

# Marjol Site Remediation Update

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Number 93

July 7, 2009

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## **ONGOING CONSTRUCTION ACTIVITIES**

Construction of the Final Remedy at the Marjol Battery Site is going well and proceeding on schedule this season. As of June 22, 2009, Gould estimated that implementation of the Final Remedy was approximately 85% complete. At this point, we are still hopeful that construction activities will be completed as scheduled by November 2009.

At the start of this season, excavation activities began at the northeast corner of the Site in Area M (see the drawing of the excavation areas on Page 2). Once that area was excavated, it was backfilled to create a new support zone (for work trailers and parking). During this excavation work, an area of soils that had dark staining and an organic odor was uncovered. (See Page 2 for a discussion of these soils.) Next, the old support zone was excavated, and then the excavation proceeded to the former strip pits in the western part of the Site. As of June 22, 2009, it is estimated that the excavation of contaminated soils is about 95% complete with only the contaminated soils that will be solidified as part of the first layer of the cap (Area H soils) remaining to be excavated. Thus far, no unexpected materials were encountered in the strip pits or other excavations except for the stained soils discussed on Page 2. After the last soils have been excavated and solidified, the capping process will then begin. There is a table on Page 2 that outlines the Project Schedule for Season 2 and provides approximate dates.

As noted in the last newsletter, while proceeding forward with excavations, the contractor has also been going back to areas that were excavated last season to place erosion control materials, and in some areas, to re-seed in order to get grass growing on the completed areas.

## **ANNUAL BLOOD LEAD SCREENING PROGRAM**

The annual blood lead screening program will be conducted again in July this year with both in-house testing (for those who live in the immediate vicinity of the Marjol site) and testing at the Throop Borough Civic Center.

**In-house testing** - July 22 from 6:00 pm to 8:00 pm. (If you would like testing done in your home, please call Lisa Ayers at 383-9313.)

**Testing at the Throop Borough Civic Center** - July 22 from 6:00 to 8:00 pm (simultaneous with the in-house testing).

**Testing at Lab Corp.** —you may take this newsletter or the in-house testing letter you received to the Lab Corp. laboratory located at 901 Keystone Industrial Park in Throop during the hours of 7 am to 5 pm Monday through Friday or 8 am to 12 pm on Saturdays from July 20th through August 3rd, 2009, to have the blood lead screening done there.



**Delaware Street Excavation (Inside the Perimeter Fence)**

## Season 2 Project Schedule & Remediation Activities

**Note: The dates for the 2009 Construction Schedule are approximate. The actual construction schedule will depend on many factors, including , the weather. Regular updates will be provided on the web site and in subsequent newsletters.**

<b>Activity</b>	<b>Start Date</b>	<b>Duration</b>	<b>Progress</b>
<b>2009 CONSTRUCTION SEASON</b>			
Season 2 Mobilization	3/16/09	2 weeks	completed
Resume Excavation, Confirmatory Sampling, and Backfilling	3/25/09	Approximately 4 months	In progress
Solidification of Upper-Most Layer of Contaminated Material	7/1/09	Approximately 1 month	In planning stage
Containment Area Capping and Site Restoration	8/17/09	Approximately 3 months	Not started
Contractor Demobilization	11/6/09	Approximately 5 days	Not started
Off-Site Verification Sampling (Post-Construction)	12/1/09	Approximately 1 week	Not started
Maintenance and Monitoring	November 2009 forward	Ongoing	Not started

