



ARM Group Inc.

Earth Resource Engineers and Consultants

September 15, 2009

Donald Hoyt
Blakey, Yost, Bupp & Rausch, LLP
17 East Market Street
York, Pennsylvania, 17401

Re: Environmental Cleanup Liability Cost Assessment
Ohio Blenders Property
Northwest Triangle Initiative
City of York, York County, Pennsylvania

Dear Mr. Hoyt:

At the request of the City of York Redevelopment Authority (RDA), ARM Group Inc. (ARM) has prepared letter to present an estimate of environmental cleanup liability costs associated with the Ohio Blenders property located within the City of York, York County, Pennsylvania. The primary objectives of ARM's work were to characterize contamination at the site and estimate environmental response costs for the Ohio Blenders property for property valuation and remediation planning purposes. This letter presents the results and conclusions of the activities completed by ARM.

I. PROJECT BACKGROUND

Based on information reviewed by ARM, the project background is generally summarized as follows:

- The subject property is the Ohio Blenders (AlfaGreen Supreme) property, located at 260 North Beaver Street and 132-152 North Pershing Avenue in the City of York, York County, Pennsylvania. The site encompasses approximately 2 acres, and is split up by railroad right-of-ways that are owned by York Rail. The site features include eight grain silos, two associated work buildings, a gravel lot, truck scales, and one set of railroad tracks.
- A review of historical information indicates that the property was originally used for coal and utility pole storage prior to the 1950s. Beginning in the mid-1950s, the property was used as a feed mill, and that use has continued up to the date of ARM's investigation.

- The Ohio Blenders property has undergone various stages of environmental investigation. Phase I and limited Phase II Environmental Site Assessments (ESAs) were completed by other firms prior to ARM's involvement with the project. ARM was subsequently contracted by the RDA to perform additional site sampling and characterization of the property, and to support the development and implementation of environmental remediation plans. ARM's work was conducted in accordance with the June 2007 Supplemental Phase II ESA Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP), which was reviewed and approved by the Pennsylvania Department of Environmental Protection (PADEP).

II. BASIS OF ASSESSMENT

Qualifications

This document was authored by Stephen B. Fulton, P.E., P.G., Vice President of Environmental Services for the ARM Group Inc. ARM is an environmental consulting firm based in central Pennsylvania, employing approximately 60 people, primarily engineers, geologists, scientists, geophysicists, and other environmental consulting professionals. Mr. Fulton is a Pennsylvania-licensed professional engineer and professional geologist, and has B.S. degrees in geological sciences and civil engineering, an M.S. degree in geotechnical engineering, and a Masters degree in Business Administration (MBA). Mr. Fulton has more than 20 years of experience in the fields of environmental consulting, focusing on site investigations, remediation, and cost estimating. Much of this experience has been with projects regulated by the PADEP under the Land Recycling and Environmental Remediation Standards Act (i.e., "Act 2"). Additional information is presented as Attachment 1.

Assessment Activities Conducted

The following activities were conducted to support the evaluation and quantification of environmental liabilities for this project:

- ARM reviewed existing environmental documents prepared for the site by others. These documents included investigation reports developed by Edge Environmental ("Phase I ESA Report", June 1, 2004), Pennoni Associates ("Revised Phase I ESA", June 2, 2005), and GTS Technologies ("Interim Site Characterization Report", December 21, 2005), which included environmental sample results, agency and consultant correspondence, and other information.
- ARM conducted a Phase II Environmental Site Assessment for the Ohio Blenders Property. This assessment was conducted to delineate the nature and extent of soil and



groundwater contamination at the site in accordance with the requirements of 25 PA Code Chapter 250 for the completion of remedial investigations. The investigation activities included the collection and analysis of more than one hundred soil samples, and the installation and sampling of six groundwater monitoring wells. The scope and results of the Phase II ESA are presented in the “Phase II Environmental Site Assessment Report for Ohio Blenders Property”, ARM, September 2009).

Cost Assessment Approach

ARM’s approach for completion of the cost assessment was generally as follows:

- All available and relevant documents were reviewed to develop a detailed understanding of site conditions, agency and regulatory requirements, and potential risks to human health and the environment.
- Analytical results from all of the site investigation activities were used to quantify the extent and volume of soils and groundwater at the site where constituent concentrations exceed Pennsylvania Department of Environmental Protection’s (PADEP’s) Statewide Health Medium-Specific Concentrations (MSCs) for soils and groundwater (25 PA Code Chapter 250).
- Estimated costs for cleaning up the site to meet the PADEP Statewide Health Standards were developed based on the site characterization results, contractor estimates and bids received specifically for cleaning up the site, published cost data, and ARM experience with similar projects.

III. ASSESSMENT RESULTS

Site Conditions

Based on the site characterization activities, and as presented in the Phase II ESA Report (ARM, 2009), the environmental site conditions can generally be summarized as follows:

- Soil contamination has been detected across a majority of the site at concentrations that exceed the PADEP Statewide Health MCSs. The contamination is generally limited to the upper 2 to 4 feet of material across the site, with concentrations generally decreasing with depth. Arsenic was the most commonly detected contaminant, although lead was also detected at elevated concentrations. The total volume of soil that exceeds the PADEP’s Statewide Health MSCs for unrestricted use is approximately 6,000 cubic yards (cy), while the volume of soil that exceeds the PADEP’s MSCs for non-residential use is approximately 600 cy. The contamination is believed to be largely associated with



previous operations and activities performed on the site (e.g., coal storage), and/or historic fill placement at the site (test pit excavations indicated that the materials observed near the ground surface contained large amounts of brick, coal ash, and cinders).

