REPSG
React Environmental
Professional Services Group, Inc.

February 19, 2014

Maryland Department of the Environment
1800 Washington Blvd.
Baltimore MD 21230
Attention: Ms. Jeannette DeBartolomeo, Case Manager

RE: Proposed Interim Measures – Off-Site Residences
Calvert Citgo (Former Alger Country Store)
2802 Northeast Road (Ginski Residence)
2794 Northeast Road (O'Brien Residence)
North East, Maryland 21901
Facility No. 5678
REPSG Project Reference No. 005977.130.01

Dear Ms. DeBartolomeo:

On behalf of the remediating parties, REPSG submitted a *Corrective Action Plan (CAP)* dated May 1, 2013 and a *CAP Addendum* dated July 3, 2013 for the above referenced Site. MDE approved that CAP in their correspondence dated October 1, 2013. We are proposing herein a program of interim remedial measures (measures or IRMs) to be performed prior to implementation of the CAP. The objectives, and an outline of the proposed measures, are described below.

OBJECTIVES

The goal of the proposed measures is to permanently resolve the issue of contaminated potable water wells at the two adjacent residential properties to the east, and a highest priority basis. The approved CAP shares this objective; however, under the approved CAP relief to the residents of these properties is at least several years away, and probably a significantly greater period until source area remediation and natural attenuation combine to result in a viable water source returning to these two (2) existing wells. The proposed interim measures identify the drinking water supply issue as of primary importance: we suggest it should take precedence over the on-Site source area remediation, which is the primary focus of the CAP.

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The specific objectives of this scope of work are to:

1. Further refine the Site Conceptual Model regarding the route of contaminant transport between the source area – the former tank hold – and the sole receptors of concern: the two (2) off-Site residential potable wells.
2. Based on the information obtained regarding transport routes, identify viable sources of potable water, in the deeper bedrock aquifer zones, on each of the residential properties, and to develop a detailed scope of work to provide replacement water supplies via identified water sources.

PROPOSED MEASURES

The route of contaminant transport between the source area and the residential potable wells (DW-005, located on 2802 North East Rd., and DW-004, located on 2794 North East Road.) will be further evaluated by a groundwater investigation on the residential properties. The investigation will focus on the areas between the potable wells and the western boundaries of the two properties, along North East Road. Within this area, the investigation will evaluate each of the aquifers, and distinct aquifer zones that have been identified during site investigations to date. Investigation activities will include:

a) **Shallow Groundwater Monitoring.** A shallow aquifer has been identified in the unconsolidated materials; first water is generally found at 18 to 25 feet below grade. With 2 exceptions, all of the onsite groundwater monitoring wells are screened within this aquifer zone. Groundwater samples will be collected and analyzed from four locations in this zone, two on each of the residential properties. The sample locations will be along a north-south line within approximately 30 feet of the western property boundaries (North East Road). Borings will be advanced by auger, or by direct push method, to approximately 5 feet beneath the level of first water. Two (2) of the samples will be collected from temporary well points installed in the borings. Two (2) of the borings will be converted to permanent groundwater monitoring wells, developed, surveyed to the existing network, and then sampled. Samples will be sent to an accredited laboratory for analyses of VOCs, DRO, and GRO (this applies to any water sample mentioned in this document).

b) **Intermediate Zone Monitoring.** Onsite well MW-008 is installed to a total depth of approximately 75 feet, within an aquifer zone of saprolite and highly weathered bedrock, which appears to perch upon the top of competent bedrock, and appears to be separated from the shallow groundwater zone by a thick layer of saprolite. This zone will be investigated with two new wells, one on each of the residential properties. Each well will be nested, or co-located with one of the shallow zone wells. The wells will be developed, surveyed, and sampled.

c) **Deep Zones.** At least two distinct zones (at approximately 120 fbg and 230 fbg, respectively) of significant waterflow within highly fractured bedrock have been identified by review of potable well drilling logs, and by geophysical logging in onsite deep wells. Packer testing performed on Well DW-005 in 2012 met with limited success in determining if either of these zones of flow might provide a sustainable source of uncontaminated potable water. REPSG will install one (1) new deep well, to a depth of at least 240 fbg, and to an expected depth of 300 fbg. This well will be completed as an open hole bedrock well. The well will be developed and surveyed. Groundwater samples will be collected and sampled from each of the potential viable aquifer zones. Samples will be collected using methods (to be presented to MDE for approval) to isolate the sampled water from other aquifer zones.

If the results of the analyses of samples from the several bedrock aquifer zones indicate a potentially viable source of potable water, REPSG, using a licensed water well driller with experience in the region, will perform a series of tests to confirm the viability of the well and the zone. This will include yield testing of the zone, by pumping the zone while isolated with packers from other aquifer zones. During this testing, the nearest identified aquifer zones will be monitored to measure connectivity between those zones and the pumped zone. A series of groundwater samples will be collected during and at the conclusion of yield testing, to be analyzed for Site COCs.

Potable Well Construction

If the results of the groundwater investigation and well testing indicate that viable potable wells can be installed and reliably used by the residences, REPSG will prepare plans for construction, testing, and hook-up of the wells.

If and when the residential water wells are successfully and permanently replaced, REPSG suggests the remediating parties and MDE meet to re-evaluate the objectives, scope, and requirements of the on-Site remediation activities defined by the approved CAP.

CLOSURE

Thank you for review and consideration of this proposed course. If you have any questions or concerns, please do not hesitate to contact our office at 215-729-3220.

Sincerely,

Jerry F. Naples, Jr.
Principal

React Environmental Professional Services Group, Inc.