### STAINED SOILS IN EXCAVATION AREA O

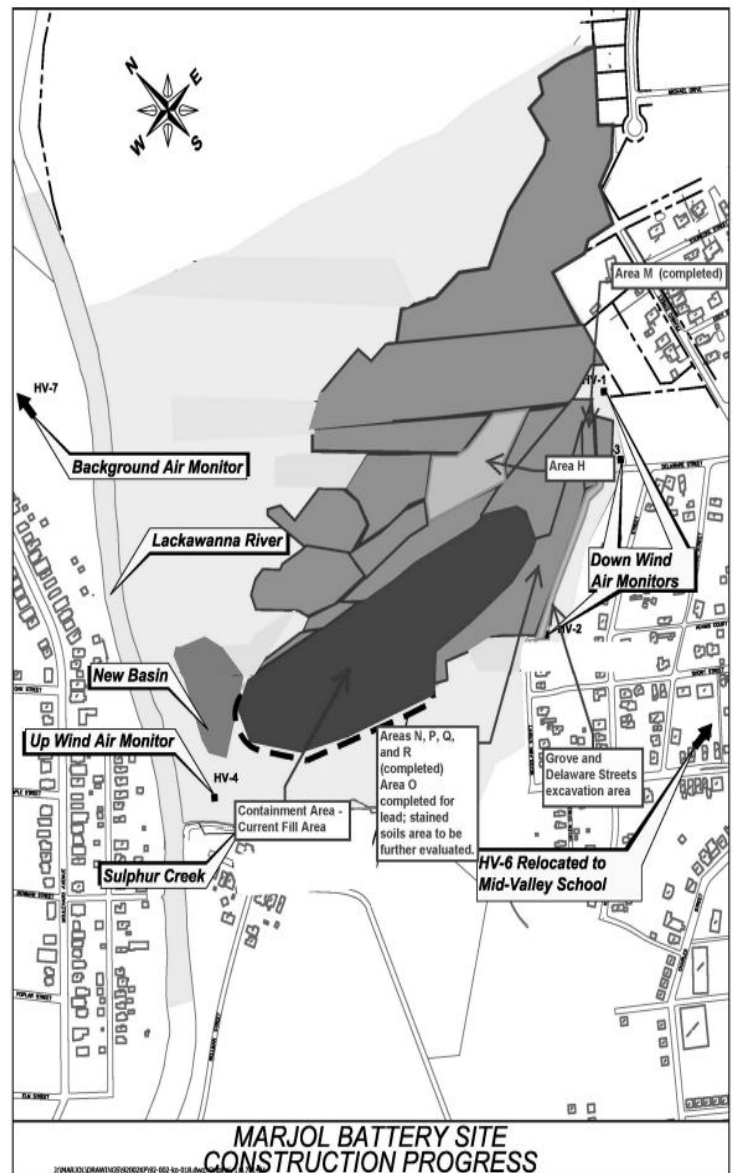
In December of 2008, an approximate 5-foot-deep sump or shallow well with an organic (similar to diesel fuel or gasoline) odor was encountered in the excavation area (Area O). The area of the sump was secured for the winter months and on May 1, 2009, the contractor resumed excavations in that area.

Once the sump itself was removed, it was determined that the soils in the vicinity of the sump were stained and had an organic odor. Excavations of these soils encompassed an area of about 140' by 75' and extended to a depth of 30' in one small area. The soils were next to and below the location of the former office and maintenance building. A sampling instrument called a geoprobe was brought in to try to delineate the vertical and horizontal extent of the volatile organic contamination in the soil. Geoprobes combined with screening of the soils with a photoionization detector, an instrument used to detect the presence of volatile organic compounds, found that the residual contamination is likely present within the weathered rock zone. Further excavation or characterization was determined to be impractical without significantly impeding the lead clean-up; therefore the excavation was backfilled with the approval of the USEPA and PADEP so that restoration activities could proceed in this area. Throop Borough was also informed of the plans to backfill the excavation by both USEPA and Gould prior to the work taking place.

A low-permeability layer was placed within the backfill to minimize the infiltration of rain water into the former excavation. Gould has committed to submit a summary report presenting the analytical results and information on the excavation and the geoprobes to the agencies along with a proposal for any follow-up activities to be conducted and a schedule for those activities. USEPA and PADEP will then decide if any additional investigative work is needed to delineate/characterize the stained soils remaining in the former excavation area and if any type of remediation for volatile organic compounds is required.

The excavated soils from this area were placed in stockpiles within the Containment Area (CA). Fingerprint analysis identified the material in the stained soils as degraded diesel fuel and motor oil. The results of additional testing of the stockpiles classified the soils as clean fill, and therefore USEPA and PADEP permitted these soils to remain in the CA.

