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CONTROL NO : RADA-0100766

ORIG. DUE DATE: 07/23/2001

STATUS: **PENDING**

CORRES. DATE: 07/10/2001
RECEIVED DATE: 07/10/2001
ASSIGNED DATE: 07/10/2001
CLOSED DATE:

FROM: MARTIN ROBERT
ORG: **US EPA; WASO**
SALUTATION:
CONSTITUENT:

TO: VOLTAGGIO/THOMAS C.
TO ORG: ACTING REGIONAL ADMINISTRATOR
SUBJECT: MARJOL BATTERY SITE

ASSIGNED: WASTE AND CHEMICALS MANAGMENT DIVISION

COPIES OF INCOMING PROVIDED TO: KEN KRYSZCUN (HSCD), CINDY YU (OCGR), REGIONAL ADMINISTRATOR, REGIONAL COUNSEL

SIGNATURE: **REGIONAL ADMINISTRATOR**
RADA COMMENTS: THIS ITEM IS BEING TRACKED

RADA INSTRUCTIONS:

PREPARE FOR RA'S SIGNATURE

	Assigned	Date Assigned	Code/Status	Date Completed by Assignee	Date Returned to RADA :
Lead	WCMD	07/10/2001	SIGNATURE	-	-

(Untitled)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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JUL 11 2001
WCMD IMMEDIATE OFFICE
EPA, REGION III

FAX COVER SHEET

DATE: July 10, 2001

TO:

Stephen Luftig USEPA Headquarters	[x]	202-260-3527
Elizabeth Cotsworth USEPA Headquarters	[x]	703-308-0513
Tom Voltaggio US EPA Region VIII	[x]	215-814-2901
Michael Veysey Senior Vice-President, Gould Electronics, Inc.	[x]	440-953-5120
Bob Collings Counsel for Goud Electronics, Inc.	[x]	215-751-2205
Throop Borough Elected Officials Susan Shortz	[x]	570-383-7122
Douglas Blazey Special Counsel for Throop Borough	[x]	215-977-1099
Ed Shoner	[x]	570-961-2424

FROM: Robert Martin

Fax # 202 401-1740 TELEPHONE # 202-260-9361

****

REMARKS:

NO. OF PAGES (INCLUDING COVER SHEET) 12

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED
JUL 11 2001
WCMD IMMEDIATE OFFICE
EPA, REGION III

JUL 10 2001

TO: Service List for the Ongoing National Ombudsman Investigation of the Marjol Battery Site in Throop, Pennsylvania.

The following are interrogatories and requests for production of documents in the Ombudman's investigation of the Marjol Battery Site in Throop, Pennsylvania. Additional witnesses and information requests may be added either as they are suggested or as evidence developed during the investigation indicates would be appropriate.

To EPA Region III:

Interrogatories

1. Please explain why the final remedy states air pollution problems will arise from excavation of the Marjol Battery Site ("EPA further understands that the greater the volume of contaminated material removed form the site the greater the increase in short-term risk" p. 7) when the North Woods Completion Report indicates that "High Volume Air Monitoring results were below the Action Level of 0.025 mg/L^3 for airborne lead concentrations" during excavation of contaminated soils and Regional Administrator James Seif stated in his August 5, 1988 letter to Annemarie Crocetti "[a]nalysis of air data has shown no significant release of contaminants due to work in progress."

2. Was a RCRA permit ever issued for the Marjol Battery Site by the state or region? Is the site currently operating under a RCRA permit? If yes to either question, please provide a copy of all RCRA permit applications, permitting documents, and any and all official communications related to the permitting process at the Marjol site. If no, please provide a list of all sites in Region III that are currently or have in the past been remediated under RCRA Corrective Action that do not possess a RCRA permit.

3. Has the Marjol Battery Site ever been scored for possible listing on the National Priorities List? Please submit any and all documents in your possession related to this scoring.

4. Please provide a list of all technical studies related to the remediation of the Marjol site that were completed between the publication of the proposed and final remedies. If there are none, so state.

5. Please provide a list of all contaminated coal mine sites within Region III that have been remediated under CERCLA or RCRA Corrective Action with corresponding fact sheets for each.

