

Marjol Site Remediation Update

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WHAT HAS HAPPENED OVER THE LAST FEW MONTHS?

Corrective Measures Work Plan Approval: On May 3, 2007, USEPA and PADEP approved the Marjol Corrective Measures Work Plan (with revisions) with the exception of Section 7.5, Institutional Controls. Section 7.5, Institutional Controls, was issued and approved as final by USEPA on May 29, 2007. (Copies of the approved Work Plan are available at the Marjol Repository located at the Throop Municipal Building, 436 Sanderson Street in Throop, PA. or at the Marjol Community Relations Office, 502 George Street in Throop, PA.)

Preliminary (30%) Design Submission: Gould submitted the Preliminary (30%) Design to USEPA and PADEP on June 29, 2007. The 30% Design Submission was Gould's preliminary proposal on how the Final Remedy will take place, what will be done, and what the Site will look like after the remedy is implemented. A summary of some aspects of the 30% Design, including implementation activities, proposed construction phasing, and proposed permitting, is provided in this newsletter. Gould received comments from USEPA/PADEP on all but the sampling and analysis portions of the 30% Design on August 10, 2007. Gould responded to USEPA/PADEP's comments on September 7, 2007. USEPA and PADEP's comments on the 30% Design Submission will be incorporated into the next design phase, the 90% Design Submission.

Annual Blood Lead Screening: The Annual Blood Lead Screening Program was conducted in July of 2007. For more information on this year's screening, see Page 2 of this newsletter.

Pre-Design Investigation: On August 8, 2007, all aspects of the Pre-Design Investigation were completed.

WHAT IS HAPPENING IN THE NEXT FEW MONTHS?

Gould's responses to USEPA/PADEP's comments on the Preliminary (30%) Design will be incorporated into the Pre-Final (90%) Design which is due to USEPA/PADEP in November 2007. Gould will submit its fifth Quarterly Progress Report under the new Consent Order to USEPA and PADEP on November 15, 2007. Reports for the ongoing monitoring are attached to the Quarterly Progress Reports which are available at the Marjol repository or on the Marjol web site.

Community Relations Activities

We encourage everyone to log onto our web site at 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.*

2007 ANNUAL BLOOD LEAD SCREENING PROGRAM

The annual blood lead screening was conducted in two parts. Clinical Laboratories from Throop conducted the door-to-door screening during the week of July 9th. On July 17th and 21st, blood lead screening was conducted in the Throop Borough Civic Center.

1) How was participation in the 2007 screening?

Overall, a total of 32 individuals were tested: 22 from the door-to-door screening and 10 at the Civic Center. Of the 32 tested, 2 individuals or 6% were children 12 and younger. See the table below for a summary of participation over the past few years.

Summary of Participation in Annual Blood Lead Screening Program (2000—2007)

Year	No. of Participants	No. (%) Participants Children 12 yrs. and younger
2000	66	4 (6%)
2001	55	7 (13%)
2002	62	6 (10%)
2003	26	3 (12%)
2004	36	7 (19%)
2005	24	3 (13%)
2006	35	4 (11%)
2007	32	2(6%)

2) What does my blood lead result mean?

The blood lead reports sent by Clinical Laboratories indicate the following blood lead reference numbers: "In general, for an adult (or older child), a blood lead level under 25 is considered within the reference range. For a child, a blood lead level under 10 is considered within the reference range. The OSHA regulatory level for workplace exposure is under 40 ug/dL."

This year, and every year since 1997, there has been no child (aged 12 and under) tested with a result above 5 ug/dL. For the past 6 years, no adult has tested above 10 ug/dL.

3) What was the average blood lead level for those tested this year?

The overall average blood lead level this year was 3.2 ug/dL. The average blood lead level for the children (12 and under) tested was 3.0 ug/dL. Of the other individuals tested (age 13 and older), none tested above 6 ug/dL.

