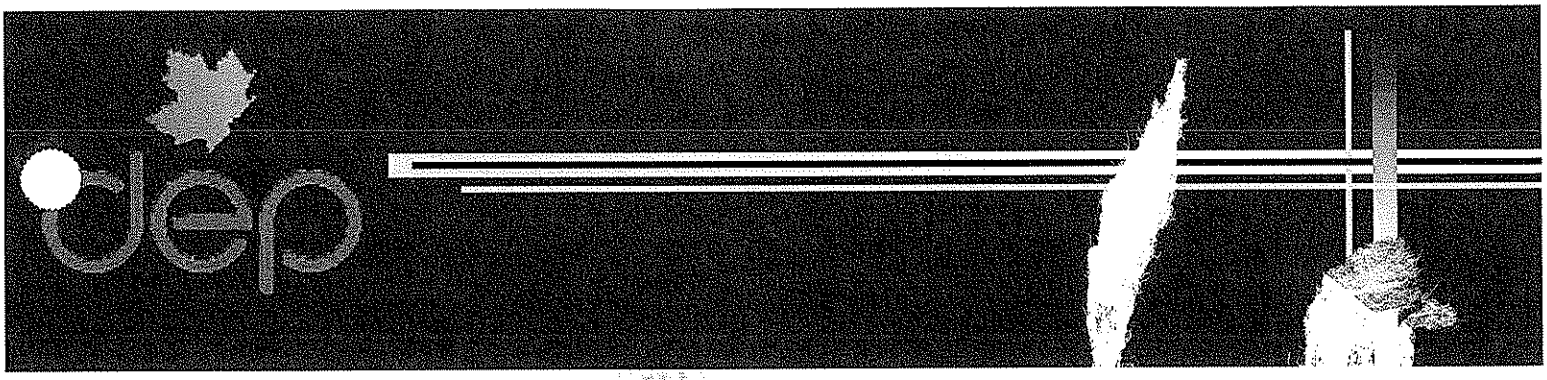


Expression of Interest for

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

Measle Fork Refuse Area Design

DEP14763

September 24, 2009

Submitted by:

URS

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

Request for Quotation

RFQ NUMBER	PAGE
DEP14763	1

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

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

URS Corporation
#4 Mission Way, Suite 201
Scott Depot, WV 25560

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

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
09/03/2009				

BID OPENING DATE: 09/24/2009 BID OPENING TIME 01:30PM

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

MEASLE FORK REFUSE AREA 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 MEASLE FORK REFUSE AREA PROJECT IN WYOMING COUNTY, WEST VIRGINIA, PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.

BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THIS CONTRACT NULL AND VOID AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
[signature]	304.757.6642 x103	09/24/2009

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Vice President	94-1716908	

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

URS

October 1, 2009

West Virginia Department of Administration
Purchasing Division
2019 Washington Street East
P.O. Box 50130
Charleston, West Virginia 25305-0130.

RE: Expression of Interest, Measle Fork Refuse Area Design

To whom it concerns:

In response to your Request for Quotation, URS Corporation (URS) is pleased to submit this Expression of Interest presenting our qualifications for the advertisement referenced above. URS offers the following strengths to WVDEP for this project:

Technical Expertise – URS is qualified to provide all environmental and engineering services necessary to complete this project. URS staff has extensive experience performing abandoned mine lands (AML) investigations, reclamation design plans, and construction inspection in West Virginia and other states. The personnel we have identified for this project has the necessary environmental and engineering experience to meet the requirements of any WVDEP project. Projects will be led by staff in our Charleston (Scott Depot), Morgantown, and Pittsburgh, PA offices.

Cost Effectiveness – URS has offices with qualified staff in Scott Depot, Morgantown, and Pittsburgh to minimize travel expenses for all field work. Also, URS has an exceptionally low overhead rate of 125% to keep engineering costs down.

Responsiveness – URS maintains an attitude of flexibility to ensure that we are responsive to the needs of the WVDEP. Our goal is to provide coordination and communication with all participants in this project in a proactive manner.

Through examples of relevant projects, this Expression of Interest demonstrates our capabilities and our overall approach. Our qualified personnel, coupled with our relevant work experience, will provide WVDEP with a cost-effective project for the design of the Measle Fork Refuse Area Design Project and construction inspection services.

We appreciate this opportunity to present our qualifications and look forward to serving you for this project. If you require any additional information, please do not hesitate to call me at 757-6642 x103.

Sincerely,

URS Corporation

John J. Smelko
Branch Manager, Charleston, WV

URS Corporation
#4 Mission Way
Suite 201
Scott Depot, WV 25560
Tel. 304.346.6707
Fax. 304.346.6708

Table of Contents

1 CORPORATE AND PERSONNEL EXPERIENCE

1.1 Introduction

Committed. Committed to West Virginia. Committed to the West Virginia Department of Environmental Protection (WVDEP). URS, through its long history of providing engineering services in West Virginia, has demonstrated its commitment to the State of West Virginia and to the various state agencies within West Virginia. This commitment has been demonstrated over the past year as the office has continued to grow in the face of a slowing economy. Through our Scott Depot office, we have continued to add competent, qualified, hard-working technical staff who are residents of West Virginia and who desire to provide exceptional service to the WVDEP and other clients, both in-state and beyond our borders. To complement our Scott Depot, WV team, we are supported by a technical staff of in our Morgantown, WV, Pittsburgh, PA, Columbus, OH, and Denver, CO offices. URS, in its commitment to these employees, has been actively pursuing work in the private sector and has imported work from other states to keep our employees gainfully employed through this time of governmental program transition. However, even with this "other" work, we desire assignments with the WVDEP and are eager to develop a lasting relationship with the Office of Abandoned Mine Lands & Reclamation.

URS has served as General Consultant to various state and federal mining and environmental agencies, providing abandoned mine land (AML) planning (assessment and inventory), aerial photography and mapping, site inspection, engineering design, risk assessments, geotechnical evaluation and drilling, laboratory analysis, hydrologic/hydraulic modeling, abandoned mine drainage (AMD) assessment and passive treatment design, cultural and natural resource evaluations, due diligence reviews, and project/construction administration services, amongst other services throughout the United States. URS has also provided similar mining and environmental services to the mining and electrical utility industries in the U.S. and throughout the world.

This Expression of Interest (EOI) has been prepared by URS for the WVDEP - Office of Abandoned Mine Lands & Reclamation to illustrate URS's abilities in providing AML reclamation services to the WVDEP. URS' Scott Depot, Morgantown, and Pittsburgh offices can easily and efficiently provide any needed service for the WVDEP as it may relate to AML issues in either the northern or southern coalfields of West Virginia.

1.2 URS Corporation – Overview

Founded in San Francisco in 1951, URS Corporation (NYSE "URS") has been in continuous operation for more than 50 years. Today, URS is the largest environmental and architecture/engineering design firm in the United States, providing comprehensive services to a diverse range of governmental, institutional, industrial, and corporate clients worldwide.

- URS was ranked No. 1 in the 'Top 500 Design Firms' by Engineering News Record for the eighth consecutive year, April 2008.

- URS was named by Forbes magazine to its prestigious Platinum 400.
- URS currently employees 56,000 employees in a network of offices in 30 countries, including more than 48,000 employees in nearly 300 offices throughout the United States and over 500 people in the West Virginia and Western Pennsylvania areas. URS holds a valid Certificate of Authorization with the West Virginia Professional Engineers Board and has over 20 Registered Professional Engineers in West Virginia. URS currently employs over 250 people in West Virginia and has eighteen employees in our Scott Depot (Charleston) Office. In addition, URS employs more than 800 multi-disciplined staff in the Mid-Atlantic Region able to supplement the capabilities of the URS Scott Depot Office.

1.3 URS Corporation – Experience

URS' integrated services provide WVDEP - Office of Abandoned Mine Lands & Reclamation with access to a wide variety of services to meet your needs. The integration of the URS offices worldwide includes a robust electronic communication system and organizational structure that encourages cooperation among URS offices so that specialized expertise within URS is available to any project. URS will team with you to develop and implement a program that will quickly and cost effectively meet your project goals.

1.4 Specialized Experience and Technical Competence

URS is pleased to provide the WVDEP with our qualifications to perform the required specialized services. URS' Project Team consists of 11 key individuals with strong credentials in each of the appropriate disciplines required, as well as the necessary professional registrations. Many of these individual's have multiple capabilities regarding this work effort, which will allow URS to more efficiently complete the project. For the Measle Fork Refuse Area Project, URS has staff experience in: 1) design of conveyance pipes, culverts, and channels, 2) stream bank restoration/stabilization design, 3) reclamation/cover design of exposed refuse gob piles, and 4) land/soil amendments/conditioning/regrading/revegetation activities. The URS Project Team consists of:

3 – Civil, Mining, and Environmental Engineers –John Noe, Dennis Guthrie, and Bob Reisinger
1 – Professional Surveyor/Engineer – Marcus Lowery
1 – Geotechnical Engineer – Chris Hatton
1 – Professional Geologist – Sotero Svingos
1 – Hydrologic/Hydraulic Engineer - Briana Gunn
2 – AML/Stream Restoration Specialist – Amber Fortner and Bill Weihbrecht
2 – AMD Remediation/Environmental Specialist – Tom Page and John Smelko

URS's staff of highly qualified, experienced, and professional scientists and engineers will meet and exceed any project requirements. Though in the past URS has not provided AML reclamation (engineering and environmental) services to the WVDEP, many of our staff have long standing relationships with WVDEP and organizations (e.g., Friends of Cheat, Friends of Deckers Creek, and Kellys Creek Community Association) who have received funding through WVDEP to make similar

corrective actions. It is through these projects that our staff has come to know and work with staff from the Office of Abandoned Mine Lands & Reclamation. It is because of these relationships and experiences that URS would like to establish and build a lasting association in providing these specialized services to Office of Abandoned Mine Lands & Reclamation.

1.5 Mining/AML Engineering and Design Services

URS has broad and diverse experience in all aspects of mine closure projects ranging from assessment of physical public safety through opening closure assessments to complex environmental issues associated with small as well as large mine sites. Our work covers the full scope of work, investigation and field inventory, land ownership, engineering, design, and construction management. URS is a recognized leader in providing civil and geotechnical engineering, environmental, water resources, and waste/tailing management services to the mining industry. Our services include:

- Tailing embankment/impoundment design
- Closure and mine site reclamation
- Adit closure
- Tailing conveyance and distribution
- Heap leach pad design and closure
- General civil engineering/design for facilities
- Water supply planning/design
- Geotechnical engineering
- Hydrology and hydraulics
- Engineering geology
- Structural engineering
- Mine waste management
- Water management
- Seismology and seismic hazard assessment
- Environmental engineering
- Terrestrial ecology
- Surveying and GIS
- Cultural resources
- Environmental assessments
- Threatened and endangered species
- Hydrogeology
- Meteorology and air quality
- Land use and visual resources
- Construction services/management
- Public involvement
- Slurry wall design
- Water and wastewater treatment
- Waste dump design
- Pit dewatering
- Geochemistry
- Geology
- Geophysics
- Computer modeling
- CADD
- Stream restoration
- SMCRA
- NEPA
- Bat survey
- Landowner research
- Site assessments

URS Understanding of WVDEP – Office of Abandoned Mine Lands & Reclamation's AML Program
The Office of Abandoned Mine Lands & Reclamation's primary mission is to protect public health and safety. To achieve this mission, the AML Program conducts inventory projects to identify, characterize, and prioritize mine sites for reclamation. The objectives of these projects are to acquire the necessary information and perform the necessary analysis to allow hazard assessment and compliance with the National Environmental Policy Act (NEPA) requirements. To accomplish these objectives, this may involve, but is not limited to, the following elements:

- An inventory of abandoned mine evaluation areas

- A cultural/historical survey of each area
- Warm and cold season bat surveys of each area (as needed)
- Analysis and evaluation of the mine-related public safety hazards of each area
- Reclamation designs, including maps and drawings, to mitigate the hazards with each area
- Construction management

URS is keenly aware of the goals of the Office of Abandoned Mine Lands & Reclamation regarding abandoned mine lands. You need cost-effective inventory and design that does not commit your personnel to large amounts of "re-work" time because of inadequate work product. URS will provide the Office of Abandoned Mine Lands & Reclamation with the required technical information that will be used to make the correct decisions about mining reclamation in the project areas. We will deliver a high-quality product, on time, and within budget. With our team, the Office of Abandoned Mine Lands & Reclamation will receive a technically complete product the first time, without complications. URS has, and will provide, the technical resources to meet any challenges. Ultimately, our objective as a corporation is to establish a lasting relationship with the AML Program.

1.6 Aquatic Resource Studies

If identification and delineation of aquatic resources is required for this project, URS's aquatic and fisheries biologists have provided the following services in West Virginia: wetland identification and delineations, wetland banking evaluations, stream surveys, wetland and stream mitigation post-construction monitoring, macro-invertebrate evaluations, fishery investigations, watershed assessments, and prepared U.S. Army Corps of Engineers (USACE) - Section 404 and West Virginia Division of Natural Resources (WVDNR) - Section 401 *Clean Water Act* permits for a variety of clients in West Virginia. This includes utilizing the post-Rapanos guidance (Jurisdictional Determination Form) and the West Virginia Functional Assessment Approach for High Gradient Streams.

1.6.1 Wetlands

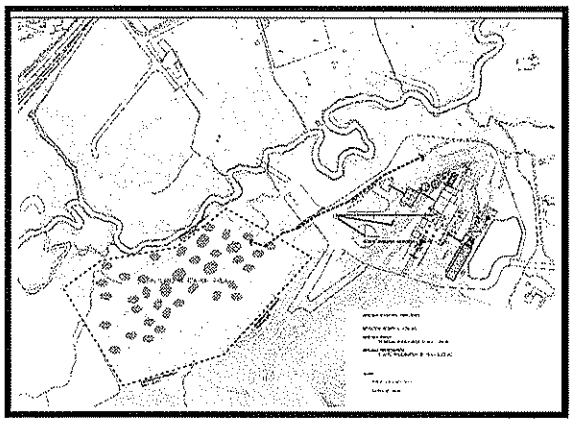
All jurisdictional waters (wetlands and streams) must receive a Jurisdictional Determination (JD) from the USACE. In addition, the USACE will approve the delineated boundaries of non-Section 404, isolated waters that are regulated. The JD letter and mapped jurisdictional boundaries are required as part of the permit application to the agencies. URS conducts the necessary fieldwork to delineate the jurisdictional wetlands and waters of the United States in the project area, subject to jurisdiction by the USACE under Sections 404 and 401 (by WVDEP) of the *Clean Water Act*. URS will use the currently accepted *1987 Corps of Engineers Wetlands Delineation Manual* to delineate and flag the boundaries of the waters of the United States, including wetlands. URS will record the necessary information to complete wetland delineation data sheets, which are required by the USACE for confirmation of the delineation.

To determine the wetland boundaries, the site vegetation, soils and hydrology are closely examined. Flagging and metal stakes are placed at intervals where one or more of these wetland indicators changed to more of an upland character, thereby marking the boundaries of the wetland areas. The positions of the wetland boundary points are gathered using the GPS unit with real-time data correction and sub-meter resolution capability. The delineated wetland areas are then be plotted on a geo-referenced digital aerial photograph of the project area boundaries and printed at a scale clearly showing wetland locations and extents in the study area. Completed USACE wetland delineation forms and soil profile information for each test plot are included in an appendix.

1.6.2 Streams

URS also has staff expertise in stream classification, assessment, and monitoring. Our staff has taken the training offered by Mr. Dave Rosgen in applied Fluvial Geomorphology, Stream Classification, River Assessment, and Monitoring and River Restoration and Natural Channel Design. Our staff has completed all four levels of Rosgen training. We have applied the Rosgen methodology of stream classification and restoration, which focuses on a clear understanding of the geomorphologic processes of streams and rivers. We have mastered the complex relationships which dictate stream morphology and behavior including the links to landscape, valley slope versus stream slope, sinuosity, channel geometry, meander patterns, width/depth ratios, entrenchment, substrate analysis, bankfull, floodprone area and sediment transport. Additionally, our staff has utilized other state and federal agency and academically developed stream and watershed assessment protocol and design guidelines including the USDA's - *Visual Stream Assessment Protocol*, USFS' - *Stream Channel Reference Sites: An Illustrated Guide to Field Technique*, and Keystone Stream Team – *Guidelines for Natural Stream Channel Design for Pennsylvania Waterways*.

1.7 Environmental Engineering



URS has staff expertise in green infrastructure design services including wetland planning and design services (wetland restoration, enhancement, and creation [mitigation]) as well as a thorough understanding of natural stream channel design and the relationship between stream degradation, aggradation, and human land use decisions. URS has employed fluvial geomorphologic concepts on numerous occasions to assess the stability of streams and make recommendations on potential restoration measures for improvement of channel stability, water quality, and aquatic habitat. We have a firm grasp of soil bioengineering and natural stream restoration design. Soil bioengineering utilizes vegetative methods to stabilize and restore degraded landscapes. Some of the techniques include live stakes, live fascines, brush layering, branch packing and root wads. These techniques can be an improved alternative to conventional engineering methods, and they provide aesthetically pleasing, cost effective options that blend with the natural surroundings. Finally, URS is also cognizant that every stream mitigation or restoration project does not need to be designed and constructed to the "nth" degree in order to meet project goals and/or permit conditions. Additionally, services we can provide include Section 404 and 401 permitting, construction monitoring, and post construction compliance reporting.

1.8 AMD - Evaluations and Passive Treatment Design

AMD is a fairly common environmental problem in which mining by-products, such as pyrite, are naturally weathered, causing surrounding surface or ground waters to be contaminated with constituents including low pH, iron, manganese, and aluminum among others. Passive treatment of AMD is often preferred over active treatment due to low operation and maintenance costs and manpower requirements. The fundamental steps in a passive treatment system are aeration, alkali addition, and sedimentation. The aeration and alkali addition steps are performed to oxidize dissolved metals, allowing them to combine with hydroxide ions. These compounds, such as $Fe(OH)_2$, are solid precipitates, and will drop out of solution in the final sedimentation process. The alkali addition also raises the pH to a neutral or net alkali level. Sizing of passive treatment systems

are heavily dependent upon water chemistry and flow rates, which determine contaminant levels or loadings. A sampling plan is typically first implemented to design an effective treatment system.

Design considerations for a passive treatment system are not only dependent upon water characteristics, but site characteristics as well. For instance, if the mine effluent has considerable static head, treatment techniques such as **up-flow fluidized beds** for alkali addition or an **in-line Venturi device** for oxidation may be implemented. Abrupt drops at the site are ideal for oxidation. Large open areas can be used for secondary sedimentation, and tight areas with favorable terrain can utilized a long, serpentine limestone channel.