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6. Please provide a list of all sites in Region III under CERCLA or RCRA Corrective Action where Solidification/Stabilization has been utilized for only the top portion of a landfill and a cap installed over the treated material.

Request for Production of Documents

1. Please provide any and all sampling plans, contaminant analysis, field journals, and logs from the CERCLA emergency cleanup and removal in connection with the Marjol Battery Site and surrounding areas. Additionally, include any and all recommendations made by Technical Assistance Team members regarding the site.

2. Please provide the following pages from the Administrative Record of the CERCLA emergency cleanup at the Marjol Battery Site. Include all maps, figures, and attachments.

pp. 100001-100009
pp. 100012-100500
p. 100502
pp. 100505-100514
pp. 100519-100595
pp. 100609-100611
pp. 100613-100668
pp. 100671-100672
pp. 100674-100685
pp. 100687-100709

3. Please provide all communications between both EPA Region III and Pennsylvania Department of Environmental Resources (Protection) and EPA Region III and US EPA that occurred between 1986 and December 2000 in which Marjol is captioned, excluding progress reports.

4. Please provide any and all documents in your possession where the name Annemarie Crocetti is captioned including, but not limited to, her July 29, 1988 report concerning the Marjol site, the subsequent news releases concerning her visit to the area, and her letter to Senator Arlen Specter, all of which are referenced in Regional Administrator James Seif's letter to Ms. Crocetti dated August 5, 1988.

5. Please provide a copy of all EPA guidance documents that Region III relied upon to decide that the Marjol Battery Site should be handled under RCRA Corrective Action rather than CERCLA.

6. Please provide a copy of all documents in your possession in which both "Marjol" and "due diligence" are captioned.

7. Please provide documents explaining the remediation scheme at the Tonolli site. Include any and all guidance documents that EPA relied upon to determine whether the site should be remediated under CERCLA or RCRA Corrective Action. Also, provide a list of PRPs and any and all cost recovery documents in your possession.

8. Please provide all title searches in your possession ever performed on the Marjol site property including but not limited to the North Woods.

9. Please provide the plates that accompany the RFI.

10. Please provide any and all geologic cross sections of the Marjol Battery Site and North Woods in your possession.

11. Please provide a copy of all studies in your possession investigating the health effects of lead in Throop, PA, including, but not limited to, all research conducted by Dr. Charles Becker.

12. Please provide any and all aerial photographs in your possession ever taken of the Marjol Battery Site including the North Woods and surrounding residential areas and list the origin of the print.

13. Please provide any and all tracer studies indicating the path of groundwater flow in the unsaturated zone of the Marjol Battery Site.

14. Please provide any and all mining maps of the Marjol Site you have in your possession.

15. Please provide an index of any and all emails, memorandum, letters, faxes, and notes in your possession from December 2000 to the present where the names "Voltaggio" and "Marjol" are captioned.

To Gould:

Interrogatories

1. Please explain how all background sampling locations were selected and justify why they represent samples unaffected by contamination from the Marjol Battery Site.

2. Prior to the CERCLA stabilization, did evidence of subsidence exist, and if so, in what form? What efforts have been taken to identify subsidence subsequent to the CERCLA stabilization? If evidence of subsidence has been noticed since the stabilization, please explain the locations, characteristics, and magnitude.

3. How has infiltration of surface water been reduced at the stabilized area? How much has infiltration in this area been reduced, and has this alleviated the problem of subsidence (please explain)? Please provide any and all technical studies in your possession that investigate infiltration in this area after the stabilization. If no such studies exist, please so state.

Request for Production of Documents

1. Please provide any and all aerial photographs in your possession ever taken of the site including the North Woods and surrounding residential areas and list the origin of the print.

2. Please provide copies of any and all waste shipping manifests in your possession for material entering the Marjol Battery Site since its inception.

3. Please provide all documents in which both "Marjol" and "due diligence" are captioned.

4. Please provide copies of any and all surface water, sediment, ground water, and soil (both on and off site) sampling plans in your possession for all samples ever taken at the Marjol Battery Site. Please explain how sampling locations were selected.