PRELIMINARY (30%) DESIGN

The implementation of the Final Remedy for the Marjol Battery Site generally includes the following activities:

- 1) Site Preparation;
- 2) Containment Area Construction;
- 3) Waste Excavation/Handling and Dust Control;
- 4) Containment Area Capping;
- 5) Restoration and Water Management;
- 6) Off-Site Verification Sampling; and
- 7) Post Remediation Maintenance and Monitoring.

1) Site Preparation

Establishment of the Support Zone (a "clean" area for office and equipment trailers, etc.), Decontamination Area, and Access Roads - The existing infrastructure will be used as much as possible, but alternate or additional items will be added as needed. Details will be determined in the 90% Design Document. Traffic on Borough roads will be minimized to the extent possible but there will be traffic going into and leaving the Site especially during mobilization, cap construction, and demobilization.

Installation of Dust Control Measures and Erosion Control Measures - Dust control will be provided by water spray and covering stockpiles at the end of the work day. Air monitoring for dust and lead will be conducted during phases of soil disturbance to ensure that the surrounding community is protected. Erosion and sediment control measures, consisting primarily of silt fencing, hay bales, construction entrances, check dams and temporary diversion channels, will be installed to control sediment in runoff from impacting non-contaminated areas and to control surface water from impacting construction operations.

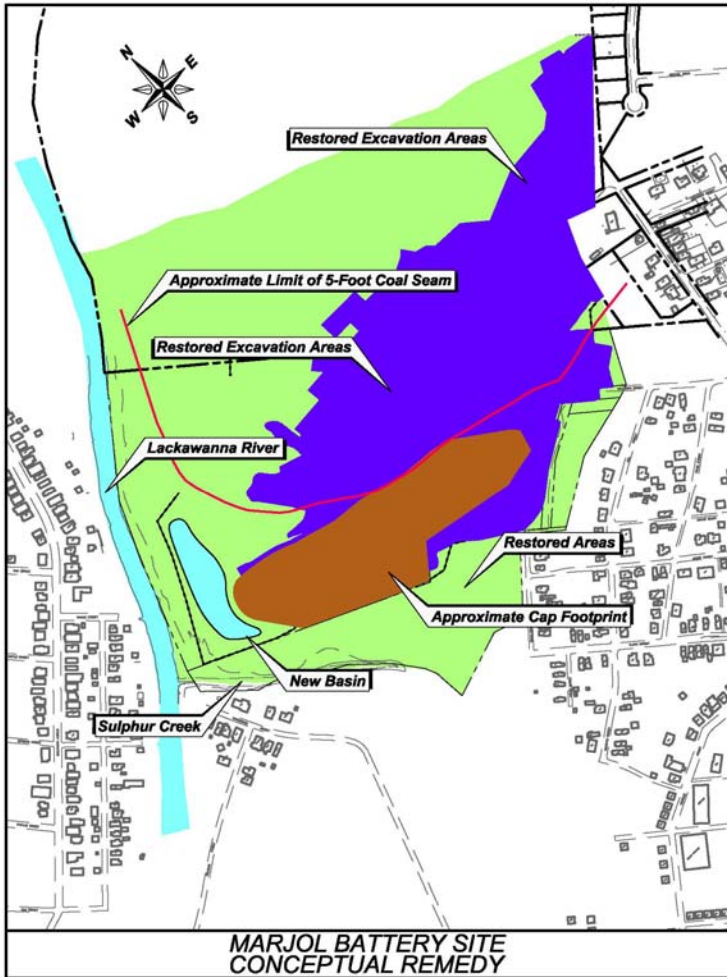
Clearing and Grubbing - Clearing of vegetation, brush and trees less than 12 inches in diameter will occur to prepare areas for waste excavation and consolidation.

Fence and Road Removal - Existing fencing and access roads will be removed as needed to construct the Containment Area and to excavate/consolidate contaminated materials. Perimeter fencing will be in place throughout the construction.