URS has staff expertise in AMD water quality evaluation and passive treatment design. URS staff has evaluated AMD discharge chemistry and flows to determine options available to eliminate the associated problems. Our staff has designed treatment systems utilizing passive techniques not only for AMD problems (i.e., anoxic limestone drains, vertical flow wetlands, open limestone channels, aerobic/anaerobic wetlands, settling basins, and sulfate reducing bioreactors [SRBs]), but also for landfill leachate, sanitary system upgrades, storm water attenuation, nitrate removal (from munitions plant discharges), and for other wastewater streams.

1.9 Additional Services Available

1.9.1 Hazardous Waste Management

URS has performed numerous hazardous waste characterizations for the waste streams that are routinely generated by/at industrial/mining facilities. URS brings tremendous benefit to WVDEP's AML Reclamation Program by having our decades of experience in identifying unique solutions and cost-effective approaches to eliminate hazardous waste issues that may be at these sites.

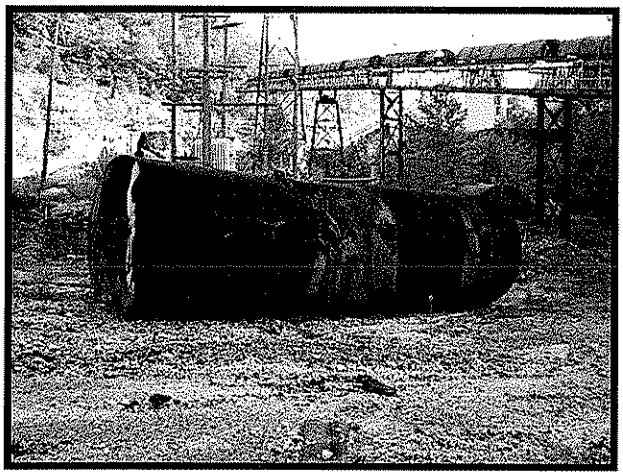
1.9.2 Due Diligence Investigations

URS has embraced the practice of Environmental Site Assessments (ESAs) since its creation by necessity in the mid-1980s. Most lending institutions require an ESA as a prerequisite to any major transaction involving real estate. URS regularly performs due diligence investigations for lending, commercial, industrial (mining), utility, and governmental entities. URS approaches ESAs in stages, uses a network of experienced practitioners, and keeps current with evaluation techniques to produce cost-effective ESAs that are tailored to each client's environmental situation and risk-tolerance level.

URS uses an integrated approach that draws upon a wide variety of disciplines. Other URS disciplines and services that may aide in the acquisition of property and/or the planning for future development include:

- ESAs
- Environmental and health & safety compliance reviews
- Indoor air quality investigations,

- Asbestos material surveys, abatement design and oversight monitoring;
- Lead based paint surveys and management;
- Lead in water supply investigations
- Radon accumulation in buildings
- Mold and other biological materials
- Environmental baseline studies and impact assessments
- Hazardous materials and waste management support
- Property condition assessments with related engineering investigations;
- Seismic risk reviews and probable maximum loss (PML) surveys;
- Litigation support
- Geotechnical engineering
- Planning and economic studies
- Engineering design and construction/program management
- Remediation



Specific to mining sites, URS has performed Phase I ESAs in general accordance with the requirements of the *American Society for Testing and Materials (ASTM) Standard Practice E 2247-08 for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property*. If required for this project, URS would utilize the same or a refined protocol as may be needed to meet the needs of WVDEP.

1.9.3 Surveying, Geographic Information Systems (GIS), Computer Aided Design (CAD)

URS has a highly-trained staff of professionals and state-of-the-art equipment which serve to provide quality surveying services to a variety of clientele. URS's surveying services are used for the collection of data and the identification of project area conditions and resources (i.e., shafts, adits, portals, highwalls, wetlands, streams, etc.), and the development of project planning and engineering documents (i.e., figures, maps, and design plans) in either CAD, MicroStation, or GIS. URS's surveying services began as a means to provide reliable, quality services to the various professional disciplines within the URS – Scott Depot and Pittsburgh offices. The Survey Group has grown to provide survey services to outside clients as well. The surveying services we provide include:

- Control Surveys utilizing the Global Positioning System (GPS)

- Topographic Surveys & Base Mapping
- Boundary, Right-of-Way, and Easement Surveys & Mapping
- Route Location Surveys for Roads, Railroads, & Utility Pipelines
- Environmental & Hazardous Materials Surveys
- Engineering Design Surveys
- Hydrographic Surveys
- Construction Staking
- ALTA/ACSM Surveys
- Material Stockpile Surveys
- Planimetric Mapping & Contouring

For example, a typical project would have the survey data entered into an ArcInfo GIS database for production of maps which show the wetlands location along with other pertinent data about the wetlands. URS utilizes Trimble ProXRS GPS units with Omnistar correction in conjunction with Fujitsu Stylistic 3500 field computers equipped with PenMap software to produce accurate maps with complete databases. The maps can then be produced during the fieldwork. PenMap with published NWI wetlands and hydric soil polygons allow for real-time integration of ongoing and published data.

All data collected in with the field computers can be downloaded from PenMap to the URS ftp site for integration into the GIS database at the URS Pittsburgh, Pennsylvania office. The automated entry of field data into the GIS database allows the field teams to move faster and share information efficiently. The custom wetland database URS can develop for a specific project can allow for a one-day turnaround from field data collection download to the production of GIS maps with wetland (or other field collected) information identified in ArcInfo. Aerial photographs can be integrated with USGS topographic data, site-specific wetland, geologic and environmental information, site photographs, and mapping data so that all information is related to the appropriate project location.

1.9.4 Construction Inspection Services

URS -- Scott Depot has 7 construction inspectors, as well as 5 engineers and construction management personnel, that have performed construction site inspection activities at numerous types of construction projects that involve: AMD passive treatment remediation, stream relocation/restoration, wetland mitigation, transportation (highway and bridge), gas pipelines, electrical utility corridor and power plant facilities, airports, sewer and waterlines (Public Service Districts), and landfill caps and cell development.

URS inspectors have varying degrees of education, certifications, and experiences that they bring to projects relating to: concrete, aggregate, compaction, hot mix asphalt, fills/backfilling, soil testing, quality control/quality assurance testing, preparation of daily reports, quantity calculation, and preparation of as-built plans. Our inspectors worked on projects in West Virginia, Kentucky, Virginia, and Pennsylvania.

1.10 Sample Projects

The project descriptions provided on the following pages provide examples of some of the projects we have performed which demonstrate our specialized experience and technical competence in the type of work required for any of the advertised projects.

URS

Ohio Department of Natural Resources AML Reclamation Project

Location

Multiple locations in southeastern Ohio

Services

Site Investigation
Preliminary Engineering Report
Project Administration/Coordination

Client

Ohio Department of Natural Resources

Project Description

URS was selected to provide professional engineering services for this abandoned mine land (AML) reclamation project for the Ohio Department of Natural Resources (ODNR). The ODNR - Division of Mines and Reclamation (DMR) is mandated by the Surface Mining Control and Reclamation Act (SMCRA) of 1977, Public Law 95-87, to reclaim lands and water affected by coal mining that imposes social and economic costs on residents, impair environmental quality, prevent or damage the beneficial use of land or water resources or endanger the health and safety of the public.

URS completed a detailed preliminary engineering report for this AML project located in southeastern coalfields of Ohio. The work involved correcting hazardous problems such as sinkholes, subsidence, landslides, mine and refuse (gob) pile fires, open mine shafts, highwalls, and any problem associated with AMLs.

URS

Rehoboth Abandoned Mine Reclamation Project

Location

Perry County, Ohio

Services

Site Investigations/Research
Preparation of an Environmental Assessment
Site Survey
Geotechnical Investigations
Preliminary and Final Design
Plans & Specifications
Project Administration/Coordination

Client

Ohio Department of Natural Resources

Project Description

URS was selected to provide professional engineering and consulting services for the reclamation of the Rehoboth Mine site. The Rehoboth Mine Reclamation Project is located at an abandoned surface coal mine approximately 1.5 miles north of New Lexington, Ohio in Perry County. Reclamation of the site by the Ohio Department of Natural Resources (ODNR) was undertaken in phases, Phases I-III. Phase III covered an area of approximately 120 acres along the eastern edge and southern part of the site.

URS provided engineering services for completing field investigations, background research, and the development of design alternatives and recommendations for the Phase III site reclamation. This phase included approximately 200 acres of coal spoil accumulated over more than 100 years. An Environmental Assessment was completed with investigations regarding rare plants and animals, unique wildlife habitat, wetlands, cultural and historic resources, wild and scenic rivers, water quality, recreational resources, prime farmland, air quality, noise, hazardous wastes and floodplains. URS also completed/prepared field surveys, geotechnical investigations, a preliminary design report, and final construction plans and specifications.

URS

Titus Road Reclamation Project

Location

Gallia and Meigs Counties, Ohio

Services

Site Investigation
Aerial Photography/Mapping
Site Geotechnical Drilling
Alternatives Evaluation
Recommended Reclamation Methods
Provide Cost Estimates
Preliminary Design Report
Project Administration/Coordination

Client

Ohio Department of Natural Resources

Project Description

The Ohio Department of Natural Resources (ODNR) selected URS to provide professional engineering services for the preliminary design for the reclamation of the 230 acre abandoned strip mine area located in Sections 19, 25 and 31 in the southwest quarter of Rutland Township, Meigs County; in Sections 18, 24 and 39 in the north half of Cheshire Township, Meigs County; and in Sections 17, 23 and 29 of the north half of Chesire Township, Gallia County, Ohio. The total project area was separated into five (5) areas for reclamation consideration.

Area No. 1 was situated in Gallia County and contained approximately 30 acres. Area No. 2 was partially within Meigs and Gallia counties and contained approximately 60 acres. Area No. 3 was located partially within Meigs and Gallia counties and contained approximately 70 acres. Areas No. 4 and 5 were located in Meigs County and contained approximately 32 acres and 63 acres, respectively.

The Titus Road Reclamation Project was situated within the 2,600 acre Leading Creek watershed with approximately 174 acres of disturbed land due to surface mining. The abandoned contour strip mines were characterized by 30 - 50 foot highwalls, impoundments of varying size, sandy soil, large erosion gullies and bare bench areas with slightly vegetated outslopes. Existing land use in the area consisted of abandoned strip mines, single family residences, small farms, pasture and woodland. During peak rainfall periods, Leading Creek is prone to flooding, which adversely affected Meigs County Road 12 (Titus Road). The objectives of this investigation were:

1. To provide a detailed investigation of the site and to determine the existing condition of the project area;
2. To assess the existing erosion, sedimentation, flooding and drainage problems related to the abandoned mine lands at the five project work areas;
3. To examine various, selected alternatives, to reduce or eliminate the existing problems;
4. To develop preliminary recommendations on a method of reclamation including earthwork, neutralization and removal of water impoundments; resoiling; erosion control structures; fertilizing, liming, seeding and mulching requirements; and,
5. To estimate the costs of the recommended reclamation items.

Specific tasks included: aerial photography, mapping (digital terrain models), site investigations, exploratory drilling, laboratory analysis, identification of re-soiling alternatives and preparation of the preliminary design report.

URS

Rock Hollow Road Reclamation Project

Location

Belmont County, Ohio

Services

Geotechnical Investigations
Preliminary and Final Design
Plans & Specifications
Cost Estimate Development
Preliminary Development Phase Report
Project Administration/Coordination

Client

Ohio Department of Natural Resources

Project Description

URS provided professional engineering services to address preliminary engineering alternatives associated with the stabilization of a landslide approximately 150' wide and 250' long underground and/or surface mining operations conducted by Pioneer Coal Company in the late 1930s. Based on geotechnical subsurface investigations, testing and analysis conducted by the Ohio Department of Natural Resources (ODNR), URS developed a recommended preliminary conceptual plan with estimated construction costs to stabilize the slide area and/or relocate Rock Hollow Road. The project was funded with U.S. Department of the Interior - Office of Surface Mining AML funds. URS's responsibilities for the Preliminary Development Phase included:

1. Coordinating with ODNR for the necessary geotechnical investigations required for this project. URS directed the geotechnical investigations which were performed by ODNR.

2. Developing preliminary design concepts based on information, data and findings developed by ODNR during their site/soil investigations.

3. Preparing alternative site layout conceptual plans for the stabilization and reclamation of the slide area, control of AMD and/or relocation of Rock Hollow Road.

4. Developing preliminary construction cost estimates for each alternative and recommend one of the developed alternatives for Design and Construction.

5. Meeting with ODNR upon completion of the site and soil investigations and analysis performed by ODNR for a project review meeting and also schedule a separate meeting to review the results and recommendations of the Preliminary Development Phase performed by URS.

6. Furnishing ODNR with ten (10) copies of the Preliminary Development Phase Report - Rock Hollow Road Reclamation project for ODNR review and approval.

URS also provided final engineering plans and specifications, construction drawings for 12 concrete augered piles (retaining walls) for stabilization of the slide area.

URS

Vienna Township Shafts Reclamation Project

Location

Trumbull County, Ohio

Services

Site Investigation
Preliminary and Final Design
Plans & Specifications
Erosion and Sedimentation Control Plans
Site Survey
Project Administration/Coordination

Client

Ohio Department of Natural Resources

Project Description

URS provided professional engineering services to the Ohio Department of Natural Resources (ODNR) for this project involving the filling and/or capping of five (5) hazardous abandoned underground mine openings located at four (4) separate sites within Vienna Township, Trumbull County, Ohio. The four sites featured many distinct elements:

1. The first site, Squaw Creek Country Club, consisted of an open 4' diameter water-filled vertical shaft on the 10th fairway of the Squaw Creek Country Club golf course.

2. The second site, Strip & At It, consisted of an open water-filled 8' x 16' vertical shaft which was approximately 85' deep.

3. The third site, Brunswick Shaft, consisted of a subsiding vertical mine shaft and a trash-filled vertical shaft. The subsiding shaft depression was approximately 6' in diameter, and was located adjacent to an outbuilding and within 50' of a residence. The trash-filled vertical shaft was located approximately 100' east of the subsiding shaft.

4. The fourth site, Klondike Shaft, consisted of a 25' diameter open water-filled vertical shaft approximately 80' deep and situated within 500' of a residential area.

The project included plans to revegetate the affected areas at each site. URS conducted site investigations, developed preliminary design concepts, and prepared final plans and construction drawings, final specifications, cost estimates, resoiling and revegetation plans, drainage and erosion control plans, and baseline surveys.

This project also included extensive coordination with the AML staff of ODNR, Division of Reclamation, Trumbull County Engineering Department, the Ohio Department of Transportation (ODOT), local Township officials, Youngstown State University, local coal operators, and the Squaw Creek Country Club.

URS

Cresent Reclamation Project

Location

Belmont County, Ohio

Services

Site Investigation
Preliminary and Final Design
Project Administration

Client

Ohio Department of Natural Resources

Project Description

The project area consists of roughly 30 acres of highly erodible coal refuse and spoil sites situated north of Crescent along County Road #5 and Township Road #675. Surface mining in the project area west of County Road #5 broke into underground mines creating seeps with significant discharges. The spoil and refuse piles have deep erosion gullies and the sediment collects in roadside ditches and Fall Run along County Road #5, which is 100 yards away. The piles are 45% revegetated.

The 1,500' - 1,800' highwall is 20-35 feet in height and unstable. Discharging deep mine openings (or rooms) line much of the highwall. These openings average 2 x 2 feet and are generally inaccessible. Abandoned mine drainage (AMD) from the openings, pools on the surface mine bench in impoundments which range in size from 0.1 - 1 acre. Seepage of the impoundment water over and through the refuse material creates unstable slope conditions and creates erosion gullies.

Runoff from the project area clogs the roadside ditches on County Road #5 and saturates the road base, resulting in road flooding. The area east of County Road #5 is a steep hillside composed of mostly vegetated red dog with acid seeps. Fall Run flows at the base of the hillside and from it receives sediment and AMD. These sediments, plus sediments from west of County Road #5, have choked Fall Run, resulting in a flooding problem at the railroad bridge over Fall Run, south of the project area. This flooding has affected the St. Elizabeth Mission Church adjacent to the railroad bridge.

A small, 1/2 acre landslide has developed at the southern end of the project. A seep recharges an impoundment area on the strip mine bench. The continual saturation lubricates the slide. Should the slide develop further, it could block a small stream adjacent to Colerain Township Road #561. The purpose of the design is to develop a methodology for stabilizing the refuse, intercepting and conveying surface and ground water, and minimizing erosion from the project area. URS's responsibilities included:

Site Investigation

- Reviewing existing data
- Locating and determining the condition of all road culverts, deep mine workings, mine pools and mine entries
- Locating and performing sampling on all impoundments, discharges emanating from highwalls, auger holes or deep mines; mine spoil seeps, springs, surface waters discharging from the site, and all receiving streams
- Determining the volume of all significant water impoundments

URS

- Reviewing existing geotechnical information

Preliminary Design

- Developing preliminary design concepts, including alternative site layout and grading plans for the refuse piles in the project area

Final Design

- Final Design Plans and Construction Drawings
- Final Specifications
- Cost Estimates
- Resoiling and Revegetation Plans
- Drainage and Erosion Plans

Project Administration and Progress Meetings

URS

Elizabeth Mine Reclamation

Services

Remedial Investigation

AMD Passive Treatment Evaluation

Risk Assessments

Design

Client

U.S. Army Corps of Engineers
USEPA Region 1 Orphan Site
Contact: Scott E. Acone, P.E.
Phone: 978-318-8162

Project Description

The U.S. Army Corps of Engineers (USACE) retained URS to provide technical support for Time-Critical and Non-Time Critical Removal Actions, and completion of a Remedial Investigation/Feasibility Study (RI/FS) and Ecological and Human Health Risk Assessments in order to support EPA Region 1 in the completion of a Record of Decision for the Elizabeth Mine.

The Elizabeth Mine is the largest mining complex of the Vermont Copper Belt and encompasses several hundred acres spread across three neighboring municipalities.

The mine complex consists of two tailing impoundments (TP-1 and -2), one historic leach stockpile (TP-3), waste rock stockpiles, three open-cut mines, several adits (horizontal mine entrances), underground shafts and tunnels, ventilation shafts, and several former ore processing buildings. The Elizabeth Mine has a long history of copper as surface leaching operations and, in later years, milling of massive sulfide ore deposits. The ore deposit is characterized as a "besshi-type" massive sulfide with mineralization occurring as bands and disseminated sulfides. Pyrrhotite is the principal mineral in the deposit.

URS completed a comprehensive geotechnical evaluation of the Elizabeth Mine tailing dams. This evaluation included reviewing slope stability for drained, undrained, and post-earthquake loading conditions. Active piping in tailing dam TP-1 was identified and presented a significant risk. URS designed and oversaw the implementation of temporary measures to

stabilize active piping of the tailing dam. URS also designed measures to provide additional surface water conveyance facilities to protect the dam during storm events. URS then designed final mitigation measures including the installation of a graded filter drain system and buttress for tailing dam TP-1.

The mitigation measures described above were implemented by the USACE as part of a time-critical removal action.