- Groundwater flow at the site is inferred to be towards the northwest corner of the site towards the Codorus Creek. Lead, trichloroethene (TCE), and bis(2-ethylhexyl)phthalate were detected in groundwater at concentrations that exceed the PADEP's Statewide Health MSCs. The exceedances were generally marginal and intermittent, and no apparent source area was identified.

Cost Evaluation

The cost liabilities associated with the identified environmental contamination at the site have been estimated based on a number of factors that include the existing and anticipated future site use, the applicable environmental remediation laws and regulations, and the range of potential remedial approaches. Because there are generally not any cost-effective soil treatment technologies for addressing arsenic and lead contamination such as that detected at the site, excavation and off-site disposal was considered to be the most appropriate and cost-effective remedial option for attaining the PADEP's Statewide Health cleanup standards or MSCs for soil. Based on the availability of public water to the site, and the absence of current groundwater use, the most appropriate remedial option for groundwater was considered to be institutional controls to prevent groundwater use. The remedial alternatives and estimated costs are presented below:

- Soils: To remediate the impacted soils to the PADEP's Statewide Health MSCs, the soils would need to be excavated and transported to an off-site receiving location (non-hazardous waste landfill or Act 2 cleanup site), and the area would need to be backfilled with clean materials. Based on the estimated quantity of 6,000 cy of soil exceeding the Statewide Health MSCs for unrestricted use, and a unit price of approximately \$100 per cy for excavation, off-site transportation and disposal, and backfilling, the estimated remediation cost for the site soils is approximately \$600,000. As noted earlier, this estimated cost is based on a number of actual bids received for completing this work. If the site was remediated to a restricted use standard (i.e., non-residential Statewide Health MSCs), the estimated cost for the excavation and off-site transportation of soil and backfilling (approximately 600 cy at \$150/cy), combined with the costs for the required engineering and institutional controls (approximately \$50,000), would be approximately \$140,000.
- Groundwater: Based on the presumptive remedy for groundwater as discussed above, costs associated with addressing the detected groundwater contamination would include costs for periodic groundwater monitoring and the development, implementation, and



periodic monitoring of the institutional controls. Based on ARM's experience with similar projects the estimated costs for these tasks are approximately \$10,000 to \$30,000.

It should be noted that the estimated site remediation costs presented above do not include costs for the demolition or removal of existing storage tanks, transformers, structures, railroad tracks and other facilities that are present at the site. Based on contractor bids and ARM experience, the cost for completing this demolition work is approximately \$30,000 to \$400,000, depending largely on the quantity and value of salvageable steel resulting from the demolition activities.

IV. SUMMARY AND CONCLUSIONS

Based on the assessment presented herein, the estimated environmental liabilities associated with the Ohio Blenders site are approximately \$150,000 to \$630,000 for remediating the soils and groundwater at the site to meet the PADEP's Statewide Health MSCs. These costs are primarily associated with the excavation and off-site disposal of soils contaminated with arsenic and lead at concentrations that exceed the PADEP's Statewide Health standards. ARM's cost estimates were developed based on a detailed review of the available data, unit prices derived from bids provided by contactors, and ARM's experience with similar projects.

V. CLOSING

We hold the forgoing findings and conclusions to a reasonable degree of scientific certainty based on the available information. The findings and conclusions of this assessment should be revisited and revised as appropriate following the completion of any subsequent site characterization activities or the discovery of site conditions that differ from those summarized herein.

If you have any questions or comments, or require any additional information, please do not hesitate to contact the undersigned at (717) 508-0521.

Respectfully submitted,
ARM Group Inc.

DRAFT

Stephen B. Fulton, P.E., P.G.
Vice President of Environmental Services

cc: Shilvosky Buffaloe, City of York RDA

Attachments:

- (1) Qualifications Summary



ATTACHMENT 1- Qualifications Summary

Stephen B. Fulton, P.E., P.G. Vice President - Environmental Services, ARM Group Inc., Hershey, Pennsylvania

Mr. Fulton has more than 20 years of experience with environmental site investigations, remediation projects, and cost estimating. Mr. Fulton has college degrees and professional licenses in both civil engineering and geological sciences, extensive experience with environmental remediation projects under Pennsylvania's Act 2 and other remediation programs, and a Masters degree in business administration. Mr. Fulton has managed hundreds of site investigation and remediation projects, typically requiring the review of existing reports, the evaluation and selection of remedial measures, and the estimate of remedial costs. Mr. Fulton has served as an expert on scores of environmental cost accounting projects, using Monte Carlo simulations, the Estimated Probable Cost method, ASTM E2137 ("Standard Guide for Estimating Monetary Costs and Liabilities for Environmental Matters"), and other approaches to quantify environmental liabilities for insurance settlements and policies, business mergers and acquisitions, bonding requirements, and tax considerations. Among other similar cost assessment projects, Mr. Fulton has recently served as an environmental cost accounting expert witness for the condemnation of contaminated property associated with construction of the new major league baseball stadium in Washington, D.C.

Education summary:

M.S. in Civil/Geotechnical Engineering, Drexel University	1994
B.S. in Geological Sciences, Lehigh University	1989
B.S. in Civil Engineering, Lehigh University	1989
M.B.A., West Chester University	2001