Construction of a New Stormwater Management Basin - Construction of a new Stormwater Management Basin will occur because the old basin is located in the area where the new cap will be (the cap footprint). Once the new basin is constructed, stormwater flow will be diverted to the new basin and the old basin will be removed from service.

Well Abandonment and Modification - Some of the monitoring wells that are in the proposed cap area or that will no longer be needed will be filled (abandoned) and some of the existing wells will be made higher so they can be used for long-term monitoring.

The following drawing shows the proposed location of the cap and the new stormwater management basin.



2) Containment (Cap) Area Construction

Following clearing and grubbing, the existing surface within the Containment Area will be graded and rolled to create a smooth surface for waste consolidation. A perimeter 10-foot-wide berm will be constructed to provide additional airspace volume for waste placement and to create a stable surface for anchoring the layers of the cap.

3) Waste Excavation/Handling and Dust Control

Contaminated soils and battery casing material will be excavated from areas outside of the cap area and then consolidated within the Containment Area. Note that the uppermost layer of waste within the Containment Area will be solidified with cement-based reagents before being placed in the Containment Area.

It is anticipated that contaminated materials will be transported in covered off-road dump trucks. Access roads will be constructed on-site as needed to allow the dump trucks to travel from an excavation area to the Containment Area without entering public roadways.

Dust Control

During construction activities, and in particular, during soil disturbance activities, the "No Visible Dust" rule will be strongly implemented. Soils that are set for excavation will be watered down before they are moved and every effort will be made to keep from creating dust. In order to be sure that construction activities are not impacting the air, air monitoring will be conducted during construction for all phases of soil disturbance to ensure that the surrounding community is protected. Three types of air monitoring will be conducted: site perimeter, real-time and personnel.

Site perimeter monitoring will consist of ambient air monitoring for lead using the high-volume sampler method, which is what has been used over the past 20 years at the Site. This sampling will determine if air lead is being emitted from the Site. Results with this type of monitoring are not immediate as the air collection filters have to be sent to a lab for analysis.

Real-Time dust monitoring will determine if dust is migrating outside of the immediate work area so that additional dust control measures can be implemented before any dust can move off-site. This monitoring will consist of periodic, real-time particulate (dust) monitoring with a hand-held aerosol monitor. This provides immediate information on the amount of dust (not just lead) being generated.

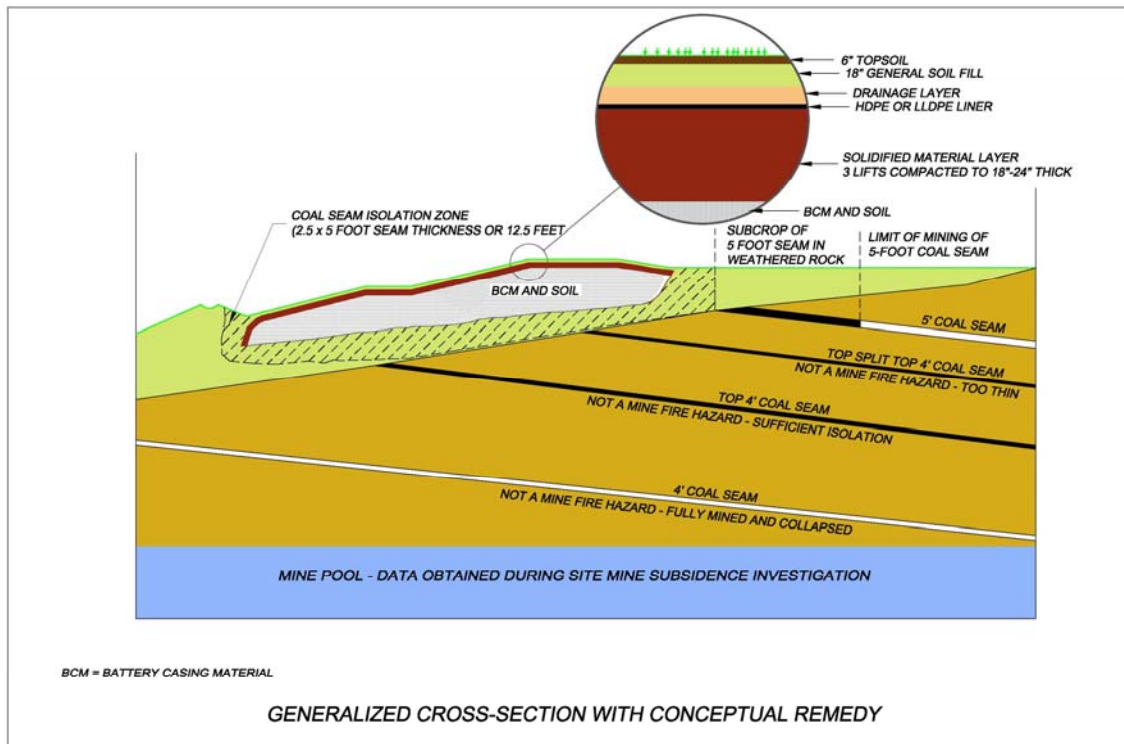
Personnel air monitoring will be performed to determine if site workers are wearing appropriate personal protective equipment. This monitoring uses a time-weighted average for measuring lead exposure. Results are not immediate as air filter canisters have to be sent to the lab for analysis.