URS is also providing engineering and environmental support for both time-critical and non-time-critical removal actions associated with the surrounding area. URS has completed preparation of an engineering evaluation and cost analysis (EE/CA) and is presently preparing a RI/FS. The scope of our services for the EE/CA and RI/FS includes engineering, surface water, groundwater, human and ecological risk evaluations, archaeological support, and surveying.

Other project work includes:

- Design of horizontal drains
- Evaluation, design, and preparation of construction plans and technical specifications for two surface water diversion channels around the tailing dams.
- Evaluation and design of three adit and shaft closures. The work also included conducting two geological investigations of the subsidence areas.
- Design, evaluation, and preparation of two construction plans and technical specifications for a tailing dam cover system. The design included conducting settlement analysis, regrading, and providing direct surface water flow to nearby channels.
- Evaluation of potential passive treatment options for the abandoned mine drainage (AMD) discharges located throughout the site, including the tailings dam and the open-cut pit lakes.

URS

Rausch Creek Pilot Study for Acid Mine Drainage Treatment

Location

Dauphin and Lebanon counties, Pennsylvania

Services

GPS Site Surveying
Aquatic Habitat Assessment
Fishery Survey/Assessment
Stream Flow Assessment
Data Analysis
Report Preparation
Design of a Pilot Treatment Facility Plans
Site Survey
Project Administration/Coordination

Client

Pennsylvania Game Commission
Don Fritchey Trout Unlimited

Project Description

Project Background

URS Corporation has been retained by the Doc Fritchey Trout Unlimited (DFTU) Chapter, in conjunction with the Pennsylvania Game Commission (landowner), to provide a long-term solution to the treatment of both point and non-point source acid mine drainage (AMD) and acid conditions due to acid rain in Rausch Creek, a tributary to Stony Creek located in Dauphin and Lebanon counties, Pennsylvania. In developing the project, passive treatment alternatives to the existing maintenance-intensive limestone diversion wells (LDWs) have been evaluated to not only ensure that the effective treatment that is already taking place continues, but to provide additional treatment upstream of the LDWs to reduce non-point source pollution and restore a wild trout fishery to the upper portions of Rausch Creek. The proposed project has the potential to ultimately restore approximately 3,000 feet Rausch Creek (main stem) in addition to the remediation of Rausch Creek and Stony Creek downstream of the existing LDWs.

Principal Client Issues

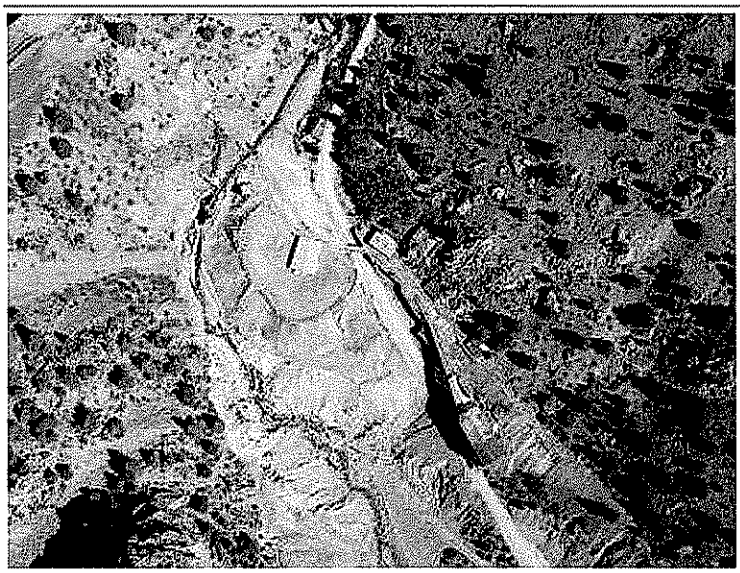
The first phase of the project is the collection of additional data that is needed to adequately assess current conditions at the site, so that loadings of acid and metals on Rausch Creek can be re-evaluated, and optimal treatment options may be developed. Design of the treatment system to replace the existing, labor-intensive diversion wells will improve the aquatic community/habitat and overall water quality of Rausch Creek and consequently Stony Creek, which is also used as a source of public water supply downstream. Based upon preliminary water quality data collected by the DFTU Chapter in 2005, limestone treatment beds and/or drains are feasible to achieve the goals presented.

Solutions Provided

URS determined that limestone sand addition would be the most appropriate treatment option for the AMD/acid precipitation conditions and also the most viable treatment option to meet site constraints. The DFTU Chapter is in the process of attaining the funding needed to implement the treatment solution. Treatment activities may begin in late 2009 or early 2010.

URS

Commodore Waste Rock Pile/West Willow Creek Restoration



Location

Creede, Colorado

Services

Hydrologic/Hydraulic Analysis for Creek Rehabilitation Design, Geotechnical Engineering for channel lining and waste rock pile regrade

Client

URS Operating Services

Project Description

The Commodore Waste rock Pile is and existing mine waste rock pile near Creede, Colorado. During mining West Willow Creek was diverted for the construction of the pile. The initial diversion was into a pipeline. In 2005 the pipeline failed resulting in erosion and conveyance of waste rock material downstream. The EPA initiated a listing program for the nearby Nelson Tunnel and began remediation design for the Creek.

URS Corporation was retained to provide hydrologic and hydraulic engineering for the redevelopment of an open channel conveyance for West Willow Creek. The design included hydrologic analysis to estimate the peak discharge contributing to the channel during the design storm, development of channel and hydraulic structures design as well as erosion control.

It was also requested that URS examine ways to reduce seepage through the existing waste rock pile. A liner system was designed to provide protection against seepage through the channel bottom. Additionally, guidance was provided for resloping the adjacent waste rock pile and providing buttressing for stability.

Benefits Realized by the Client

- Presented during public meeting the plan for rehabilitation to the general public and the reclamation committee.
- Considered to be providing assistance to the community to reduce the potential for future release of waste rock.

URS

Limited Phase I Environmental Site Assessments - Kentucky and West Virginia Mine Complexes

Location

Floyd, Johnson, Lawrence, Martin, and Pike Counties, Kentucky

Wayne County, West Virginia

Services

Phase I Environmental Site Assessments

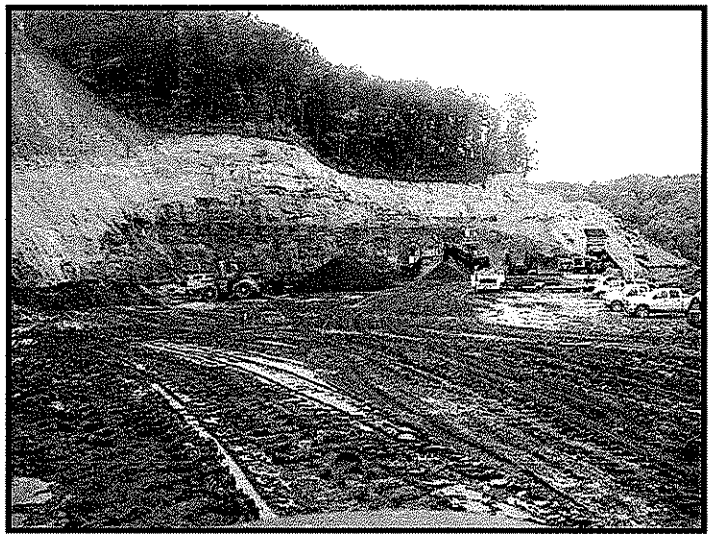
Client

Confidential Client

Project Description

This project involved the due diligence review of surface and underground mine properties and their associated administrative and servicing facilities located on a total of 216,000 acres of rural mine land. The work was conducted in general accordance with the requirements of the *American Society for Testing and Materials (ASTM) Standard Practice E 2247-08 for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property*, at each site within each mine complex in eastern Kentucky and southwest West Virginia. A total of 65 facilities were investigated. Facilities reviewed included surface mines, underground mine portal areas, loadouts/tipples, coal processing/preparation plants, truck repair shops, office/warehouse buildings, camphouse/ammonium nitrate-fuel oil (ANFO) storage facilities, and haul roads.

Three Limited Phase I ESAs were performed for a potential acquisition of all or some of the mine complexes. Senior level staff was utilized from URS offices located in Pittsburgh, Pennsylvania; Scott Depot (Charleston), West Virginia; Denver, Colorado; Boise, Idaho; and Portland, Oregon.



2 PROJECT MANAGEMENT

URS operates with the philosophy that a successful project depends on successful management. We emphasize close management supervision on all the various types of projects we perform. URS can claim these capabilities based on our achievements on previous projects of similar scope and the caliber of the professionals we have committed to this effort.

Effective project management would be impossible without proper support systems for providing timely information. URS uses a computer-based project management information system for all its projects. The system permits efficient internal control over project budget, schedules, and manpower allocations. Immediately upon receipt of notice to proceed, a **Cost Control Management Plan** is developed for the project, which includes:

- A Project Action Plan listing activities and subactivities required to complete the Project, and identifying by name the person responsible for completing each activity;
- A Project Production Budget, including an allocated cost for each in-house discipline, consultants and travel, reproduction, and special supplies;
- A Project Schedule, indicating the time required to complete individual activities and the scheduled completion date for each activity; and
- The system is initiated by the submission of a project budget to the Accounting Department. All hour expenditures, by task and subtask, and other direct costs are tracked against this budget. The system provides the Project Manager with the following:
    - *Project Detail Charges Report* - a bi-monthly listing of the hours expended by individual, by task, for each report period just past and the month-to-date; also itemizes current other direct cost charges.
    - *Project Management Summary Report* - a monthly summary of cumulative hours expended by task, and other direct costs incurred in relationship to the budget.

  The system:
    - Reports the budget and manpower status of each task and subtask;
    - Allows early identification and resolution of any manpower or budget problems;
    - Permits the project manager to forecast manpower requirements efficiently and resolve potential conflicts in technical resource requirements; and
    - Identifies overall project activities for review by senior management.

For each project, a set of ledgers is maintained, in keeping with generally accepted accounting practices. In addition, there are summary printouts provided to the Project Manager enabling him to review progress and cost, thereby giving him the ability to take corrective actions to prevent any schedule or cost difficulties.

URS controls quality by use of rigid in-house quality review techniques. A team of professionals which has experience on a particular type of project are assigned to provide quality reviews on the project. The team meets with the project staff at certain intervals to review the Project's progress. The team makes recommendations on construction criteria and approach, alternatives, methods of construction, materials selection, and other elements of the project. Through this technique, we have been very successful in minimizing errors and producing economical and quality projects.

URS performs the following functions for all our projects, dependent upon the specifics and scope of the project:

- Scheduling;
- Cost Control;
- Documentation;
- Specification Writing;
- Value Engineering Review*;
- Constructability Review; and
- Process Design.

* *Primarily on larger projects.*

3 KEY PERSONNEL

3.1 Personnel Qualifications

URS will provide personnel required to provide quality work and to complete the project on time and within budget. Our Project Manager, Tom Page, a 20-year environmental professional with 18 years of working and academic experience in West Virginia, will be responsible for the overall conduct of the project, including, but not limited to, organizing and supervising the work effort, monitoring the progress and schedule, and reviewing all submissions. In addition, Mr. Page will coordinate all AML site investigations, engineering design, and in-office report preparation efforts; assist with leading efforts to develop solutions to any problems and challenges that arise; preparing and submitting administrative reports; attend any required meetings with Office of Abandoned Mine Lands & Reclamation personnel; and ensuring accurate and timely invoicing. Mr. Page will be the liaison and focal point between the Office of Abandoned Mine Lands & Reclamation and URS for the project, thereby ensuring timely and consistent communication.

Mr. John Smelko, the Scott Depot Office Manager and an Environmental Scientist, will be the Deputy Project Manager. Mr. Smelko will provide a local point of contact for the Office of Abandoned Mine Lands & Reclamation as and also will provide technical support for work orders.

Mr. Page will be assisted by a team of highly skilled and competent technicians, inspectors, scientists and engineers. The team of experienced scientists, technicians, and inspectors will include Mr. Sotero Svingos, P.G., Mr. Mark Holsing, P.G., L.R.S., Ms. Amber Fortner, Mr. Bill Weihbrecht, Mr. Tom Page, CEA, REPA, Mr. John Smelko, Mr. Terry Bennett, and Mr. John Patten. The team of experienced civil, mining, and environmental engineers will include Mr. Norm Roush, P.E., P.S., Mr. John Noe, P.E., Mr. Dennis Guthrie, P.E., Mr. Bob Reisinger, P.E., Mr. Walter Kutschke, P.E., Mr. John Ortli, P.E., Mr. Bruce Bosley, P.E., Mr. Marcus Lowery, P.E., P.L.S., Mr. Chris Hatton, P.E., and Ms. Briana Gunn, P.E.

Serving as Project Principal, Mr. David Beachler, QEP, has over 30 years of environmental experience and has managed groups of engineers, scientists and other technical persons to provide environmental permitting, compliance testing, monitoring, for various industries including municipal waste combustors, hazardous waste incinerators, power plants, chemical plants, steel mills, oil refineries, and pulp and paper mills. He has more than 40 publications and presentations, and is certified as a Qualified Environmental Professional (QEP) by the Institute of Professional Environmental Practice.

Resumes for the key individuals are provided at the end of this section.

3.2 Capacity to Accomplish the Work

To ensure the timely completion of this work, URS has available a number of qualified personnel required to meet this need. Additionally, because of the size and availability of our staff, we can

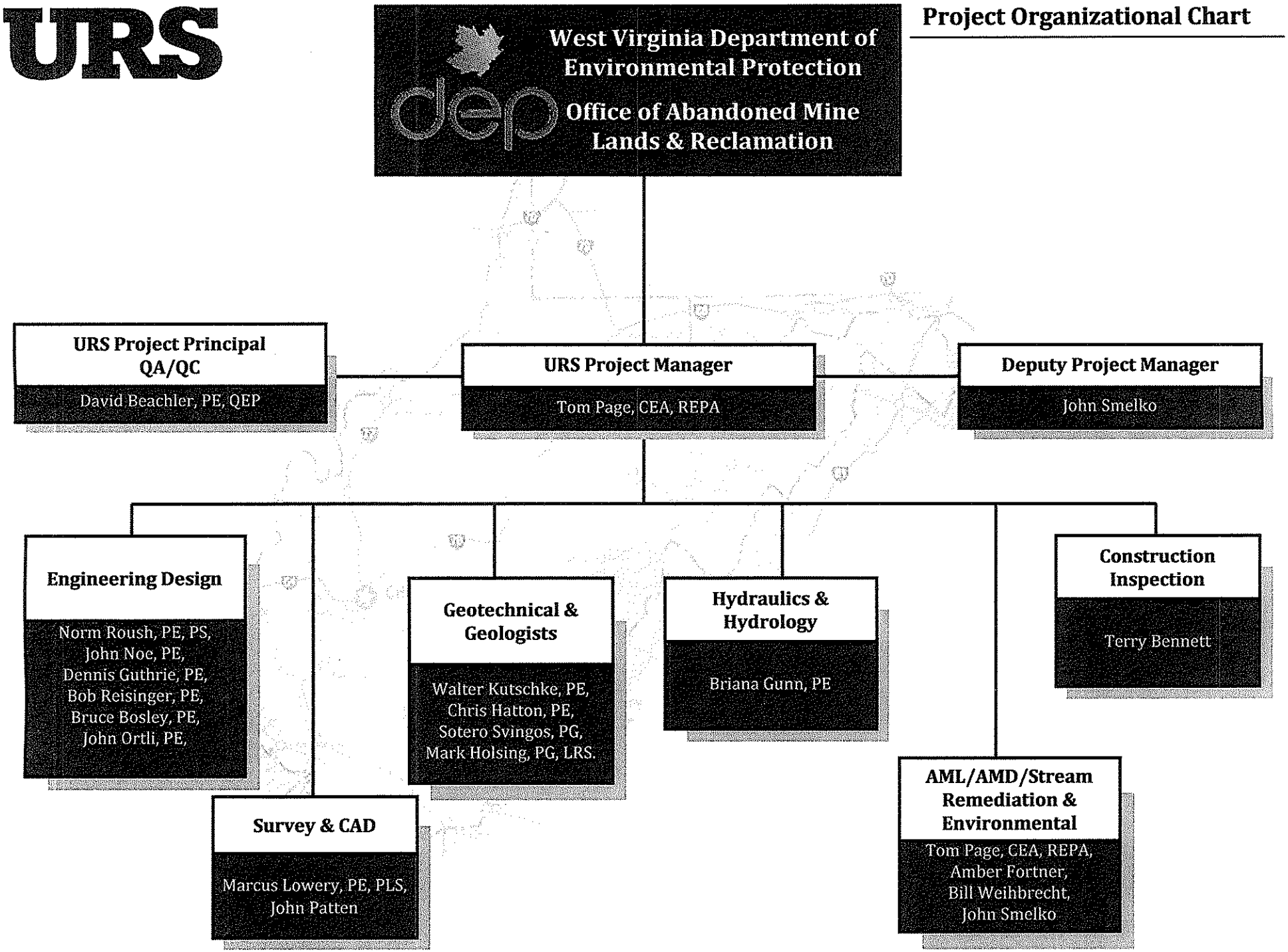
assure the Office of Abandoned Mine Lands & Reclamation that the necessary resources will be available for this work.

Because of our workload, and the skills and abilities of the people in the Scott Depot, WV; Morgantown, WV and Pittsburgh, PA offices, we have immediate capacity to accomplish all aspects of this project. These professionals are technicians, inspectors, scientists, and engineers who have many years of experience working in West Virginia and completing similar AML reclamation projects. We are confident that we can meet the schedule established by the Office of Abandoned Mine Lands & Reclamation for this project.

In addition, as necessary, the staff from our Scott Depot, WV, Morgantown, WV and Pittsburgh, PA offices will be supported through skilled, qualified, and competent personnel in our Columbus, OH, Harrisburg, PA, and Denver, CO offices. The project management, field investigations, and report preparation for the engineering services will be provided through the leadership of Mr. Tom Page. Combined, these offices consist of experienced engineers and scientists, technicians, surveyors, construction inspectors, and GIS/CADD specialists. These professionals have significant experience working in West Virginia over the years and are available to support each other as shown on the organizational chart at the end of this section.

URS

Project Organizational Chart



Thomas A. Page, CEA, REPA

Senior Environmental Scientist/Fisheries Biologist

URS

Areas of Expertise:

- Wetland Identification and Delineation
- Stream Habitat Assessments
- Natural Resource Investigations for NEPA
- Watershed Assessments
- Aquatic Biological Surveys
- Permit Application Preparation for Aquatic Resources
- Phase I Environmental Site Assessments
- Natural Stream Channel Design
- Threatened and Endangered Species Studies
- AMD Remediation
- Rail-to-Trail Studies
- Grant Application Preparation
- Aquatic Resource Mitigation

Overview

Mr. Page is a Senior Environmental Scientist with more than 20 years of experience. Mr. Page provides a broad array of environmental services including wetlands identification and delineation, aquatic biological surveys, benthic macroinvertebrate sampling, watershed and stream assessments, aquatic resource mitigation, natural stream channel design, threatened and endangered species studies, rail-to-trail studies, abandoned mine drainage (AMD) remediation, environmental permitting, construction/compliance monitoring, NEPA surveys, Phase I Environmental Site Assessments (ESAs), and grant application preparation.

