetrometers tests in the field. The laboratory is equipped with consolidometers, triaxial and direct shear apparatus, permeability devices and normal soils classification equipment.



*CTL owns and operates a fleet of ten (10) drill rigs*



*CTL's ATV can drill in rough terrain*

### Chemistry Laboratory

The chemistry laboratory at CTL is equipped with Atomic Absorption equipment, spectrophotometers and gas chromatography equipment. CTL has the capability of and regularly performs both non-hazardous and hazardous waste tests.

CTL has established a quality control/ quality assurance plan, which is based on The American Council of Independent Laboratory Standards. CTL carries professional liability insurance coverage with a limit of \$1,000,00 per occurrence and aggregate.

### **Computer Resources**

Operating efficiency may mean the difference between successful project completion and job overruns. At CTL Engineering, Inc., we effectively utilize computer software programs to assist in project and account management, resource allocation, data transfer, and preparation of plans and specifications. CTL's use of innovative technology sets us apart from the competition.

### **CADD Capabilities**

Project designs and specifications are produced in our Computer Aided Drafting and Design (CADD) section using all releases of ACADD, including Release 2013. AutoCAD allows the user to interact with a wide variety of support software to modify project designs or perform different modeling functions. In addition, many public documents or plans are available in digitized form allowing CTL to directly download surveyed land plots or utility drawings. Successful use of CADD-based documents and/or plans has dramatically increased CTL's project efficiency and performance.

### **Geotechnical Software**

CTL's Geotechnical Department utilizes a wide array of computer models to analyze deep foundation design, pavement design, slope stability, hydraulics, and flood hazard evaluation. Our experienced engineers use the following software to develop solutions:

- AASHTO** - Rigid and Flexible Pavement Design
- APILE** - Calculation of Load-Settlement
- COYLE** - Analysis of Axially Loaded Piles
- DSS** - Dimension Solution Software
- ELSYM5** - Elastic Layered System Pavement Design and Analysis
- GINT** - Boring Logs & Lab Testing
- HY8** - Culvert Analysis
- HY9** - Bridge Scour Analysis
- HWY** - Asphalt Institute Pavement Design
- LPILE** - Analysis of Laterally Loaded Piles
- NEWNEG** - Analysis of Piles Subjected to Negative Skin Friction
- RETWALL** - Design of Cantilever and Gravity Retaining Walls
- SCHMERT** - Analysis of Shallow Foundations in Sand
- SHAFT** - Analysis of Drilled Shafts (Caissons)
- STABL6** - Slope Stability Analysis
- WEAP** - Pile Driving Analysis
- WSPRO** - Water-surface Profile Computation Model

### Civil Engineering Software

Eagle Point Watershed Modeling & Water Surface  
Profiling  
DCA Civil Engineering Design Software  
Civilsoft  
Groundwater for Windows  
TR-55  
Swamp  
HEC 1 and 2  
Survey 3.0

### Hydrogeologic Studies

The backbone of many hydrogeologic studies is the determination of ground water properties, flow direction, and effects of local ground water pumping or injection. CTL is experienced in utilizing a wide variety of computer models to predict various properties of ground water and ground water flow to include:

**MODFLOW** - USGS Finite element ground water model  
**MODPATH** - USGS Particle tracker package for MODFLOW  
**SURFER** - Data contouring package  
**CAPZONE** - Semi-analytical ground water mode  
**GWPATH** - Flowpath tracker for ground water models  
**SLUGIX** - Slug test analysis software  
**WHPA** - Wellhead Protection area delineation

### Remediation Models

CTL uses the latest in remediation technologies and computer models when preparing conceptual and full-scale remediation system designs. Today's programs allow our engineers to calculate engineering parameters (e.g., stripper efficiency, total dynamic head, air emissions, etc.) in minutes instead of several hours. This allows us to evaluate multiple technology applications operating at varying parameters. Some of the models CTL uses include:

**ShallowTray** - low profile aerator evaluation program  
**Stat** - low profile aerator design  
**HyperVentilate** - soil vapor extraction emission model  
**SoilVent** - soil vapor extraction design model  
Gast Blower Selection Program

### Telemetry

CTL employees are experienced with a variety of remote data acquisition devices. These systems allow us to interface with the remediation systems and remotely operate, collect data, and troubleshoot potential operating problems. Auto dialers alert employees in the event of an emergency. Remote monitoring of the system minimizes system down time and ultimately saves the project money. CTL employees are experienced with:

Telmax II  
RealFlex  
SiteLink  
SiteWindows

### Accounting Software

CTL uses Wind2 accounting software for all of the services we provide. The project manager first constructs a budget from the information developed in the site-specific proposal. Critical pathways of construction are identified and individual tasks developed for implementing the proposed work. A project number is assigned and costs tracked to each phase, task, or subtask of the project. Monthly billing review reports are provided to the managers to control and assess the progress of the project.