4) Containment Area Capping

The proposed cap area is 9.7 acres in size. The proposed footprint of the cap has been designed such that the cap will be within the existing fence line. The proposed cap is expected to be able to accommodate all of the contaminated material that is going to be excavated and consolidated during the final remedy. At this point, it is not expected that any contaminated material will have to be removed from the Site. The layers of the cap, from top to bottom are outlined on the next page.

Proposed Cap Layers:

- Vegetative (grass) cover (to help prevent erosion);
- 6 inches topsoil (to retain water in order to sustain vegetation and to keep the roots of non-woody vegetation from reaching the drainage layer or geosynthetics);
- 18 inches cover soil (functions similarly to the topsoil and also, like the vegetative cover and the topsoil, contributes to eliminating direct contact with contaminated soil);
- Double-sided geocomposite drainage layer (creates a preferential path for water to flow into a perimeter collection system; geonet with geotextile bonded to both sides);
- 60 mil textured HDPE or LLDPE geomembrane (minimizes infiltration of rain water into the underlying materials);
- 8-ounce geotextile (to protect the geomembrane from damage or puncture by the underlying solidified waste material);
- 18-to-24-inch solidified layer comprised of soil-cement (provides an extra layer of protection to prevent erosion of waste materials and releases to air and surface water in the unlikely event of a breach in the overlying layers of the cap until the breach could be repaired).



5) Restoration and Water Management

- Following completion of excavation activities and confirmatory sampling, excavation areas will be backfilled and graded to the extent necessary to achieve drainage. Disturbed areas will be hydroseeded to restore vegetative cover.
- An access road will be constructed around the Containment Area to facilitate long-term operations and maintenance.
- Perimeter fencing removed during work activities will be reinstated, or replaced with a new fence.
- Surface water run-off and infiltrated flow from the cap drainage layer will be managed by swales along the cap perimeter or will be allowed to flow away from the cap.

6) Off-Site Verification Sampling

Off-site verification sampling will be performed following remedial activities to confirm that remedial activities did not cause off-site contamination. Sample locations and procedures will be included as part of the 90% Design.

7) Proposed Post Remediation Maintenance and Monitoring

Post Remediation Maintenance will include mowing and maintenance of the stormwater management basin.

- Mowing - the Site, including the cap area, will be mowed for turf establishment. Mowing will be conducted twice yearly during the growing season (May to October).
- Stormwater Management Basin Maintenance - maintenance will include measures to control burrowing animals, removal of accumulated sediment and maintenance of the discharge structure.