Project Specific Experience

Doc Fritchey Trout Unlimited Chapter (DFTU), *Rausch Creek AMD Pilot Project (2008-2009)* – Mr. Page is serving as a Senior Environmental Scientist in assisting the DFTU Chapter and the Pennsylvania Game Commission (landowner) remediate the existing depressed stream conditions. Rausch Creek has both point and non-point source acid mine drainage (AMD) and acid precipitation conditions. It is a tributary to Stony Creek located in Dauphin and Lebanon counties, Pennsylvania. URS developed proposed passive treatment alternatives to the existing maintenance-intensive limestone diversion wells (LDWs). URS proposed the treatment of Rausch Creek with limestone sand addition at two sites to ensure that the effective treatment that is already taking place continues, but to provide additional treatment upstream of the LDWs. This will reduce non-point source pollution and restore the wild trout fishery to the upper portions of Rausch Creek. The DFTU Chapter is attaining funds to implement the proposed project, which has the potential to ultimately restore approximately 3,000 feet Rausch Creek.

Confidential Client – *Phase I ESAs of Surface and Underground Mine Complexes in Kentucky and West Virginia (August 2008)* – Mr. Page assisted URS staff from multiple offices to complete Phase I ESAs of three mine complexes in eastern Kentucky and southwestern West Virginia that encompassed ~216,000 acres. Underground mines, surface mines (that included contour and highwall mining operations), and surface facilities (prep plants, tipples, loadouts, truck shops, warehouses, and offices) were investigated.

Friends of Decker's Creek - *Valley Point #12 AMD Remediation Project (Design – 2006/Construction – 2007/2008)* – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project in West Virginia. Mr. Page conducted aquatic resource investigations, the jurisdictional determination with the USACOE/WVDNR, and assisted the client with project permitting activities. Treatment was achieved by designing a system that allowed the two discharges to flow into a leach bed, two sulfate reducing bioreactors with final polishing by aerobic wetlands.

MWA - *Kalp II/Anna and Steve Gdosky Memorial AMD Remediation Project (October 2006-October 2007)* – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project. Mr. Page prepared the $1.7 million Growing Greener grant application for MWA. These funds were then matched to federal funds to permit the construction of the project. Mr. Page then served as the construction inspector during construction activities for five of the nine month construction period. The project was awarded USDOI, Office of Surface Mining's Appalachian Region 2007 Project of the Year Award.

Kellys Creek Community Association, *Kellys Creek Watershed AMD Survey and Restoration Plan (March 2006)* – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD restoration plan that worked in close coordination with WVDEP – AML Program and USEPA. This watershed assessment specifically studied AMD issues within Kellys Creek (Glasgow, WV) a small tributary to the Kanawha River upstream of Charleston, WV. This plan reviewed the mining history, geology, mining practices, and water quality of the watershed. In addition, the plan provided proposed remediation designs and cost estimates for specific AMD discharge sites.

Friends of the Cheat – *North Fork Greens Run AMD Remediation Project (Design – 2004/Construction – 2005)* – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project in West Virginia. Mr. Page conducted aquatic resource investigations and assisted with construction monitoring. Treatment was achieved through the design of an open limestone channel.

MWA – *Gallentine AMD Remediation Project (Design - 2001/Construction - 2003)* – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project. Mr. Page prepared the $200,000+ Growing Greener grant application for MWA. The Gallentine Project is a passive treatment system on six acres of land. It treats an acidic discharge which formerly flowed into Indian Creek. This system is designed to treat the discharge in an alkalinity-producing limestone pond, a settling basin and a compost wetland.

Mountain Watershed Association, Inc. (MWA), *Indian Creek – River Conservation Plan (RCP) (September 2001)* – For a former employer Mr. Page served as the Project Manager/lead scientist for this RCP. This comprehensive watershed assessment, which included the assessment of AMD impacts, studied the 125 square mile watershed and recommended passive treatment remediation of numerous discharge sites.

Raccoon Creek Watershed Association/Washington County Watershed Alliance (WCWA), *Raccoon Creek Watershed AMD Survey and Preliminary Restoration Plan (December 2000)* – For a former employer Mr. Page served as the Project Manager and lead scientist/planner for this watershed plan. Mr. Page prepared the $31,000 grant application for WCWA. This watershed assessment specifically studied AMD issues within the 184 square mile watershed and the 16 municipalities within its boundaries. This plan reviewed the mining history, geology, mining practices, and water quality of the watershed. In addition, the plan provided proposed remediation designs and cost estimates for specific AMD discharge sites. Finally, specific remediation recommendations were outlined in the plan.

MWA – *Sagamore/Max B. Noble AMD Remediation Project (Design - 1999/Construction - 2000)* – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project. Mr. Page prepared the $200,000+ PADEP/EPA 319 grant application for MWA. The passive treatment system consists of the collection of two underground mine discharges from the abandoned Sagamore Coal Company's Big Chief Mine and the relocation and reclamation of a 70,000 cubic yard gob pile. This system also includes two windmills (first ever used/designed for passive treatment), designed to add oxygen to the water in order to cause the iron to drop out faster. The treatment system now removes about 87% of the iron load, 70% of the aluminum load, and 61% of the acid load.

Turtle Creek Watershed Association (TCWA) – *Limestone Diversion Well - AMD Remediation Project (1996)* – Mr. Page served as the Executive Director for TCWA and coordinated with the PADEP to gain the funding and assistance to construct this AMD remediation project in Export, Pennsylvania on an unnamed tributary.

URS

Registration/Certification/Training

Certified Environmental Auditor (CEA #2007)

Registered Environmental Property Assessor (REPA #2016

Rosgen – Fluvial Geomorphology Coursework
- Level I – Applied Fluvial Geomorphology

USACOE – Regulatory IV Wetlands Identification and Delineation

USEPA – Rapid BioAssessment

USDA-NRCS – Basic Photo Interpretation

USDOI – Motorboat Operator Certification Course

USFWS/WVU - Safety Training for Backpack and Boat Electrofishing

USACOE Huntington District Regulatory Workshop
- Nationwide Permitting Processes
- Rapanos Guidance CWA
- WV-Interim Functional Assessment Approach (IFAA)

American Red Cross - First Aid and CPR (Infant through Adult

Professional Societies/Affiliations

American Fisheries Society (AFS)

National Registry of Environmental Professionals (NREP)

Xi Sigma Pi, Forestry National Honor Fraternity

Gamma Sigma Delta, The Honor Society of Agriculture and Forestry

Alpha Gamma Rho, National Agricultural Fraternity

Chronology

URS Corporation, 2008 – Present
Skelly and Loy, Inc. 1997 – 2008
Turtle Creek Watershed Association, Inc. 1995 – 1998
George D. Aiken RC&D, 1994 – 1995
Bhate Environmental, Inc. 1993 – 1994
L. Robert Kimball & Associates, Inc. 1989 – 1993
Alternative Ways, Inc. 1988 – 1989
The Pennsylvania State University, 1987
Western Pennsylvania Conservancy, 1986

Education

M.S. Wildlife and Fisheries Resources, West Virginia University
B.S. Environmental Resource Management, Pennsylvania State University

Publications

Mountain Watershed Association, Inc. and Partnership: The Sagamore Site Mine Drainage Remediation Project, Proceedings of the National Association of Abandoned Mine Programs 1999 Annual Meeting.

Bill Weihbrecht

Senior Stream Restoration Specialist

URS

Areas of Expertise:

- Abandoned Mine Land Reclamation
- Abandoned Mine Land Investigations
- Stream Restoration
- Construction Management
- Watershed Assessments

Overview

Mr. Weihbrecht is a senior stream restoration specialist who has more than 30 years of experience related to watershed studies & stream restoration. He has over 12 years experience in abandoned mine land (AML) reclamation, which includes inventory and restoration design in West Virginia. Mr. Weihbrecht served as President and co-owner of Aquatic Resource Restoration Company, a design/build firm specializing in water resource projects. He is an active member of the Keystone Stream Team (Pennsylvania) and was responsible for writing keys elements of the Natural Channel Design Guidelines pertaining to Permitting and Construction. Most recently Mr. Weihbrecht was awarded the 2008 York County Watershed Stewardship Award from the York County Conservation District.

Project Specific Experience

Abandoned Mine Lands – For a previous employer (in 1982), Mr. Weihbrecht served as a field crew leader that completed the AML Inventory for West Virginia. He also completed numerous AML site investigations and reclamation designs for sites in West Virginia, Virginia, Pennsylvania, and Ohio for those states' AML agencies and for the Office of Surface Mining. These projects included the following issues and services: the design of passive treatment systems for acid mine drainage (AMD), highwall elimination, mine pool investigations, mine fires, refuse pile reclamation, breaching impoundments, and stream restoration/relocation. He was also involved in the preparation of an Environmental Impact Statement on Title IV of the Surface Mining Control and Reclamation Act. Finally, Mr. Weihbrecht was involved in the development of a coal waste cogeneration plant in Pennsylvania and was responsible for developing reclamation agreements for the highly alkaline ash byproduct at sites where acidic coal refuse (cogen fuel) was obtained.

Stream Restoration - Mr. Weihbrecht has been directly involved in the design, permitting, and construction of >20 stream restoration projects encompassing over 4 miles of restoration in both urban and rural settings. He has managed several dam removal projects in the Mid-Atlantic Region. Mr. Weihbrecht recently completed the design, permitting of a rock ramp fishway on Pennypack Creek, in Philadelphia, Pennsylvania and a similar project in Dexter, Michigan. A majority of his completed designs include construction of in-stream habitat structures using large rock and logs. He completed several emergency stream bank stabilization projects following flash flooding events where utilities were exposed or road shoulders were scoured. He has experience in every aspect of stream restoration including design data collection, biologic assessment, permit applications, regulatory compliance, and construction management. Mr. Weihbrecht is also experienced at operating heavy equipment used for stream restoration.

Registration/Certification/Training

Rosgen Level I - Applied River Morphology
Freshwater Wetland Construction

Professional Societies/Affiliations

Watershed Alliance of York (WAY), Board of Directors
Pinchot Chapter, Izaak Walton League of America
Keystone Stream Team

Education

B.S. Environmental Biology, Millersville University

Chronology

URS Corporation, 2005 – Present
Aquatic Resource Restoration Company, 2001 – 2005
Skelly and Loy, Inc., 1998 – 2001
McCormick Taylor Associates, 1995 – 1997
Susquehanna AquaCultures, 1989 -1994
Environmental Power Corporation, 1987 -1989
Melham Associates, 1986 – 1987
Robins and Associates, 1980 - 1986

Briana Gunn, P.E.

Water Resources Engineer

URS

Areas of Expertise:

- Design and Construction
- Hydrology and Hydraulics Analysis
- Drainage Analysis
- Floodplain and Floodway Management
- Municipal Utilities and Land Development
- Dam Safety

Overview

Ms. Gunn is a Design Engineer in the URS Water Resources Department. She has seven years of experience in hydraulic and hydrologic design. This includes mine reclamation, water management, design of storm water infrastructure and floodplain management and streambed restoration. In addition she has knowledge in storm water conveyance and drainage design. Ms. Gunn has experience using modeling software such as HEC-HMS (HEC-1), HEC-RAS, SWMM, ArcGIS and StormCAD.

Project Specific Experience

USEPA Creede, Colorado, West Willow Creek and Commodore Waste Rock Pile Rehabilitation - Mrs. Gunn was the Project Manager for the West Willow Creek and Commodore Waste Rock Pile rehabilitation project. An evaluation was performed of the existing waste rock pile and adjacent drainage (West Willow Creek). Evaluations were made for stabilizing the waste rock pile, redeveloping the open channel system to convey the 100-year, 24-hour storm event. The design included erosion control with the channel as well as a concrete drop structure. Seepage beneath the pile was also a concern, so a seepage control system was recommended. Construction drawings and specifications were prepared. Periodic construction oversight during the 2008 construction season was performed.

Phelps Dodge Tyrone, Tailing Dam Reclamation - Ms. Gunn developed surface water hydrology/hydraulic calculations and reports for the reclamation of several Tailing Dams at the Phelps Dodge Tyrone copper mine in Tyrone, New Mexico. The project included developing storm water control measures for the upstream watersheds, tailing pipe top surfaces and tailing outslopes.

Dow Chemical (Umetco), Hot Springs, AR - Mrs. Gunn worked as the project engineer for the development of a conceptual and final reclamation plan for the Hot Springs Tailing Dam. The site is located northwest of Hot Springs, Arkansas. Work includes surface water hydrology and hydraulic design of runoff control structures associated with existing and regraded reclaimed lands, including oversight of a cover and liner design. Design also included a spillway incorporated into a bedrock lined diversion channel. The design incorporated drainage from the tailing dam and methodologies for separation of storm water from the tailing underdrain system.

BHP Billiton, Navajo Mine Extension Project – Ms. Gunn worked with BHP to develop Approximate Original Contour (AOC) surface to be utilized within the permitting process for the expansion of an existing coal mine. The project involved estimating existing conditions, including hydrology, drainage density soil types, etc. and the use of Carlson's Natural Regrade to develop an erosion resistant surface.

Phelps Dodge Tyrone, Stockpile 3A - Mrs. Gunn worked with Phelps Dodge and Daniel B. Stephens to develop a preliminary grading plan for the closure of Stockpile 3A. Work included reviewing existing collection systems for stockpile baseflow and developing recommendations for replacement. Additionally, an alternatives analysis was completed for optimizing regrading of the stockpile.

Phelps Dodge Tyrone, Stockpile 1 – Ms. Gunn worked with M3 and Golder Associates to develop hydrology and hydraulic calculations for the management of surface water of the top surface and outslopes of Stockpile No. 1 at the Phelps Dodge Tyrone Mine located in Tyrone, New Mexico. Work also included the development of a floodplain model for the nearby Brick Kiln gulch that will be diverted for the reclamation of the stockpile.

Phelps Dodge Chino, Tailing Dam Reclamation – Ms. Gunn is currently developing surface watery hydrology/hydraulic calculations for the basic and final engineering plans for the closure of the tailing ponds at the Phelps Dodge Chino Mine located in Hurley, New Mexico. Work includes optimizing channel locations on the top surface and outslopes of the tailing ponds, and developing a best management practices report including erosion and sediment control measures both during and post construction.

Freeport McMoran, Several EAP Tyrone and Cobre Mines - Mrs. Gunn was the project manager for the development of six Emergency Action Plans for large and significant hazard dams at the Tyrone and Cobre Mine Sites in New Mexico. Work included the development of flood inundation mapping, EAP, and an Operation and Maintenance Manual.

Umetco, Gas Hills, WY - Mrs. Gunn is working as the design engineer for the release of lands associated with Uranium mining in the Gas Hills region of Wyoming. This site is located west of Casper, Wyoming. Work includes surface water hydrology and hydraulic design of runoff control structures associated with existing and regraded reclaimed lands. URS is currently designing detention structures and riprap lined channels including design of channels to repair erosion damage.

Mrs. Gunn has designed a storm water management system for the area surrounding **Phelps Dodge Chino Reservoir 8.** This work has involved layout of seepage collection systems, design of cleanwater diversion channels, and sediment collection basins. Project activities have involved site reconnaissance, various analyses, construction oversight, and meetings with the client.

Phelps Dodge Morenci Inc., Lower Chase Creek Dam, AZ – Ms. Gunn has conducted flood routing studies using HEC-1 for reservoir evacuation. Additional responsibilities included dam break analysis using DAMBRK and downstream flood inundation mapping to be used in the updated Emergency Action Plan.

Registration/Certification/Training

Professional Engineer - CO

Chronology

URS Corporation, 2002 – Present

Professional Societies/Affiliations

Association of State Floodplain Managers, Inc.

Education

M.S. – Civil Engineering with emphasis on Water Resources, and B.S. – Civil Engineering, University of Colorado

Robert W. Reisinger, P.E.

Senior Engineer – Mine Closure and Reclamation

URS

Areas of Expertise:

- Mine Closure/Reclamation
- Environmental Site Assessments/Due Diligence
- Environmental Remediation
- Abandoned Mine Drainage (AMD) Mitigation

Overview

Mr. Reisinger has over 29 years of experience in developing methods for closure/reclamation, mitigating AMD, performing engineering feasibility studies and economic analyses, and analyzing regulations. He has a strong mining and environmental background with experience in both the private and public sectors. He has completed over 30 mine reclamation and closure projects throughout the world. These projects range from developing and updating mine reclamation and closure plans and cost estimates to developing reclamation and closure designs and specifications to performing AMD treatability studies to overseeing contractor closure activities. Mr. Reisinger also has significant experience in performing environmental assessments, environmental audits, and environmental impact statements related to mining sites throughout the world.

Mr. Reisinger's experience includes projects in Australia, Brazil, Canada, Colombia, Costa Rica, Germany, Jamaica, Kazakhstan, New Zealand, Peru, Poland, Russia, Sierra Leone, Suriname, United Kingdom, United States, Uzbekistan, and Venezuela.

Project Specific Experience

Senior Environmental Engineer, Phase I ESAs of Surface and Underground Mine Complexes in Kentucky and West Virginia – Mr. Reisinger assisted URS staff from multiple offices to complete Phase I ESAs of three mine complexes in eastern Kentucky and southwestern West Virginia that encompassed ~216,000 acres. Underground mines, surface mines (that included contour and highwall mining operations), and surface facilities (prep plants, tipples, loadouts, truck shops, warehouses, and offices) were investigated. For Confidential Client.

Project Manager/Closure Design Engineer, Big Springs Mill Site Closure, NV - Developed designs, technical specifications and cost estimates for the closures of a tailings storage facility and heap leach facility. Oversaw contractor closure construction activities. For AngloGold (Jerritt Canyon) Corp.

Project Manager/Senior Closure Engineer, Remediation of Historic Metal Mine, NV - A historic mine in Nevada contributes to metal loading in a nearby creek due to seeps emanating from historic waste impoundments adjacent to the creek. Completed a draft alternatives study that involved the development and assessment of several site remediation alternatives based on selected evaluation criteria. Supervised water treatment studies. Oversaw contractor work associated with the closure of a heap leach pad, waste rock pile and tailing piles. For Confidential Client.

Senior Environmental Engineer, Homestake Grants Uranium Mill Tailings Remediation Feasibility Study, NM - This project identified and assessed remediation alternatives for mitigating impacts to a shallow alluvial aquifer at the Homestake Grants Uranium Mill Tailings Facility, New Mexico. Participated on a team of experts that identified and evaluated remedial alternatives, and that performed a risk-based remedial alternatives analysis. For Homestake.