**Marjol Battery Site  
Areas Excavated as of 6/29/09**





**Placement of Material in the Containment (Cap) Area**

**SOLIDIFICATION**

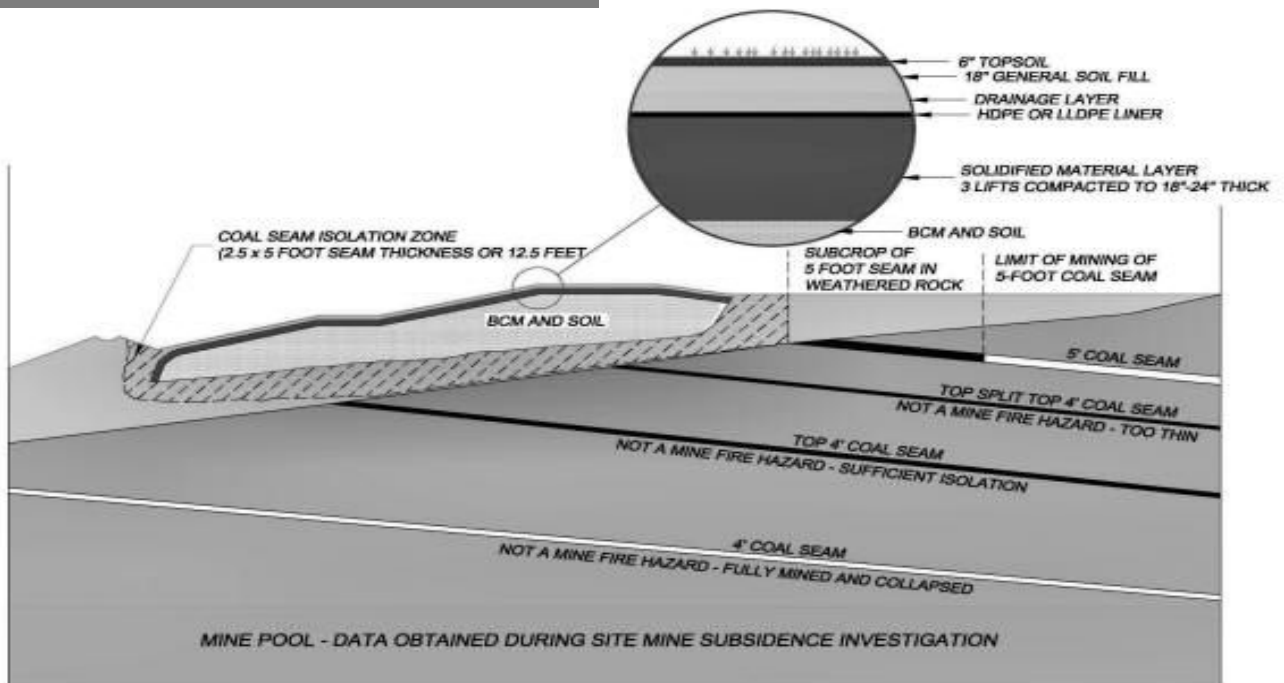
The bottom layer of the cap is a solidified layer that is placed over the contaminated material. The solidified layer provides protection of the underlying loose, contaminated soils in the very unlikely event of soil erosion exposing the geosynthetic (plastic membrane and drainage) layers and those layers becoming damaged. The solidified layer will resist erosion giving more time for repairs to be made. The solidified layer will be made by mixing soils from the last area being excavated with a cement like material called lime kiln dust. The mixture is placed in the Containment Area in layers and compacted where it becomes "solidified" by gaining strength through the soil particles sticking together. The lime kiln dust is a white powder-like material; it is not contaminated with lead. Every effort will be made to adhere to the zero dust policy at the Site even with the lime kiln dust, but during the solidification process, it is possible that you might see small localized areas of white dust. Air monitoring will continue during the solidification process.

Once the solidified layer of the cap is complete, placement of the geotextile layers will begin. The drawing at the bottom of the page provides an overview of the layers of materials that will be placed over the contaminated material to create the cap.

**FINAL GRADE CHANGES**

The cap was purposely designed to hold a greater volume of contaminated material than what was expected to be found at the Site during the excavation process in order to compensate for any additional material identified during excavations. Now that the excavation of contaminated materials is almost complete, it is clear that the volume of contaminated material in the cap area is less than what it was designed for, so the final grades for the cap design were revised. These revisions bring the height of the cap down a few feet which will allow the capped area to blend in better with the surrounding landscape.

We encourage everyone to log onto our web site at [www.marjolicleanup.com](http://www.marjolicleanup.com) for the most recent information regarding the Marjol site. *Provide us with your e-mail address and we will notify you whenever the web site is updated.* A weekly schedule as well as a list of completed activities is posted on the Marjol web site, [www.marjolicleanup.com](http://www.marjolicleanup.com), on Friday afternoons. A photo gallery is also available on the web site. Perimeter, real-time, and co-located air data is provided and updated on the Marjol web site as it is available.



BCM = BATTERY CASING MATERIAL

**GENERALIZED CROSS-SECTION WITH CONCEPTUAL REMEDY**

Note: BCM = Battery Casing Material HDPE = high density polyethylene LLDPE= linear low density polyethylene

## Contacts

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## Repository Location

### Marjol Battery Site Repository

The repository is located at the Throop Borough Municipal Building, 436 Sanderson Street, Throop, PA and is open Monday through Friday 9 am to 4 pm.

## Do you want to be added to our lists?

If you would like to be added to the Marjol Battery site newsletter mailing list or the website changes list, please contact Lisa Ayers via e-mail, telephone, or fax or you can submit your address information on our web site at <http://www.marjolcleanup.com>.

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