### General

CTL Engineering Inc. utilizes:

**Windows** based operating systems

**Microsoft Office 2007** is used for word processing, spreadsheets creation, data processing, and presentation creation.

Alternative software including Corel Suite is available, if necessary.







AML and RELATED PROJECT EXPERIENCE MATRIX (2008 - 2012)

PROJECT	Exp. Basis C=Corp. P=Personal *	Additional Info Provided in Section **	PROJECT EXPERIENCE REQUIREMENTS															PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional					
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine Refuse/ Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/Management	Water Treatment	Equipment/ Structure Removal	Stream Restoration	Geotechnical/Stability	PATRICK GALLAGHER, PE	TIM DARRAH	GREGORY FOREMAN, P.E.	JOSEPH STANLEY	DAVID MOORE, P.E.	CARL SELFRIEDGE
MORGANTOWN ANDERSON HIGHWALLS (WV AML '12)	C			X	X	X					X						MP	MP		P			P
SCHRAMM - GORDON -EAST FRANKLIN LANDSLIDES (MD AML '12)	C		X	X							X					X	MP	MP		P		P	P
DOUGLAS AVENUE STORMWATER SYSTEM (MD AML '12)	C					X					X						MP		MP				
FAIRMONT SUBSIDENCE (WV AML '12)	C			X					X		X					X	MP	MP		P		P	P
DOUGLAS AVENUE LANDSLIDE (MD AML '12)	C			X		X			X		X					X	MP	MP		P		P	P
LOWER CONSOL ROAD SUBSIDENCE (MD AML '11)	C		X	X					X		X					X	MP	MP		P		P	P
BALD KNOB WATER SUPPLY STUDY (MD AML '12)	C					X					X						MP	MP	P				
SHINNS RUN PORTALS (WV AML '11)	C			X	X											X	MP	MP		P		P	
REAM REFUSE PILE (WV AML '10)	C	Profile	X						X								MP	MP		P			
PEE WEE HILL WATER SUPPLY (MD AML '10)	C	Profile									X						MP	MP					
TERRA HAUTE AIRPORT (IN AML '10)	C	Profile		X	X				X		X					X	MP	MP				P	
KENNEL MINE CLOSURE (MD AML '10)	C	Profile	X	X	X						X						MP	MP		P			
FROSTBURG NORTH CLOSURE (MD AML '10)	C	Profile	X	X	X						X						MP	MP		P			
PEE WEE HILL WATER FEASIBILITY (MD AML '10)	C										X						MP	MP				P	
WILLIAMS' REFUSE PILE #2 (Private AML '09)	C		X			X	X			X	X	X	X	X		X					MP		
PENINSULA HIGHWALLS (WV AML '09)	C	Profile	X	X		X			X		X					X	MP	MP		P		P	
ST. CLAIR PORTALS (WV AML '09)	C	Profile	X	X	X	X					X				X	X	MP	MP		P		P	
CHEAT NECK LANDSLIDE (WV AML '09)	C	Profile			X	X					X					X	MP	MP		P		P	
FARMINGTON UMC (WV DEP EMER. '09)	C								X		X						MP	MP				P	
MORNINGSIDE BAPTIST (WV DEP EMER. '09)	C								X		X						MP	MP				P	
COLLINS MINING (ODNR FOR. '09)	C		X								X						MP	MP		P			
FAIRVIEW WATER FEASIBILITY(WV AML '09)	C										X						MP	MP					
AARON'S RUN (MD AML '09)	C	Profile	X			X					X	X		X		X	MP	MP		P			
ECCLES SUBSIDENCE (WV AML '08)	C								X		X					X	MP	MP				P	
McARTHUR SUBSIDENCE (WV AML '08)	C								X							X	MP	MP				P	
TIOGA WATER FEASIBILITY (WV AML '08)	C										X						MP	MP					
McCOURT LANDSLIDE(ODNR FOR. '08)	C	Profile	X			X					X					X	MP	MP		P		P	
JONES TRUCKING (ODNR FOR. '08)	C		X								X						MP	MP		P			
MILLER MINING (ODNR FOR. '08)	C					X					X	X					MP	MP		P			
ZILMAN CLOSURE (MD AML '08)	C			X	X						X						MP	MP		P			
CALDONIA HILL SLOPE STABILITY (MD AML '08)	C		X													X	MP	MP					
WEST VIRGINIA BRIM (2005 - 2012) 42 Projects	C								X							X	MP	MP				P	P
OMSIUA (2005 - 2010) 47 Projects	C								X							X	MP	MP				P	P
(2005 - 2008) 20 Additional AML Projects for WV, MD, OH, PA	C		X	X	X				X		X	X	X			X	MP	MP				P	P

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