Project Manager/Closure Design Engineer, Mill 5/6 Tailings Storage Facility Outer Cover Design, NV - Evaluated various soil covers for a tailings storage facility embankment to inhibit infiltration. Covers were evaluated in terms of flux through the cover, erosion potential, vegetation suitability, ease of construction, and costs. For Newmont Gold Company.

Project Manager, Questa Mine Revised Closeout Plan, NM - Project involved preparing a revised closeout plan for the Questa Mine for submittal to New Mexico State regulatory agencies. For Chevron Mining Inc.

Project Manager, Tohono Mine Site Engineering Evaluation/Cost Analysis (EE/CA), AZ - Assisted in the development of an EE/CA for the closure of two evaporation ponds and two tailings ponds at the Tohono Mine Site. Activities included analyzing alternatives, including developing a "cost-effectiveness" matrix that evaluated the incremental benefit of an alternative, if any, resulting from an additional cost. For Cyprus Tohono Corporation.

Project Manager, Florida Canyon Mine Reclamation/Closure Cost Estimate, NV - Evaluated and revised the reclamation/closure cost estimate for the Florida Canyon open pit gold mine and heap leach facility. For Apollo Gold.

Project Manager/Closure Design Engineer, Round Mountain Heap Leach Facilities Closure, NV - Directed the development of conceptual designs and cost estimates for various cover scenarios for two heap leach pads totaling over 1,300 acres. Directed the development of a water balance for these pads during rinsing, draindown, and closure. For Round Mountain Gold Corporation.

Reclamation Design Engineer, Eagle Gypsum Mine Reclamation Plan, CO - Developed cost estimates, including material quantity calculations, for reclaiming a planned expansion to an open pit gypsum mine in western Colorado. Estimates were completed for various stages of reclamation and done as part of developing a reclamation bond for the planned mine. For American Gypsum Company.

Project Manager, McNulty Waste Rock Dump Mitigation Measures Study, CO - Investigated potential mitigation measures to reduce contaminant loading to a water treatment facility from water seeping from a waste rock dump. Work included characterization of water flow and chemistry through the waste rock dump. For Climax Molybdenum Company.

Project Manager, Ferris-Haggarty/Osceola Tunnel Drainage Study, WY - The Ferris-Haggarty/Osceola Tunnel is an inactive mine site located in the Sierra Madre Mountains in Carbon County, Wyoming. The site is a state deferred CERCLA site. Over the years, the Osceola Tunnel has discharged water with elevated concentrations of copper into Haggarty Creek. Served as project manager and lead engineer for investigation and remedial design phases. Identified and characterized sources of contaminated water in the mine. Designed, constructed, and monitored bench-scale and pilot-scale facilities that passively treated contaminated water. Oversaw contractor tunnel rehabilitation work. Participated in public meetings on the project. For Wyoming Abandoned Mine Land Division.

Project Manager/Reclamation Design Engineer, Atlantic City Iron Mine Reclamation Project 9A-II, WY - The site consists of an abandoned and flooded mine pit, a 200-acre tailing disposal facility, over 150 acres of waste rock piles and about six miles of abandoned railroad grade. Developed cost estimates and specifications for several reclamation activities. Oversaw contractor reclamation work. For Wyoming Department of Environmental Quality, Abandoned Mine Land Division.

Reclamation Engineer, Summitville Mine Superfund Site, Operable Unit 4, Water Management Structures and Improvements Design and Construction Administration Services, CO - Developed plans, specifications and cost estimates for revegetating disturbed areas associated with the construction of hydraulic facilities at this CERCLA site. Oversaw contractor revegetation activities. For Colorado Department of Public Health and Environment.

Select Project-Specific Experience – International

Closure Design Engineer, Rosita Waste Rock Dump and Surrounding Areas Reclamation, Peru - Developed closure designs for waste rock dumps, including grading plans and cover designs, and supervised bench-scale experiments to passively treat waste dump seepages. Assisted with the design of pilot-scale and full-scale passive treatment systems. For Minera Yanacocha S.R.L.

Project Manager/Closure Design Engineer, Riacho dos Machados Acid Mine Drainage Control, Brazil - Supervised the development of cover designs, hydrologic controls, and a water quality monitoring program for several sulfidic waste dumps associated with a gold mine. The project design involved relocating sulfidic wastes from several on-site areas. For Companhia Vale Do Rio Doce.

Registration/Certification/Training

Professional Engineer – CO and WY

Professional Societies/Affiliations

Society for Mining, Metallurgy, and Exploration, Inc. (SME)

American Society of Mining and Reclamation (ASMR)

Rocky Mountain Association of Environmental Professionals (RMAEP)

Chronology

URS Corporation, 2004 – Present

Knight Piesold, 1995-2004

US Bureau of Mines, 1984-1995

Peabody Coal Company,1978-1982

Education

M.S. Environmental Science and Engineering, Colorado School of Mines; MBA, University of Evansville, Indiana; B.S. Mining Engineering, University of Wisconsin - Platteville

Selected Publications and Presentations

Reisinger R., D. Van Zyl, and G Byrne, "Mine Closure Planning in Today's Global Environment: A Risk-Based Approach," Two-Day Short Course presented in conjunction with 2008 SME Annual Meeting & Exhibit, Salt Lake City, February, 2008

Bingham E, G. Byrne, and R. Reisinger, "Closure Planning under the BHP Billiton Closure Standard", presented at 2008 SME Annual Meeting & Exhibit, Salt Lake City, February, 2008.

Reisinger, R., J. Gusek, and T. Richmond, 2004, "Existing Public Support for the Rudefeha (Ferris Haggarty) Mine Drainage Clean-Up Project in South-Central Wyoming," manuscript and oral presentation at the 2004 SME Annual Meeting and Exhibit, Denver, Colorado, February 24.

Gusek, J.J., R. W. Reisinger et al, 2002, Acid Drainage Technology Initiative – Metal Mine Sector Mitigation Workbook, Mitigation Chapter, Preliminary Draft, November.

Gorman, J.A., R.W. Reisinger and D.R. East, 2002, "Reclamation of the Big Springs Tailings Facility", Mining Environmental Management, Vol. 9, No. 6, January, pp. 24-26.

Reisinger, R.W., D.R. East, A.H. Gipson, J.E. Valera, and J.A. Gorman, 2001, "Reclamation of the Big Springs Subaerial Tailings Facility, Nevada, paper presented at the 2001 Tailings and Mine Waste Conference, January 18, Fort Collins, Colorado.

Reisinger, R.W., and J.Gusek, 1999, "Mitigation of Water Contamination at the Historic Ferris-Haggarty Mine, Wyoming," *Mining Engineering*, Vol. 51, No. 8, August, pp. 49-53.

Reisinger, R.W., A. Robertson, T.R. Wildeman, and J. Herron, 1995, "Best Management Practices in the Mining Industry to Mitigate Non-Point Source Pollution" (one-day short course, Leadville, Colorado).

Christopher N. Hatton, P.E.

Geotechnical Engineer

URS

Areas of Expertise:

- Geotechnical Engineering
- Cost Estimating
- Remediation/Reclamation
- Construction Management
- Design and Construction Engineering
- Mining Wastes
- Environmental Engineering
- AMD Mitigation
- Tailings Dams

Overview

Mr. Hatton is a registered professional engineer with over 20 years of diversified heavy civil engineering and environmental engineering experience providing services for the mining industry. He has been responsible for the investigation, evaluation, design, construction, and rehabilitation of civil engineering structures and environmental projects for base and precious metals mines worldwide. Mr. Hatton has a broad base of experience providing "cradle to grave" services for the mining industry, including mine closure planning, mine reclamation, acid rock drainage mitigation, engineered risk assessment, and waste management. His project experience includes the evaluation, design, construction, and reclamation of tailing dams, heap leach and surface water storage and conveyances. He is also responsible for training mine operations staff in the safe operation of tailing and water retention facilities. Mr. Hatton brings to his clients and projects a down to earth, pragmatic approach to solving complex problems.

Project Specific Experience

Tailing Stewardship Program, Worldwide - Mr. Hatton was the developer and implemented a training and management program designed to reduce the owners' risks with the operation and closure of tailing dams. The program was developed in 1994 and has been regularly implemented at mines worldwide to date. The program is designed to train tailing operation personnel in the proper operation of tailing impoundments. To date, the program has been implemented at over 30 base-metal (copper) mines. The work includes inspecting the tailing dams, teaching a comprehensive short course in tailing dam design and operations, and providing assistance with operational issues. To date we have trained over 500 tailing operators and observed over 30 billion tons of tailings covering over 50,000 acres.

Tyrone Tailing Reclamation, Tyrone, NM - Mr. Hatton is the project manager and design engineer for the reclamation of the Tyrone tailing dams. The work includes the evaluation, design, and engineering support during construction for the reclamation of seven tailing impoundments covering over 4,500 acres and containing an estimated 1.5 billion tons of tailings. The work included comprehensive slope stability analysis and probabilistic seismic hazard analysis (PSHA), state-of-the-art stability analysis for drained, undrained, and post-earthquake stability including liquefaction evaluations. Analysis also included a comprehensive settlement analysis. Mr. Hatton managed the analysis of surface water conveyance structures with a total capacity of over 40,000 cfs. Work included the design build/closure of the decant structures (total of seven) and the design and construction of a roller compacted concrete diversion structure.

Chino Tailing Reclamation, Hurley, NM - Mr. Hatton is the URS project manager and design engineer for the reclamation of the Chino Tailing Dams 1, 2, B-1, B-2, C, 6-East and 6-West, and the Chino West Dumps. These facilities cover over 3,000 acres and contain an estimated 700 million tons of tailings. The work includes preparation of a site-specific PSHA and state-of-the-art slope stability analysis for closure.

Elizabeth Mine Reclamation, South Strafford, VT - Mr. Hatton was a technical advisor and design engineer for the Elizabeth Mine Reclamation project. Mr. Hatton served as technical advisor for review of the site Elizabeth Mine EE/CA, prepared a preliminary reclamation design, developed a feasibility level construction and operation plans and specifications, and maintained cost estimate for this Historic Copper Mine in Vermont. Reclamation includes resloping of 3,000 feet of tailing slope, removal of abandoned mine drainage (AMD) generating materials, construction of surface water management facilities, and covering the tailing with a multi-layer, multi-barrier

vegetated soil cover. The project used a passive or semi-passive water treatment system incorporating ALDs, OLDs, Anaerobic Bioreactors and Aerobic Wetlands to treat AMD.

Alamitos Canyon Tailing Rehabilitation and Wildlife Enhancement, El Molino Operable Unit, Pecos, NM - Mr. Hatton was the project manager and design engineer responsible for the planning, evaluation, design, and construction for the El Molino operable unit. The project was designed to mitigate acid rock drainage by stabilizing and closing three tailing dams. Work included the evaluation, design and construction of surface water conveyance structures, construction of a PVC lined diversion channel through each tailing pond, reclamation of the Terrero Mill site and construction of the composite liner utilizing multiple geosynthetic materials. The diversion channel consisted of two reaches with a combined total length of about a mile and a capacity in excess of 2,500 cfs. An operation and maintenance plan, health and safety plan and audits, and design and construction documents were also prepared for the project. Mr. Hatton provided technical support for public meetings, presentation to regulatory agencies, and negotiation of reclamation alternatives. This project won the 1997 New Mexico State Mine reclamation award.

Bradley Tailing Diversion and Reclamation Project, Stibnite, ID - Mr. Hatton was the project engineer and design manager for the Bradley Tailing Diversion and Reclamation Project in Stibnite, Idaho. He was responsible for planning and evaluating closure strategies and for managing the design and construction of selected reclamation alternatives. The project site is located in remote areas of Idaho and the project was subject to strict regulatory oversight. The selected reclamation consisted of constructing a mile long diversion channel through an existing, marginally stable, tailing impoundment. The channel, incorporating a sand filter to prevent erosion of tailing, was constructed over soft saturated tailing and includes stream restoration elements. Over 100 acres of tailing and spent ore was reclaimed. Tailing reclamation requiring the design and construction of a cover over soft fluid tailing. The spent ore surface was reclaimed by regrading over 70 acres of spent gold ore, placing select soil amendments to suppress arsenate activity and introducing selected metal tolerant plant species to create a self-sustaining ecosystem. This project received the 1998 Reclamation Contractor, Reclamation Agency, and Reclamation Owner of the year awards from the Idaho Department of Environmental Quality.

The Upper White Water Creek Diversion Project - Mr. Hatton is the project manager and design engineer for the evaluation, design, and construction of a surface water diversion channel and conveyance system designed to carry a probable maximum flood of more than 40,000 cubic feet per second (cfs). The project consists of multiple earthen diversion and conveyance structures including:

- 3,000-foot-long, 30-foot-high earthen diversion dam
- Half-mile-long cross basin diversion channel with an excavated volume of more than 400,000 cubic yards of soil and rock
- 60-foot-high zoned earth detention dam
- A second one-mile-long cross basin diversion channel requiring more than 1,000,000-cubic yards of controlled blasting, rock and soil excavation

Mr. Hatton was responsible for project management and design engineering providing civil, geotechnical, and environmental services including environmental permitting, geotechnical investigation of the diversion facilities, alternative evaluation and value engineering, hydrologic evaluation, hydraulic design, construction cost estimates, construction contract documents, and construction phase services. Mr. Hatton guided the design team working closely with the client from the beginning. The team evaluated alternative diversion concepts, estimated construction costs, and provided value engineering services to optimize the design and minimize the project cost. To date, he has been able to save the client in excess of $1 million in unnecessary design and construction.

Climax Mine, Ten Mile Dam, Decant No. 2 and other reclamation projects, Climax, CO - Mr. Hatton is the project manager and design engineer for ongoing work at the Climax Mine. Work completed includes seismic stability evaluations of the Robinson, Mayflower, and Ten Mile tailing impoundments. Mr. Hatton was the design engineer for the design and construction of the Ten Mile decant bypass line. He is also the design engineer and project manager for the Ten Mile decant structure replacement. This project consisted of the evaluation and development of rehabilitation and replacement alternatives for the Ten Mile decant structure. Final design utilizes acid resistant materials and state-of-the-art structural reinforcement. Mr. Hatton is the project manager and engineer for the reclamation of the Tenmile Tailing Dam. This project consisted of resloping the face of a 350 ft high tailing dam establishing new benches on the dam face, constructed a vegetated soil cover to minimize surface erosion.

Henderson Tailing Dam 1, Decant Investigation and Emergency Repair, Parshall, CO - Mr. Hatton was the design engineer and project manager for the installation of horizontal drains in the Henderson Tailing Dam. This project consisted of evaluating, designing and installing horizontal drains in an upstream method tailing dam to lower the phreatic surface and stabilize abutment seepage. The work included repairs and installation of filtered drains to stabilize failed existing toe drains.

Iowa Gulch Tailing Dam Evaluation, Design and Construction, Leadville, CO - Mr. Hatton served as the project manager, project engineer, and field engineer for the Iowa Gulch Tailing Dam Raise No. 1 construction. He was responsible for the evaluation, design, and construction of an upstream raise to the Iowa Gulch tailing dam. The dam historically had been raised using the downstream method of construction. However, due to capital restraints and physical restraints created by the location, an upstream raise constructed over tailing slimes was designed. The project included evaluation and design of the raise over fine tailing, evaluation and design of surface water runoff facilities, and appurtenant structures.

Registration/Certification/Training

Professional Engineer/CO, NM, MT, VT, and IL

Site Supervisor Trained

Nuclear Density Meter Trained

MSHA Experienced Miner

Chronology

URS Corporation, 2001-Present

Woodward-Clyde Consultants, 1988-2001

Chen and Associates, 1985-1987

F.M. Fox and Associates, 1984

Professional Societies/Affiliations

American Society of Civil Engineers

Education

M.S. Civil Engineering, Colorado State University; B.S. Civil Engineering, Colorado State University

Publications

"Passive Treatment of Acid Rock Drainage (ARD): State of the Practice". Tailing and Mine Waste 2003. Co-authored with L.H. Filipek, J. Gusek, and T. Tsukamoto.

"Don't Sleep with A Drip, Use Horizontal Drains to Control Your Dam Seepage Problem". The Association of State Dam Safety Officials and U.S. Society on Dams Joint Conference, Las Vegas, NV, 2002.

"A Mining Legacy Restored: Keys to the Success of the Bradley Tailing Diversion and Reclamation Project". Tailing 2000, The Association of State Dam Safety Officials and US Committee on Large Dams Joint Conference. Las Vegas, NV. 2000.

"Rapid Piezometer Dissipation Testing for Tailing Dams Investigations", Tailing 2000, The Association of State Dam Safety Officials and US Committee on Large Dams Joint Conference. Las Vegas, NV. 2000.

"The Application of Horizontal Drains to Control Pore Pressures in Tailing Impoundments". The Association of State Dam Safety Officials, 14th Annual Conference, Pittsburgh, PA 1997.

"Remediation of Dams." ASCE Geotechnical Conference, Hershey, Pennsylvania, April 1-3, 1996. Co-authored with D.L. Johnson

"Worster Dam: A Case History in Dam Rehabilitation Using a Flexible Membrane Liner." Seventeenth Annual USCOLD Lecture Series, San Diego, California, 1997.

"The Douglas Dam Emergency Response and Rehabilitation." Proceedings from the Geotechnical Practice in Dam Rehabilitation. Raleigh, North Carolina 1993.

"Timely Response Averts Disaster: Douglas Dam and Spillway Rehabilitation." 9th Annual Conference, The Association of State Dam Safety Officials. 1992. Co-authored with Allen H. Gipson, Jr., and John W. Andrew.

"Constitute Properties for Collapse in a Remodeled Soil." Master's Thesis. Colorado State University. 1988.

John R. Noe, P.E.

Senior Engineer

URS

Areas of Expertise:

- Site Development
- Site Design
- Abandoned Mine Lands Reclamation
- Storm Water, Wastewater, and Sewer and Water Line Design

Overview

Mr. Noe has been actively involved in civil and site engineering since 1970. During this time, he has gained significant experience, especially in site development and site-related activities such as site and grading plans, outside buried piping systems for utilities, site-related design of abandoned mine land (AML) reclamation, water and wastewater treatment plants, storm drainage, sanitary sewers, and water lines. Mr. Noe has worked with the Ohio Department of Natural Resources (ODNR) on numerous projects, including serving as project manager for the Crescent Reclamation Project; Vienna Township Shafts Reclamation; AML Reclamation Project (Multiple Locations) Project; Rock Hollow Road Reclamation Project; Rehoboth Abandoned Mine Reclamation Project, and the Titus Road Reclamation.

Project Specific Experience

ODNR, Crescent AML Reclamation Project, Belmont County, OH – Mr. Noe served as Project Manager and Senior Engineer for this project. The project area consisted of roughly 30 acres of highly erodible coal refuse and spoil sites situated north of Cresent along County Road #5 and Township Road #675. URS's design developed a methodology for stabilizing the refuse, intercepting and conveying surface and groundwater, and minimizing erosion from the project area. URS's responsibilities included site investigation, preliminary design, final design, and project administration and progress meetings.