Post- Remediation Monitoring will include site inspections and sampling of groundwater and river sediment.

- **Site Inspections** - site inspections will focus on the integrity of the cap area, the erosion and sedimentation controls, the stormwater management features, the access roadways, site security, and the general condition of the Site. During the first 6 months following implementation of the final remedy, inspections will be performed monthly. During the remainder of the 1st year and 2nd year following implementation of the final remedy, the inspection frequency will be quarterly. Inspections will be conducted semi-annually for years 3 through 30.
- **Groundwater Sampling** - groundwater sampling will be conducted to ensure that contaminants are not released following implementation of the final remedy. One baseline groundwater monitoring event will be conducted prior to the start of construction. Groundwater monitoring will not be conducted during construction, but post-construction, it will be conducted at 5 well locations. The 30% Design calls for sampling to occur quarterly for the first year post-construction and semi-annually for an additional year.
- **River Sediment Sampling** - sediment samples will be collected from nine locations in the Lackawanna River and sent for lead analysis on a quarterly basis during construction and for the first year of post-construction to make sure there are no releases of lead due to soil disturbances during construction activities.

PROPOSED CONSTRUCTION PHASING

Due to the size of the project, it is anticipated that Corrective Measures construction activities will be conducted during two construction seasons with winter shutdown from December through March, at a minimum. It is anticipated that construction would be phased as follows:

- Season 1: Construction of proposed stormwater basin, access roads and support zone and excavation and placement of waste within the Containment Area; and
- Season 2: Completion of excavation and placement of waste within the Containment Area and solidification of the upper layer of waste, cap installation and Site restoration.

Between construction phases, in areas where waste placement is not yet complete, a temporary, 6-inch-thick soil cover will be constructed over the surface of placed wastes or where the existing soil cover or pavement has been disturbed. The area of temporary cover required between Phase 1 and Phase 2 is anticipated to be 5 acres. This temporary soil cover will be seeded as part of erosion control measures.

PROPOSED PERMITTING

Although it does not appear that any Federal permits are required for the implementation of the Final Remedy, there are State, County, and Local permits and approvals that are required. Gould has started to submit applications for the necessary permits and will continue to make permit applications on an ongoing basis throughout the design and at the beginning of construction. A summary of the various permits follows below:

State and County Permits

- 1) A General National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges Associated with Construction Activities
- 2) A permit authorizing discharge into regulated Pennsylvania waters may be needed depending on where water from the new stormwater basin will be discharged; either to Sulphur Creek (permit not needed) or to the Lackawanna River (permit needed).
- 3) Gould was granted a waiver of a wetlands permit for the proposed filling of the existing basin.
- 4) Gould will submit a request for a determination from the PADEP Bureau of Air Quality as to whether or not an operating permit will be required for the operation of a pugmill in the process of solidifying the upper layer of waste material.

Throop Borough Permits

- 1) A trailer occupancy permit will be requested for temporary office trailers that will be used to support remediation activities conducted by the Contractor, Gould, USEPA and PADEP. The zoning for the Site allows temporary use of office trailers for one year from the date approval is granted. As it is likely that the trailers will be needed for up to two years, Gould will request approval for two years as a special exemption use pursuant to the Throop Borough code.
- 2) As per the Borough Code, a zoning permit will be required for installation of a new permanent fence at portions of the Site perimeter.
- 3) Gould will submit a Stormwater Management Plan as part of the Preliminary Land Development Plan to the Borough Planning Commission. The Stormwater Management Plan is required by the Borough's Stormwater Management Ordinances. In addition to other items, the Stormwater Management Plan will include a drainage plan for areas proposed for development that are located within the Lackawanna River drainage basin as required by the Borough's Stormwater Management Ordinance.
- 4) The Throop Borough Floodplain Ordinance requires a building permit before undertaking any construction or development. Gould will discuss whether or not this permit is needed with the Throop Borough Building Permit Officer. If

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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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