ODNR, Vienna Township Shafts Reclamation, Trumbull County, OH – Mr. Noe served as Project Manager and Senior Engineer for this project. This project involved the filling and/or capping of five (5) hazardous abandoned underground mine openings located at four (4) separate sites within Vienna Township, Trumbull County, Ohio. The project included plans to revegetate the affected areas at each site. URS conducted site investigations, developed preliminary design concepts, and prepared final plans and construction drawings, final specifications, cost estimates, resoiling and revegetation plans, drainage and erosion control plans, and baseline surveys. This project also included extensive coordination with the AML staff of ODNR, Division of Reclamation, Trumbull County Engineering Department, the Ohio Department of Transportation (ODOT), local Township officials, Youngstown State University, local coal operators, and the Squaw Creek Country Club.

ODNR, Abandoned Mine Land (AML) Reclamation Project (Multiple Locations), OH – Mr. Noe served as Project Manager and Senior Engineer for this project. URS completed a detailed preliminary engineering report for this acid mined land, sediment run-off project in Southeastern Ohio. The work involved correcting hazardous problems such as sinkholes, subsidence, landslides, mine and refuse pile fires, open mine shafts, highwalls, and any problem associated with AMLs.

ODNR, Rock Hollow Road Reclamation Project, Belmont County, OH – Mr. Noe served as Project Manager and Senior Engineer for this project. This project encompassed addressing preliminary engineering alternatives associated with the stabilization of a landslide approximately 150' wide and 250' long underground and/or surface mining operations conducted by Pioneer Coal Company in the late 1930s. Based on geotechnical subsurface investigations, testing and analysis conducted by the ODNR, URS developed a recommended preliminary conceptual plan with estimated construction costs to stabilize the slide area and/or relocate Rock Hollow Road. The project was funded with Federal AML funds.

ODNR, Rehoboth Abandoned Mine Reclamation Project, Perry County, OH – Mr. Noe served as Project Manager and Senior Engineer for this project. URS provided engineering services for completing field investigations, research and the development of design alternatives and recommendations for the Phase III site

reclamation, which included approximately 200 acres of coal spoil accumulated over more than 100 years. An Environmental Assessment was completed for the project, which consisted of investigations involving rare plants and animals, unique wildlife habitat, wetlands, cultural and historic resources, wild and scenic rivers, water quality, recreational resources, prime farmland, air quality, noise, hazardous wastes, and floodplains.

ODNR, Titus Road Reclamation, Gallia and Meigs counties, OH – Mr. Noe served as Project Manager and Senior Engineer for this project. URS provided professional engineering services for the preliminary design for the reclamation of the 230 acre abandoned strip mine area located in Sections 19, 25 and 31 in the southwest quarter of Rutland Township, Meigs County; in Sections 18, 24 and 39 in the north half of Cheshire Township, Meigs County; and in Sections 17, 23 and 29 of the north half of Chesire Township, Gallia County, Ohio. The total project area was separated into five (5) areas for reclamation consideration.

Area No. 1 was situated in Gallia County and contained approximately 30 acres. Area No. 2 was partially within Meigs and Gallia counties and contained approximately 60 acres. Area No. 3 was located partially within Meigs and Gallia counties and contained approximately 70 acres. Areas No. 4 and 5 were located in Meigs County and contained approximately 32 acres and 63 acres, respectively.

The Titus Road Reclamation Project was situated within a 2,600 acre basin watershed with approximately 174 acres of disturbed land due to surface mining. The abandoned contour strip mines were characterized by 30 - 50 foot highwalls, impoundments of varying size, sandy soil, large erosion gullies and bare bench areas with slightly vegetated outslopes. Existing land use in the area consisted of abandoned strip mines, single family residences, small farms, pasture and woodland. During peak rainfall periods, Leading Creek is prone to flooding, which adversely affected Meigs County Road 12 (Titus Road).

URS provided ODNR with: 1) a detailed investigation of the site and that determined the existing condition of the project area; 2) an assessment of the existing erosion, sedimentation, flooding and drainage problems related to the abandoned mine lands at the five project work areas; 3) an examination of various, selected alternatives, to reduce or eliminate the existing problems; 4) preliminary recommendations on a method of reclamation including earthwork, neutralization and removal of water impoundments; resoiling; erosion control structures; fertilizing, liming, seeding and mulching requirements; and 5) an estimate of the costs of the recommended reclamation items. Specific tasks included: aerial photography, mapping (digital terrain models), site investigations, exploratory drilling, laboratory analysis, identification of re-soiling alternatives and preparation of the preliminary design report.

Registration/Certification/Training

Professional Engineer – OH (1974) & KY (1992)

Chronology

URS Corporation, 1983 – Present

Education

B.S. Civil Engineering, Purdue University

Amber Fortner

Mining Engineer

URS

Areas of Expertise:

- Abandoned Mine Lands
- Mining Reclamation
- Mining Engineering

Overview

Ms. Fortner has nine years of experience in abandoned mine lands, reclamation and cost estimation. Ms. Fortner has an extensive background in assessment and remediation of Abandoned Mines involving both hard rock and coal. Ms. Fortner has managed many different contracts, ranging from site inventory and design to construction management.

Project Specific Experience

US Forest Service, Manti La-Sal National Forest, Removal Design and Cost Estimation for Valley View and Vision Abandoned Uranium Mines, Utah and Colorado - Ms. Fortner currently is the Project Manager and Task Lead for the removal design and cost estimate for the abandoned uranium mines. She is the main point of contact with the client and will design the reclamation and cleanup for the project.

Utah Department of Natural Resources, Division of Oil, Gas and Mining, Farnsworth Abandoned Mine Land (AML) Inventory and Assessment, Utah - Ms. Fortner currently is the Project Manager for hard rock, AML inventory being conducted for the project. She is the main point of contact with the client and will provide any project support required by the field crew. The inventory and all reports are expected to be complete June of 2009.

Ames Construction, Temple Mountain Asphalt Ridge #1 Mine, Ecological and Soil Baseline Surveys, Utah - Ms. Fortner was the Project Manager for the ecological and soil baseline surveys being conducted at the site. The baseline surveys are to support the existing notice of intent, for a large mining operation. She was the main point of contact with the client and provided any project support required by the ecologists. The ecological and soil surveys were completed in one month.

BHP Navajo Coal Company, New Mexico - Ms. Fortner was part of the closure team that generated a Closure Plan Report and subsequent Closure Valuation Report for the Navajo Mine Extension Project. Ms. Fortner provided assistance with the closure cost estimates for mining infrastructure and review of existing regulatory mining permits.

Project Manager, Utah AML Program – Ms. Fortner managed several projects associated with Utah's AML reclamation efforts, which included the Serviceberry Canyon, Lakeside, Southport, Settlement, Kessler, and MiVida/Standard Mine Shaft projects. Ms Fortner was point of contact for field engineering and construction for abandoned mines in these projects. She tracked field crews and construction crews, reviewed data for upload into the AMRDB database. She conducted field checks on projects, oversaw inventory activities, and engineering on projects. She held public meetings to address the concerns stakeholders had about the AML program and the AML projects. She assisted with the AML coal reclamation projects and performed construction oversight for several coal bond forfeiture sites.

Project Manager, Barrick Mercur, Utah - Ms. Fortner was the lead manager in working with Barrick Mercur Gold Mine to secure abandoned mines on their property. She prepared all engineering and design data for the AMLs and devised a plan to partnership with Barrick Mercur.

Bonding Administrator, State of Utah - Ms. Fortner worked for the Bond Organization in the Coal and Minerals Regulatory Programs. She verified bond estimate calculations in both programs, assisted the Coal and Minerals Regulatory Program with bond administration, worked with both programs to organize bond files and bonding instruments, assisted with bond calculations and estimates, and performed occasional on-site inspections to verify areas of disturbance and level of activity. She also reviewed and evaluated mine operations and reclamation plans.

Registration/Certification/Training

Mine Closure Planning - A Risk Based Approach
NTTP Historical and Archeological Resources Course
Abandoned Mine Land, Dangerous Openings
Bonding Estimation
Cost Estimation

Professional Societies/Affiliations

Association of State Floodplain Managers, Inc.

Education

B.S. – Mining Engineering, University of Utah

Chronology

URS Corporation, 2007 – Present

State of Utah, Natural Resources Division of Oil, Gas, and Mining, Abandoned Mine Reclamation Program, 2001 – 2007

Kennecott Barney's Canyon, 1999 – 2001

University of Utah, 1994 – 2000

Dennis A. Guthrie, P.E.

Senior Engineer

URS

Areas of Expertise:

- RCRA and CERCLA Closures
- Brownfields Redevelopment
- Environmental Permitting

Overview

Mr. Guthrie has supervised all aspects of site investigations and feasibility studies at numerous private and government facilities with budgets ranging from $5,000 to $9.2 million. His responsibilities have included formulation and technical review of deliverable documents; procurement of subcontractors; project staffing; and the purchase of materials and equipment for environmental investigations, Act 2 closures, Brownfields redevelopment, RCRA Closures, environmental permitting, environmental resource clearances, and major construction projects. His project responsibilities have covered the entire range of project activities including RCRA Closure plans, field investigations, completion of RI/FS reports, permit applications, decision documents, RCRA and CERCLA site closures.

Project Specific Experience

Confidential client – Phase I and Environmental Liability Audits, Seven Coal Producing properties in West Virginia – Managed a team of experts for the assessment of environmental liability for a proposed purchase of seven large coal-producing operations in West Virginia. Performed the audits for three properties including identification of all environmental liabilities associated with the purchase of the facilities.

Ohio Department of Natural Resources, No. 12 Hollow Mining Effects Study – Analyzed the impact of successive mining operations in a watershed in southeastern Ohio to determine whether a recent series of floods was attributable to pre- or post-mining law impacts. Land use changes under a series of mining operations as well as the deposition of several mine spoil piles were modeled to determine how these changes affected flooding in the watershed.

Robinson Town Centre, Pittsburgh, Pennsylvania – Served as project engineer in the completion of Pennsylvania Department of Environmental Resources surface mining permit. Designed all of the surface water conveyances, retention ponds, and multiple valley fills for the entire development project.

Office of Surface Mining Subsidence Investigation, Western Pennsylvania – Performed numerous site investigations into the cause of subsidence suspected to have been mine-related. The investigations included soil and rock sampling and identification, damage surveys, and the use of a borehole video camera to analyze subsurface failure modes.

Sullivan Refuse Fire, Marion County, West Virginia – Prepared plans for coal refuse fire abatement. The abatement included excavation quenching and restoration of the excavation according to a tightly staged schedule.

Hobet Coal Company Mine Refuse Disposal – Analyzed preload conditions and provided soil settlement designs, wrote a computer analysis program for analyzing slurry pond stability during embankment construction.

Terry Eagle Coal – Provided soil and hydraulic analysis, sizing and design of spillways for sediment dams, and performed slope stability analysis.

PCI Hydrologic Investigation – Planned, and supervised a study to determine aquifer properties and provided a conceptual design of a dewatering system for the construction of an industrial facility. Performed three-dimensional groundwater modeling to estimate the quantity of groundwater infiltration into a deep construction excavation, the

amount of pumping required to keep the excavation free from infiltration and the size of an infiltration pond to dispose of the pumped water.

Confidential client – Compliance audits of coal producing facilities in West Virginia – Performed comprehensive environmental audits of two major coal-producing facilities in West Virginia. Examined all media in a team effort and completed a summary report.

Allegheny Energy Supply, Inc. – Evaluated the potential for coal-pile runoff to contaminate ground water at a coal fired power plant. The evaluation included statistical analysis of surface water data, infiltration and runoff modeling and determination of ditch adequacy.

Cyclops Steel Corporation, Pennsylvania – Developed the emergency report on an acid groundwater seepage problem, including conceptual design of proposed remedies.

Ohio River Park Superfund Site, Neville Township Pennsylvania – Managing the long-term monitoring of a PRP-lead former hazardous waste disposal site on an island in the Ohio River. The remedy includes an impermeable landfill cap, cap performance monitoring, groundwater monitoring beneath the back channel of the Ohio River, monitoring well installation, and rehabilitation, groundwater contamination and flow monitoring, landfill gas monitoring, contaminant transport evaluation, statistical trend evaluation and periodic site review of the effectiveness of the cap and intrinsic remediation of groundwater. The project includes coordinating permits with the Pittsburgh District Corps of Engineers for work within the Ohio River. The project also included obtaining revisions to the FEMA flood plain maps.

Registration/Certification/Training

Professional Engineer – WV, PA, and OH
Hazardous Waste Training (OSHA CFR 29:1910:120). Hazardous Waste Supervisory Training. Confined Space Entry Certification
Troxler Nuclear Density Gage Certification

Professional Societies/Affiliations

American Society of Civil Engineers
Chi Epsilon Civil Engineering Honor Society
Tau Beta Pi Engineering Honor Society

Chronology

URS Corporation, 1999 – Present
ICF Kaiser Engineers, 1985 - 1999

Education

M.S. Candidate, Civil Engineering, Carnegie Mellon University; B.S. Civil Engineering, University of Pittsburgh

Sotero Svingos, P.G.

Senior Environmental Scientist/Geologist

URS

Areas of Expertise:

- Coal Reserves Studies
- Geological Investigations
- Water Quality Monitoring
- Phase I Environmental Site Assessments

Overview

Mr. Svingos has experience in various types of environmental site assessments and remediation planning, ground water investigations, petroleum site investigation, remediation, and closure. The following is representative of his experience:

Project Specific Experience

- In 2005, as part of a deep coal mine complex (the former J & N Processing Company, LLC, Maple Meadow Mine and Processing Plant facilities) closure project located near Beckley, WV with the WVDEP – AML Program's Special Reclamation Office, Mr. Svingos completed various environmental tasks involving: waste characterization and disposal of eight 2-ton substation power transformers containing >50 ppm PCB fluids; hazardous waste characterization and disposal of approximately 75 drums of waste fluid; hazardous waste characterization, excavation, and disposal of approximately 750 tons of PCB and TPH impacted soil; and submittal of a report to the WVDEP, Office of Special Reclamation.

- Supervised the closure of five underground storage tanks for the West Virginia Department of Highways. Project included monitoring site activities of the contractor, soil and groundwater sampling, waste disposal documentation, and reporting. Remediation required at the site included the removal of approximately 5,200 y^3 of petroleum contaminated soil which was land farmed. Following a six month period of bioremediation, the biopile was sampled and a No Further Action for the DOH facility and biopile was issued by the WVDEP.

- Conducted various phases of soil and groundwater assessments at numerous West Virginia Department of Highways maintenance facilities. Projects included soil and groundwater sampling for petroleum hydrocarbons, monitoring well installation, and recommendations for remediation.

- Conducted soil and groundwater assessments at West Virginia Department of Highways maintenance facilities for chloride impacts from road salt storage systems. Assessments included soil sampling and installation and sampling of groundwater monitoring wells. Secondary Drinking Water Standards were used as an action level for chlorides in groundwater. Recommendations for remediation included soil removal, as well as risk assessment through the WVDEP Voluntary Remediation Program.

- Supervised the closure of petroleum related USTs at over 25 West Virginia Department of Highways maintenance facilities. Projects included monitoring site activities under the WVDEP Class B Certification, soil sampling, waste disposal, and reporting to the WVDEP.

- Participated in the environmental site assessment for real estate transfer of 228 natural gas wells, 23 gas measurement stations, and associated gathering systems. Field work involved review of each site and soil sampling of 37 sites for presence of petroleum hydrocarbons and mercury.

- Supervised the environmental site assessment for approximately 1,000 feet of abandoned 8-inch subsurface petroleum product piping associated with a former refinery. Elements of the project included pipeline location, soil and groundwater assessment, and the installation of a soil vapor extraction system to mitigate soil and groundwater impacts. Activities also included the evacuation of residual product from the pipeline and subsequent pressure grouting for in place abandonment.

- Conducted soil and groundwater assessments at a liquid extraction plant for a natural gas transmission facility. Elements of the assessment included the installation and sampling of groundwater monitoring wells, the design and implementation of a soil sampling plan to assess extraction liquid containment areas, and soil and groundwater remedial recommendations.
- Team leader for the environmental assessment of a natural gas production field. Responsibilities included gathering historical data, site reconnaissance, sampling, and report preparation.
- Conducted site assessments for leaking UST (LUST) sites in accordance with the "Guidance Document for LUST Site Assessments and Corrective Actions". Project manager for characterization of leaking UST sites in Kentucky, Ohio, Tennessee, Virginia, and West Virginia in accordance with respective state corrective action guidance document requirements. Developed and implemented corrective action plans for the remediation of impacted groundwater and soil at sites in Kentucky, Ohio, Virginia, and West Virginia.
- Performed site assessments and supervised UST closures for over 250 sites in one state. Prepared closure reports for submittal to the state's regulating agency.
- Supervised installation of monitoring wells and subsurface soil boring to determine extent of petroleum contamination in soil and groundwater at a former bulk fuel facility. Responsibilities included subsurface soil sampling, groundwater sampling, slug testing to determine hydraulic conductivity of groundwater beneath the site, and report preparation.
- Project manager for phytoremediation project at a former petroleum refinery. Elements of the project included the installation of 15,000 hybrid poplar trees over a 20 acre site to mitigate petroleum impacted soil and groundwater.
- Supervised installation of monitoring wells as part of a groundwater investigation for the presence of PCBs at a gas measurement facility. Responsibilities included subsurface soil sampling, groundwater sampling, and performing slug tests to determine hydraulic conductivity beneath the site. A report was submitted to the state's EPA under the PCB Spill Cleanup Policy.
- Performed an environmental audit, including limited sampling, of four natural gas compressor stations. The audit was performed to assist in negotiations for sale of the properties. Key elements of the audit included safety issues, historical operations, SARA III reporting, air emissions, regulatory permitting, releases to the environment, SPCC plans, and construction materials.

Registration/Certification/Training

Professional Geologist – PA and TN

40 Hour OSHA Health and Safety Training

8 Hour OSHA Supervisor Training

Underground Storage Tank Class B Certification, WV Certification #B037

8 Hour American Red Cross Basic First Aid and CPR Training

Chronology

URS Corporation, 1985 – Present

U.S. Army Corps of Engineers, 1983 – 1985

John T. Boyd Co. Mining and Geological Engineers, 1978 – 1982

Education

B.S. Geology, Marshall University

V. Marcus Lowery, P.E., P.L.S.

Senior Engineer and Professional Land Surveyor

URS

Areas of Expertise:

- Roadway & Drainage Design
- Civil/Site Development Design
- Route Location Surveys
- Property & Right-of-Way Surveys

Overview

Mr. Lowery has over 14 years of experience in the Civil/Site and Transportation/Highway Engineering fields. While in North Carolina, Mr. Lowery worked for both the public and private sectors performing Project Management and Design Engineering. Most recently, while with a consultant, Mr. Lowery served as Project Manager/Senior Engineer for North Carolina Department of Transportation (NCDOT), municipal, railroad, and private clients. Mr. Lowery was responsible for establishing and maintaining budgets and schedules, preparing and sealing final construction plans, engineer's estimates, project special provisions, and final survey plats. Mr. Lowery was also involved in client relations through scoping and negotiating for new projects. Since joining URS Corporation, Mr. Lowery has been the key player in starting a Survey Group by managing equipment acquisition, field surveys, and office operations. Mr. Lowery has also served as Project Manager and Senior Technical Reviewer on several transportation projects.

Project Specific Experience

Herman Road Bridge Replacement, Marion Township, Beaver County, PA, Pennsylvania Department of Transportation (PennDOT) - URS is currently completing final design for this bridge replacement project. To meet current design standards and to improve safety associated with this deteriorating bridge, the proposed bridge location would involve the permanent impact of Brush Creek. URS working with PennDOT, PADEP, and PFBC developed a stream restoration plan that involved natural stream channel design (NSCD) techniques and structures along with a native planting plan. Mr. Lowery worked as the Survey Project Manager for the project, performing the duties of field survey and overseer of all field survey work, office computations, and CADD work.

Dithridge Street Waterline Improvements, Pittsburgh, PA, Pittsburgh Water & Sewer Authority (PWSA) - URS is currently wrapping up route-location surveys for a major waterline replacement project running approximately 2,000 linear feet and covering 9 acres from the Pump Station at Dithridge St. and Center Ave. to the Herron Hill Reservoir at the top of Herron Hill. Mr. Lowery worked as the Survey Project Manager for the project, performing the duties of field survey and CADD fee estimates, overseer of all field survey work, office computations, and CADD work.

Mon-Fayette Expressway, Pittsburgh, PA, Pennsylvania Turnpike Commission - URS Corporation has teamed up with other consultants to design this complicated I-376 and Mon-Fayette Expressway interchange in Oakland. URS has been tasked, among other things, with structure design, geotechnical design, utility conflict design, and storm drainage design. Mr. Lowery served as Senior Technical Reviewer for the drainage design for Design Field View plan submission. He also performed preliminary cost estimates for drainage quantities.

Hallelujah Acres Site (Mixed Use Development), Shelby, NC, Hallelujah Communities, LLC – Mr. Lower worked as the Civil Engineer and Land Surveyor of record on a project team consisting of an Architect, Landscape Architect/Land Planner, Structural Engineer, Mechanical Engineer, Electrical Engineer, Construction Manager, and Interior Designer. Mr. Lowery was the primary point of contact for TGS Engineers (his former employer). Prior to leaving the firm, Mr. Lowery was involved in project planning, contract negotiations, boundary and topographic surveys, preliminary horizontal, vertical, and grading design, and the public agency review and buy-in process.

Park Crossing Subdivision, Rutherfordton, NC, WNC Holdings, LLC – Mr. Lowery worked as the Land Planner, Civil Engineer, and Land Surveyor of record on a project team consisting of the Owner/Developer, Home

Builder, Grading Contractor, and Real Estate Agency. Mr. Lowery was the primary point of contact for TGS Engineers (his former employer). Prior to leaving the firm, Mr. Lowery was the key player in the boundary and topographic surveys, subdivision layout and design, mass-grading and erosion control plans, waterline plans, sanitary sewer plans, and the public agency review and buy-in process.

Magnolia Plantation (Mixed Use - Planned Unit Development), Shelby, NC, Magnolia Partners, LLC – Mr. Lowery worked as the Land Planner, Civil Engineer, and Land Surveyor of record on a project team consisting of the Owner/Developer, Home Builder, Grading Contractor, and Real Estate Agency. Mr. Lowery was the primary point of contact for TGS Engineers (his former employer). Prior to leaving the firm, Mr. Lowery was the key player in the boundary and topographic surveys, subdivision layout and design, mass-grading and erosion control plans, waterline plans, sanitary sewer plans, and the public agency review and buy-in process.

I-40 & I-77 Interchange, Statesville, NC, NCDOT - TGS Engineers performed Hydrographic & Drainage Surveys on 13 miles of Interstate/Side Roads for a project planned to re-work a major interstate interchange. Mr. Lowery served as Survey Project Manager for this project responsible for scoping and negotiating man-hours, providing bi-weekly progress reports, overseeing project mapping, and project deliverables.

Intersection of I-77 & SR 1102, Mooresville, NC, NCDOT - TGS Engineers performed Condemnation Surveys for nine (9) parcels affected by this proposed interchange project. Mr. Lowery served as the Record Surveyor for this project responsible for Condemnation Survey Exhibits for court proceedings.

US 221 from SC State Line to US Hwy 74, Rutherford County, NC, NCDOT - TGS Engineers performed complete Route Location/Existing Conditions Surveys for 9 miles of two-lane roadway to be re-aligned and widened. Mr. Lowery served as Survey Project Manager for this project responsible for scoping and negotiating man-hours, providing bi-weekly progress reports, overseeing project mapping, and project deliverables.

WBS Element: 37441, Cleveland County, NC, NCDOT - TGS Engineers developed construction plans, specifications, engineer's estimate, and contract documents for 2 sites along SR 1001 where the roadway needed re-aligned and widened to alleviate unsafe conditions. Mr. Lowery served as the Project Manager responsible for the roadway design, construction plan-set, contract documents, and NCDOT consultant representative.

Riverbend Marketplace Roadway, Asheville, NC, Horn Properties, LLC - TGS Engineers developed construction plans and specifications for this roadway project, which serves as a secondary access road to Riverbend Marketplace featuring a Super Wal-Mart, Kohl's, and PetSmart. Mr. Lowery served as the Drainage Design Engineer responsible for the project drainage consisting of storm sewer systems and open drainage-ways.

Registration/Certification/Training

- Professional Land Surveyor, NC (PLS#: L-4002) and PA (002015 [Temporary])
- Professional Engineer, NC (PE#: 27418) and PA (PE074797)
- Certified Floodplain Surveyor (Certification No. NC-026)

Chronology

URS Corporation, 2007 – Present
TGS Engineers, 2005 – 2007
City of Charlotte, NC, 2004 – 2005
TGS Engineers, 2002 – 2004
NCDOT, 2001 – 2002
TGS Engineers, 1999 – 2001
NCDOT, 1993 – 1999

Education

B.S. Civil Engineering, North Carolina State University

Areas of Expertise:

- Decontamination and Demolition
- Construction Quality Assurance
- Site Management
- Environmental Health and Safety

John J. Smelko

Office Manager and Environmental Staff Scientist

Overview

Mr. Smelko is currently serving a dual role for URS. He is Office Manager of the Charleston (Scott Depot), WV office and also Project Manager and Environmental Staff Scientist specializing in environmental and remedial projects. He has a very strong background in Construction Quality Assurance (CQA) work and associated Site Management, Environmental Field Sampling/Chemistry Work, Environmental Health and Safety, Technical Writing, and Organic/Inorganic Data Validation. He has been in the environmental field for 20 years and has managed and trained employees in the key performance areas listed below.

Project Specific Experience

URS Charleston, WV Office Manager

Currently managing a staff of environmental and transportation engineers. In addition to managing environmental projects, office employees report both functionally and administratively through Mr. Smelko. Primary duties include office sustainability through quality workmanship and local/regional market development with the intent to grow the office both in size and revenue.

Environmental Science Experience:

- **Confidential Client – Phase I ESAs of Surface and Underground Mine Complexes in Kentucky and West Virginia** – Mr. Smelko assisted URS staff from multiple offices to complete Phase I ESAs of three mine complexes in eastern Kentucky and southwestern West Virginia that encompassed ~216,000 acres. Underground mines, surface mines (that included contour and highwall mining operations), and surface facilities (prep plants, tipples, loadouts, truck shops, warehouses, and offices) were investigated.
- **Confidential Client, Decontamination and Demolition Project** - Assistant Project Manager and Site Manager on a multi-million dollar decontamination and demolition project for a major chemical manufacturing corporation. Specifically providing technical support on scoping activities and acting environmental health and safety leader for the project.
- **Hazardous Waste Site Work, Various Locations** – Site Manager and Project Chemist on numerous hazardous waste projects including work for PA Department of Environmental Protection: Tri-State Wholesale Oil Company Site, Mattes Sandblasting Site, and Superior Dry Cleaning Site. Primary work involved hazardous waste characterization and disposal as well as general site clean-up in order to mitigate potential threats to human health and the environment.
- **US Army Corps of Engineers Demolition Project** - Health and Safety Officer for a US Army Corps of Engineers Demolition Project ($17-18 Million Project) – Managed a multi-lingual work force of 150, managed Lock-Out/Tag-Out and Hot Work Programs, interfaced with the client, conducted health and safety meetings, developed work practice modifications as necessary, and performed general health and safety oversight.
- **Confidential Oil Industry Client** – Provided construction quality assurance oversight of geosynthetic liner system installation for a storm water treatment pond and wrote the associated certification report.

Registration/Certification/Training

Hazardous Waste Operations and Emergency Response Training

HAZWOPER 8-Hour Refresher Training

Troxler Nuclear Density Gauge Safety Training

Niton XRF Safety Training

Confined Space Entry Training

American Red Cross - CPR/First Aid Training

Asbestos Abatement Supervisor – WV License

Apollo Root Cause Investigation Training

Education

B.S. Applied Mathematics, University of Pittsburgh

Chronology

URS Corporation, 1993 – Present

Keystone Environmental Resources, Inc., 1986 – 1993

4 PROPOSED SUBCONTRACTORS

At this time no subcontractors are to be utilized; however, if services would be required (i.e., geotechnical testing, materials testing, drilling, aerial photography, and other services) that dictate the need for other subcontractors, URS can quickly add any of our many available subcontractors.

5 PRODUCT QUALITY CONTROL

Quality Assurance/Quality Control

URS is committed to providing quality service to our clients. To meet this commitment on all projects, URS has established and implemented a Quality Assurance/Quality Control (QA/QC) Program. Strict adherence to the following procedures ensures that our product will be on schedule, within budget, and constructed with minimum changes or problems.

QA/QC and Project Management Plans

When beginning a task or project, the QA/QC Officer will create a QA/QC Plan identifying each applicable element of the QA/QC Program and submit it for review and approval by the Project Manager.

The Project Manager will prepare a Project Management Plan (PMP), incorporating input from all key project staff as well as the QA/QC Officer. Typically, the PMP will include:

- A detailed scope of work;
- A project schedule clearly identifying project milestones and submittal dates;
- A manpower breakdown and cost estimate indicating the work effort required for each element of the project;
- A list of key staff for URS and WVDEP with contact phone numbers; and
- An outline of project communication procedures.

After complete review and approval by the QA/QC officer, signed copies of the PMP and QA/QC Plan will be distributed to key project staff at URS. The PMP is reviewed monthly and updated as necessary.

Detailed Checking

Detailed checking is performed for all reports, computations, plans, and specifications. The checker initials and dates all computations and the checked set of documents are stamped, initialed, and signed. All information is independently checked before it is submitted to WVDEP. A QA form documents completion of the detailed checking and confirms the proper resolution of all discrepancies. The form is signed by the checker and the Project Manager.

Audits

A paperwork audit is performed on all projects within 30 days of Notice to Proceed to assure completion of the QA/QC Plan and PMP. Nonconformance issues are reported to the Office Operations Manager. All projects undergo an annual Technical Audit, conducted by the Operations Manager, to assure conformance with all applicable URS QA/QC procedures.

Project Control

A monthly Estimate to Complete (ETC) is performed on each project or task to compare the percent complete versus the percent of funds expended. This process flags potential overruns early on so that measures to complete the remaining work within budget can be implemented. The ETC,

prepared by the Project Manager, is reviewed and approved by the Principal-In-Charge and submitted to the Operations Manager.

Record Keeping

All QA/QC documents described above are filed in the QA/QC folder within the Project Central File.

In summary, the cornerstone of URS Corporation's reputation as a global leader in environmental, planning, and engineering services is found in its commitment to quality as well as execution of and adherence to our overall QA/QC, auditing, project control and records program.

6 PROJECT COST CONTROL

URS Corporation maintains, and has in effect, a cost accounting system that segregates and identifies accumulating costs for each job performed under cost-type contracts. Our accounting system has been used and accepted for other projects performed for the West Virginia Department of Transportation.

URS is committed to our role as stewards of government funds, and we will work as partners with the WVDEP to meet project challenges. Handling multiple simultaneous requests for cost proposals from scattered locations will pose no challenges, as URS has multiple, qualified senior personnel in all disciplines throughout the eastern United States. Each of these professionals can process cost requests and negotiate simultaneously; if any one office experiences an unusually large number of requests, other offices can quickly provide assistance.

We understand budgets and develop them using the latest techniques, including value preservation and rigid quality control. We control costs through the following methods:

- Use of highly qualified personnel on all assignments.
- Corporate-wide computer network for cost efficiency among resources.
- Realistic cost estimation using fully automated, interactive cost accounting tools.
- Competitive procurement where appropriate for best value.
- Management of subcontractors for optimal performance including:
- Weekly review of project costs and immediate correction of problems.
- Weekly review of schedules and immediate initiation of corrective measures for schedule-critical activities.
- Strict adherence to a concise but accurate documentation of work activities.
- Immediate attention to and resolution of problems.
- Strict adherence to quality control plans.

Our corporate and project financial accounting systems comply with the Federal Acquisition Regulation Supplement (FAR), Defense Federal Acquisition Regulation Supplement (DFARS), and Cost Accounting Standards (CAS) requirements. Senior staff with relevant experience completed cost estimation in the proposed scope of work; all documents are thoroughly reviewed to reduce the number of change orders processed throughout the undertaking.

Our information management systems allow project managers to monitor expenditures, identify potential cost overruns, and take corrective actions before problems develop. Our Project Managers will manage the projects according to those procedures. All direct, indirect, overhead and profit (i.e., fee) charges are established on the basis of a current DCAA audit.

7 CONCLUSION

URS' Scott Depot Office is located approximately 27 miles west of the WVDEP - Office of Abandoned Mine Lands & Reclamation's main office in Charleston and is approximately 98 miles from the Measle Fork Refuse Area project site located in the vicinity of Maben, WV. Our staff from the Scott Depot, Morgantown, and Pittsburgh offices has a thorough knowledge of the geographical area of the project area. Additionally, our staff has established working relationships with WVDEP - Office of Abandoned Mine Lands & Reclamation, WV Division of Natural Resources, U.S. Department of the Interior – Office of Surface Mining, and U.S. Army Corps of Engineers – Pittsburgh District staff, which all may have project involvement. These relationships have been developed while working on numerous projects in West Virginia.

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

AML CONSULTANT QUALIFICATION QUESTIONNAIRE **Attachment "B"**

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
Measle Fork Refuse Area Design	24, 09, 09	94-1716908

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
URS Corportation	#4 Mission Way, Suite 201 Scott Depot, WV 25560	Greiner, Inc., URS Greiner, Inc., URS Greiner Woodward Clyde

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
304.757.6642	1904	Individual X Corporation Partnership Joint-Venture	YES X NO

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

ADDRESS	TELEPHONE	PERSON IN CHARGE	NO. PERSONNEL
#4 Mission Way, Suite 201 Scott Depot, WV 25560	304. 346-6707 FAX 304.346.6708	John J. Smelko	14
Foster Plaza 4 501 Holiday Drive, Suite 300 Pittsburgh, PA 15220	412.503.4700 FAX 412.503.4701	Thomas G. Bice	192
277 West Nationwide Blvd Columbus, OH 43215	614.464.4500 FAX 614.464.4501	James R. Linthicum	190
8181 East Tufts Avenue Denver, CO 80237	303.694.2770 FAX 303.694.2771	William Ettenger, Jr.	577
3604 Collins Ferry Road Morgantown, WV 26505	304.225.5111 FAX 304.599.8904	Chet Parsons	217

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM

8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS

East 3, Region 1

Scott Depot, WV Branch Manager	John J. Smelko
Regional General Manager	Jeff Guzy, P.E. Vice President
Sub-Regional Manager	Thomas G. Bice, P.E. Vice President

Vice Presidents

Jeffrey Guzy, P.E.
David Beachler, Q.E.P.
Gregory H. Deaver, P.E.
C. Thomas deLormier, P.E.
C. Michael Dougherty, P.E.
Alexander Houseal, P.E.
John Lang, P.E.
Gary M. Luczak, P.E.
Oscar K. Mabry, P.E.
Renaldo Ng, P.E.
Michael D. Steer, P.E.
Steve Tull, R.P.A.
Robert Waitkus, P.E.
Jerry Joseph, P.E.

9. PERSONNEL BY DISCIPLINE => Numbers reflect participating URS offices. Numbers in parentheses () reflect personnel in entire company.

35 ADMINISTRATIVE (2,103)	13 ECOLOGISTS (113)	2 LANDSCAPE ARCHITECTS (97)	49 STRUCTURAL ENGINEERS (766)
35 ARCHITECTS (741)	— ECONOMISTS (38)	18 MECHANICAL ENGINEERS (714)	20 **SURVEYORS (241)**
48 **BIOLOGIST (316)**	16 ELECTRICAL ENGINEERS (1,142)	2 **MINING ENGINEERS (673)**	19 TRAFFIC ENGINEERS (531)
50 **CADD OPERATORS (1,396)**	58 ENVIRONMENTALISTS (2,286)	— PHOTOGRAMMETRISTS	654 OTHER (36,979)
2 CHEMICAL ENGINEERS (473)	10 ESTIMATORS (225)	9 PLANNERS: URBAN/REGIONAL (267)	
75 **CIVIL ENGINEERS (4,091)**	24 **GEOLOGISTS (934)**	— SANITARY ENGINEERS (33)	
44 CONSTRUCTION INSPECTORS (1,467)	1 HISTORIANS (17)	2 SOILS ENGINEERS (216)	1,190 TOTAL PERSONNELL (56,407)
1 DESIGNERS(131)	3 HYDROLOGISTS (185)	— SPECIFICATION WRITERS (32)	
— DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 13
***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO

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

URS offers a regional staff of professionals in many disciplines. Therefore, outside consultants are not normally necessary. If the project requires it, however, we will retain specialty subconsultants to provide expertise not available in-house. Subconsultants thus engaged would be completely qualified and subject to approval by the agency under whose jurisdiction the project falls.		WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS: Skelly & Loy, Inc. 449 Eisenhower Boulevard, Suite 300 Harrisburg, PA 17111-2302	SPECIALTY: Environmental & Engineering Services	WORKED WITH BEFORE ___X__ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No

12. A. Is your firm experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

X YES Description and Number of Projects: URS has broad and diverse experience in all aspects of mine closure projects ranging from assessment of physical public safety through opening closure assessments to complex environmental issues associated with small as well as large mine sites. Our work covers the full scope of work, investigation and field inventory, land ownership, engineering, design, and construction management. URS is a recognized leader in providing civil and geotechnical engineering, environmental, water resources, and waste/tailing management services to the mining industry.

NO

B. Is your firm experienced in Soil Analysis?

X YES Description and Number of Projects: Soil profile analysis and foundation investigation work has included all phases of soil work and interpretation of aerial photography; soil sampling; laboratory testing and analysis including C.B.R., consolidation, and shear tests; direction and supervision of rig borings; and interpretation of the soil analyses and tests with recommendations for design. Design problems have included foundations for structures, foundations for highways through areas of unstable materials, design of fill slopes, design of cut slopes in materials of all types, and pavement design. Designs have included spread footings and pile foundations for structures varying to depths of more than 200 feet; highway embankments through unstable materials constructed by partial or complete removal and backfill, and by consolidation through the use of surcharge and/or sand drains; and design of stable cut slopes.

NO

C. Is your firm experienced in hydrology and hydraulics?

X YES Description and Number of Projects: URS has provided hydraulic and hydrologic engineering service to a variety of federal, state, municipal and private clients, including Flood Control Studies, Flood Insurance Studies, Bridge Scour Evaluations and Water Supply Studies. Building on this recent and long-standing experience, the URS team will be able to provide the WVDEP with efficient and economical services, having been through the "learning curve process".

Local URS staff assigned to this project are experts in flood control engineering. As part of this work, URS routinely uses computer software applicable to hydrologic and hydraulic engineering, including HEC-1, HEC-2, HEC RAS, DAMBREAK, HEC IFH, ARCINFO as well as GIS and CADD

NO

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

X YES Description and Number of Projects: URS has used GIS technology in support of a variety of investigations including flood hazard analyses, land use planning and characterization, dam impact studies, water quality and biohabitat analysis, natural hazard mitigation, and drinking water source evaluations. We have used ARC / INFO, MapInfo and Intergraph software that are run on both PC-based and Sun Work station hardware systems. We also have state-of-the-art color plotters for output of mapping products from GIS applications.

X NO URS does not have Aerial Photography Capabilities

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.)

X YES Description and Number of Projects: URS has performed/provided services from concept through construction for the development of multi-discipline engineering and architectural services including industrial, and domestic wastewater, and stormwater evaluations, environmental studies, reports and permits. Services included planning, studies, wastewater and stormwater characterization, recommendations, programming, preparation of appropriation forms with justifications and cost estimates, geotechnical evaluations, soil investigations, topographic surveys, preparation of final designs and specifications, contract negotiations support, construction management, construction scheduling, analysis of contractor cost and progress, contractor submittal reviews, quality control, construction inspection and testing, CPM analysis and start-up assistance when required. Facilities include water intake and discharge structures, industrial and domestic wastewater treatment systems, major oil and water piping and pumping installations, cross-country oil and water pipelines, sophisticated security, control and communications systems, environmental and fire protection facilities, primary and secondary electrical power distribution systems and a multitude of control, office, operations, guard, and storage buildings as well as roads, parking, and landscaping. Construction management and construction inspection has been performed on contracts ranging in size from $500,000 to $35,000,000 and totaling more than $750,000,000.

NO

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

X YES Description and Number of Projects: URS has staff expertise in AMD water quality evaluation and passive treatment design. URS staff has evaluated AMD discharge chemistry and flows to determine options available to eliminate the associated problems. Our staff has designed treatment systems utilizing passive techniques not only for AMD problems (i.e., anoxic limestone drains, vertical flow wetlands, open limestone channels, aerobic/anaerobic wetlands, settling basins, and sulfate reducing bioreactors [SRBs]), but also for landfill leachate, sanitary system upgrades, storm water attenuation, nitrate removal (from munitions plant discharges), and for other wastewater streams.

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		
Weihbrecht, William	YEARS OF AML DESIGN EXPERIENCE: 6	YEARS OF AML RELATED DESIGN EXPERIENCE: 12	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Weihbrecht is a senior stream restoration specialist who has more than 30 years of experience related to watershed studies & stream restoration. He has over 12 years experience in abandoned mine land (AML) reclamation, which includes inventory and restoration design in West Virginia. Mr. Weihbrecht served as President and co-owner of Aquatic Resource Restoration Company, a design/build firm specializing in water resource projects. He is an active member of the Keystone Stream Team (Pennsylvania) and was responsible for writing keys elements of the Natural Channel Design Guidelines pertaining to Permitting and Construction. Most recently Mr. Weihbrecht was awarded the 2008 York County Watershed Stewardship Award from the York County Conservation District.

EDUCATION (Degree, Year, Specialization)

B.S. Environmental Biology, Millersville University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Watershed Alliance of York (WAY) Pinchot Chapter, Izaak Walton League of America Keystone Stream Team	Rosgen Level I - Applied River Morphology Freshwater Wetland Construction

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		
Page, Thomas A., CEA, REPA	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 11	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Page is a Senior Environmental Scientist with more than 20 years of experience. Mr. Page provides a broad array of environmental services including wetlands identification and delineation, aquatic biological surveys, benthic macroinvertebrate sampling, watershed and stream assessments, aquatic resource mitigation, natural stream channel design, threatened and endangered species studies, rail-to-trail studies, abandoned mine drainage (AMD) remediation, environmental permitting, construction/compliance monitoring, NEPA surveys, Phase I Environmental Site Assessments (ESAs), and grant application preparation.

EDUCATION (Degree, Year, Specialization)

M.S., Wildlife and Fisheries Resources
B.S., Environmental Resource Management

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Fisheries Society; National Registry of Environmental Professionals (NREP); Xi Sigma Pi, Forestry National Honor Fraternity; Gamma Sigma Delta, The Honor Society of Agriculture and Forestry; Alpha Gamma Rho, National Agricultural Fraternity	Certified Environmental Auditor Registered Environmental Property Assessor

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		
Bosley, R. Bruce, PE	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Bosley has over 14 years of engineering experience primarily in West Virginia and has been responsible for the study, engineering design and preparation of contract plans and related documents for various commercial, industrial, and water/wastewater facilities. Having served as project manager and structural engineer on several structural projects, his management and engineering tasks include representing URS to the client in regard to all project management matters, structural steel design, reinforced concrete design, core boring administration, shop drawing review, and Quality Assurance/Quality Control (QA/QC) reviews. Some projects involved the design and study of mechanically stabilized earth (MSE), pile/lagging, segmental block and cast-in-place retaining walls. Provided Clean Water Act Section 404 and 401 permitting and assisted in various stream bank mitigation projects.

EDUCATION (Degree, Year, Specialization)

B.S., Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers	Professional Engineer - WV

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Gunn, Briana, PE	YEARS OF AML DESIGN EXPERIENCE: 4	YEARS OF AML RELATED DESIGN EXPERIENCE: 7	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 3

Brief Explanation of Responsibilities

Ms. Gunn is a Design Engineer in the URS Water Resources Department. She has seven years of experience in hydraulic and hydrologic design. This includes mine reclamation, water management, design of storm water infrastructure and floodplain management and streambed restoration. In addition she has knowledge in storm water conveyance and drainage design. Ms. Gunn has experience using modeling software such as HEC-HMS (HEC-1), HEC-RAS, SWMM, ArcGIS and StormCAD.

EDUCATION (Degree, Year, Specialization)

M.S., Civil Engineering

B.S., Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Association of State Floodplain Managers, Inc.	Professional Engineer - CO

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		
Hatton, Christopher N., PE	YEARS OF AML DESIGN EXPERIENCE: 20	YEARS OF AML RELATED DESIGN EXPERIENCE: 20	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Hatton is a registered professional engineer with over 20 years of diversified heavy civil engineering and environmental engineering experience providing services for the mining industry. He has been responsible for the investigation, evaluation, design, construction, and rehabilitation of civil engineering structures and environmental projects for base and precious metals mines worldwide. Mr. Hatton has a broad base of experience providing "cradle to grave" services for the mining industry, including mine closure planning, mine reclamation, acid rock drainage mitigation, engineered risk assessment, and waste management. His project experience includes the evaluation, design, construction, and reclamation of tailing dams, heap leach and surface water storage and conveyances. He is also responsible for training mine operations staff in the safe operation of tailing and water retention facilities. Mr. Hatton brings to his clients and projects a down to earth, pragmatic approach to solving complex problems.

EDUCATION (Degree, Year, Specialization)

M.S., Civil Engineering

B.S., Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers	Professional Engineer - CO, NM, MT, VT, and IL

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		
Holsing, Mark S., PG, PLS	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 11	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Holsing has 22 years of experience in successfully applying his technical expertise in geology, hydrogeology, contaminant fate and transport, and environmental sampling and analysis for private (industrial and commercial) and public sector clients. He provides external and internal environmental consulting services in the areas of environmental due diligence assessments, site characterization programs, remedial design, baseline risk assessments, waste characterization and management, multi-media environmental permitting, and regulatory compliance reviews.

EDUCATION (Degree, Year, Specialization)

B.S., Geology and Planetary Science

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
National Ground Water Association - AGWSE Division	Professional Geologist - PA (1995) Licensed Remediation Specialist - WV (2008)

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		
Lowery, V. Marcus, PE, PLS	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 1

Brief Explanation of Responsibilities

Mr. Lowery has over 14 years of experience in the Transportation/ Highway & Civil/Site Engineering fields. Mr. Lowery worked for both the public and private sectors performing Project Management and Design Engineering. Most recently, while with a consultant, Mr. Lowery served as Project Manager/Senior Engineer for NCDOT, municipal, railroad, and private clients. Mr. Lowery was responsible for establishing and maintaining budgets and schedules, preparing and sealing final construction plans, engineer's estimates, project special provisions, and final survey plats. Mr. Lowery was also involved in client relations through scoping and negotiating for new projects.

EDUCATION (Degree, Year, Specialization)

BS/Civil Engineering/1993/North Carolina State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Land Surveyor - NC (1999), PA (2007) Professional Engineer - NC(2002), PA (2007)

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		
Noe, John R., PE	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 2	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 30

Brief Explanation of Responsibilities

Mr. Noe has been actively involved in civil and site engineering since 1970. During this time, he has gained significant experience, especially in site development and site-related activities such as site and grading plans, outside buried piping systems for utilities, site-related design of abandoned mine land (AML) reclamation, water and wastewater treatment plants, storm drainage, sanitary sewers, and water lines. Mr. Noe has worked with the Ohio Department of Natural Resources (ODNR) on numerous projects, including serving as project manager for the Crescent Reclamation Project; Vienna Township Shafts Reclamation; AML Reclamation Project (Multiple Locations) Project; Rock Hollow Road Reclamation Project; Rehoboth Abandoned Mine Reclamation Project, and the Titus Road Reclamation.

EDUCATION (Degree, Year, Specialization)

B.S. Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer - OH (1974) & KY (1992

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		
Ortli, John R., PE	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 2	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 10

Brief Explanation of Responsibilities

Mr. Ortli possesses multi-disciplined work experience covering geotechnical, civil, and environmental projects. His experience encompasses a broad base of project clientele involving public, private, and industrial sectors. His responsibilities include complete project involvement: Planning, Studies, Construction Drawings, Specifications, Bid Documents, Cost Estimation, and Construction Administration. Mr. Ortli has served many diversified roles, including project development, project management, project engineer, and plan preparation. He has been significantly involved during environmental assessments, geotechnical investigations, and surveying to ensure a concise and accurate data foundation for use in detailed design. Mr. Ortli possesses extensive experience in the design of storm sewers, sanitary sewers, waterlines, force mains, storm water management facilities, pump stations, and site development.

EDUCATION (Degree, Year, Specialization)

BS, 1995, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer - OH Troxler Nuclear Density Gauge Certificate Certified Inspector of MSHA Structures

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		
Reisinger, Robert W., PE	YEARS OF AML DESIGN EXPERIENCE: 8	YEARS OF AML RELATED DESIGN EXPERIENCE: 13	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Reisinger has over 29 years of experience in developing methods for closure/reclamation, mitigating AMD, performing engineering feasibility studies and economic analyses, and analyzing regulations. He has a strong mining and environmental background with experience in both the private and public sectors. He has completed over 30 mine reclamation and closure projects throughout the world. These projects range from developing and updating mine reclamation and closure plans and cost estimates to developing reclamation and closure designs and specifications to performing AMD treatability studies to overseeing contractor closure activities. Mr. Reisinger also has significant experience in performing environmental assessments, environmental audits, and environmental impact statements related to mining sites throughout the world.

EDUCATION (Degree, Year, Specialization)

M.S. Environmental Science and Engineering; MBA, Indiana; B.S. Mining Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society for Mining, Metallurgy, and Exploration, Inc. (SME) American Society of Mining and Reclamation (ASMR)	Professional Engineer - CO and WY

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		
Roush, Norman, PE, PS	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Roush is currently the Regional Director of Transportation Services for the Charleston, West Virginia office of URS. In this position he is responsible for the management of the Highway, Bridge, Traffic and Geotechnical Engineering Divisions of the Office. He has also served on numerous national and state transportation committees, task forces and panels.

EDUCATION (Degree, Year, Specialization)
B.S., 1959, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
WVSPE NSPE ASCE TRB-Geometric Design Committee/NCHRP Panels	Professional Engineer - WV, OH Professional Surveyor - WV, OH

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		
Smelko, John J.	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Smelko is currently serving a dual role for URS. He is Office Manager of the Charleston, WV office and also Project Manager and Environmental Staff Scientist specializing in decontamination and demolition projects. He has a very strong background in Construction Quality Assurance (CQA) work and associated Site Management, Environmental Field Sampling/Chemistry Work, Environmental Health and Safety, Technical Writing, and Organic/Inorganic Data Validation.

EDUCATION (Degree, Year, Specialization)
BS, 1989, Applied Mathematics

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		
Svingos, Sotero, PG	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Svingos has experience in various types of environmental site assessments and remediation planning, ground water investigations, petroleum site investigation, remediation, and closure.

EDUCATION (Degree, Year, Specialization)
B.S., 1981, Geology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Registered Professional Geologist - Tennessee Registered Professional Geologist - Pennsylvania

14. PROV[illegible] A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN [illegible] PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE [illegible] DESIGN SERVICES

Software: Microstation V8 with Inroads Software, Autocad 2008 with Land Desktop Software, ESRI GIS Software

Suvey Equipment: Leica TCRP 1203 Robotic Total Station, Leica System 1200 GPS Equipment

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Rock Creek Watershed Study Montgomery County, Maryland	Montgomery County Government Department of Environmental Protection 255 Rockville Pike Rockville, Maryland 20850	Watershed Study	$335,000	60%
Design of Improvements to Lower Gwynns Run Interceptor Baltimore, Maryland	City of Baltimore Department of Public Works Bureau of Water and Wastewater 900 Abel Wolman Municipal Building Baltimore, Maryland 21202	Design of Improvements to Lower Gwynns Run Interceptor	$880,000	0%
Storm Drain Inventory/Inspection New Castle County, Delaware	Delaware Department of Transportation Post Office Box 778 Dover, Delaware 19903	Storm Drain Inventory/Inspection	$1,600,000 (upset limit)	1%
Scott Slab Bridge Harrison County, West Virginia	WVDOH, State Capitol Complex Charleston, WV 25305	Bridge rehabilitation	$600,000	98%
Elizabeth Mine Reclamation	U.S. Army Corps of Engineers USEPA Region 1 Orphan Site Contact: Scott E. Acone, P.E.	Remedial Investigation AMD Passive Treatment Evaluation Risk Assessments Design	$5,000,000	75%
Tyrone Tailing Impoundment Reclamation Services Silver City, New Mexico	Environmental Land and Water Department P.O. Box 571 Tyrone, NM 88065	Hydrologic/Hydraulics Design for Surface Water Conveyances, Geotechnical analysis	$10,000,000	70%

On-Call Environmental Engineering Services Contract Baltimore County, Maryland	Baltimore County Department of Environmental Protection & Resource Management 401 Bosley Avenue, Room 416 Towson, Maryland 21204	Environmental Engineering Services	$300,000	15%
Environmental Inspections	Equitable	Environmental Inspection Services	$230,000	Ongoing
State-Wide On Call Agreement for Environmental Remediation	WVDOH, State Capitol Complex Charleston, WV 25305	Environmental Field Investigation and Remediation Services	$750,000	Ongoing
Implementation and Monitoring of Phytoremediation	Chevron	Design & Quarterly Monitoring of Phytoremediation Design	$267,000	Ongoing
TOTAL NUMBER OF PROJECTS: 10		TOTAL ESTIMATED CONSTRUCTION COSTS: $19,962,000		

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Wheeling & Lake Erie / Banksville Connector Feasibility Study S.R. 3065, Sect. A01 Allegheny County, Pennsylvania	Needs study, major investment study, Section 4(f) overview, transportation planning and traffic modeling, tunnel evaluations, Conceptual Operations Plan,	Cheryl Moon-Sirianni 45 Thorns Run Road Bridgeville, PA 15017	2005	$592,588	Sub consultant

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Winfield Bridge - Feasibility Study Putnam County	WVDOH, State Capitol Complex Charleston, WV 25305	$125,000 (fee)	2006	N/A
Valley Forge Widening Valley Forge, PA	PA Turnpike Commission 700 S. Eisenhower Blvd. Middletown, PA 17057 Walt Green	$3,982,812	2005	Yes
District 2-0 Open End, 5 year term	PENNDOT, District 2-0 1924-30 Daisy Street P.O. Box 342 Clearfield County, PA 16830 Mark Kucherer	$1,000,000 (fee)	2004	Yes
Lehigh River Bridge - SR 33 Section 001 Lehigh County, PA	PENNDOT, District 5-0 1713 Lehigh Street Allentown, PA 18103 Don Lerch	$7,643,886	2004	Yes
Kings Creek Bridge Ph 1 & 2 Hancock County, WV	WVDOH, State Capitol Complex Charleston, WV 25305	$3,500,000	2004	Yes
Raleigh County Flood Study Raleigh County, WV	WVDOH, State Capitol Complex Charleston, WV 25305	$70,000(fee)	2004	No
SR 202 Section 400 Montgomery County, PA	PENNDOT, District 6-0 7000 Geerdes Boulevard King of Prussia, PA 19406 Randy Wanger	$30,554,370	2004	Yes
Donald R. Kuhn Juvenile Center Boone County, WV	WVRJA, 1325 Virginia St. Charleston, WV 25302	$12,000,000	2004	Yes
Elkem Metals Company, Water Intake Structure Fayette County, WV	Elkem Metals Co. Alloy, WV Sam Cavalier, Staff Engineer	$20,000 (fee)	2004	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)

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
I-95 Interchange (Sub consultant) Philadelphia, PA	PA Turnpike Commission 700 S. Eisenhower Blvd. Middletown, PA 17057 Jeffrey C.Davis	$1,986,466	2005	Yes	Gannett Fleming, Inc. P.O. Box 67100 Harrisburg, Pennsylvania 17106-7100
MP 140 - 148 Full Depth Reconstruction Pittsburgh, Pennsylvania	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	$32,000,000	2007	No	McCormick Taylor & Assoc.

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.

20. The foregoing is a statement of facts.

Signature: Thomas G. Bice Title: Vice President

Printed Name: Thomas G. Bice, P.E.

Date: September 24, 2009