5. Please provide copies of all title searches in your possession ever performed on the Marjol Battery Site property.

6. Please provide any and all available geologic cross sections in your possession of the Marjol Battery Site.

7. Please provide any tracer studies in your possession indicating the path of groundwater flow for the Marjol Battery Site in the unsaturated zone.

8. Please provide pages B-26, B-27, and B-28 from the CMS (appendix B).

9. Please provide any isoconcentration maps in your possession related to the Marjol Battery Site detailing contaminant levels on the site. If none exist, so state.

10. Please provide lead concentration results in your possession of all samples taken after the emergency cleanup from residential properties and the North Woods.

11. Please provide any and all mining maps of the Marjol Battery Site you have in your possession.

12. Please provide an index of any and all emails, memorandum, letters, faxes, and notes in your possession from December 2000 to the present where the names "Voltaggio" and "Marjol" are captioned.

To Throop Borough:

Interrogatories

1. Please explain the zoning history of the Marjol Battery Site including the North Woods since 1960.

Request for Production of Documents

1. Please provide all title searches in your possession performed on the Marjol Battery Site property including, but not limited to, the North Woods since 1990.

2. Please provide the names of all titleholders of the Marjol property including, but not limited to, the North Woods since 1960.

3. Please provide any and all mining maps of the Marjol Battery Site you have in your possession.

4. Please provide any and all geologic cross sections of the Marjol Battery Site and the North Woods in your possession.

To Elizabeth Cotsworth, Director Office of Solid Waste:

Request for Production of Documents

1. Please provide a copy of all EPA guidance documents that the Regions should rely upon to decide whether a contaminated site should be handled under RCRA Corrective Action rather than CERCLA.

To Stephen Luftig, Director Office of Emergency and Remedial Response:

Request for Production of Documents

1. Please provide a copy of all EPA guidance documents that the Regions should rely upon to decide whether a contaminated site should be handled under CERCLA rather than RCRA Corrective Action.

The Deadline for Responses:

Responses to these Interrogatories and Requests for Production of Documents are due by close of business on Tuesday, July 24, 2001. Each party is asked to attest to having provided printed and/or electronic copies of its response to the Service List (Appendix A).

Please fax your responses to the following number:
(202) 401-1740

If you are not able to fax your responses, please send them by overnight courier service, such as DHL, Federal Express, or UPS, to me at the following address:

Robert J. Martin
Room SE 301
US Environmental Protection Agency
Waterside Mall
401 M Street SW
Washington, DC 20460
Phone Number (202) 260-9361

Email responses should be sent to the following address:

Bob Martin <martin.robert@epamail.epa.gov>

I look forward to reviewing your responses.

Sincerely,

Robert J. Martin
National Ombudsman
US Environmental Protection Agency

cc: Senator Arlen Specter
Senator Rick Santorum
Congressman Don Sherwood
Administrator Christine Todd Whitman
Deputy Administrator Linda Fisher
Acting Assistant Administrator Michael Shapiro

Appendix A

SERVICE LIST
FOR THE
NATIONAL OMBUDSMAN INVESTIGATION OF THE MARJOL BATTERY SITE

July 10, 2001

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Bob Collings
Counsel for Goud Electronics, Inc.
Schnader, Harrison, Segal, and Lewis LLP
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Philadelphia, PA 19103

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Fax: 215-751-2205

Mayor Stan Lukowski
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Fax: 570-383-7122

Joseph Barone
Council President
Throop Borough Municipal Building
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Douglas Blazey
Special Counsel for Throop Borough
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Blue Bell, PA 19422

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Susan Shortz
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Ecous@intergrafix.net
570-961-2815
Fax: 570-961-2424

FAX TRANSMISSION

To:	Robert Martin	**Date:**	July 23, 2001
Fax #:	(202) 401-1740	**Pages:**	18, including this cover sheet.
From:	Thomas C. Voltaggio (215) 814-3125		
Subject:	Marjol Battery		

COMMENTS:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Region III's Response to the National Ombudsman's Request of July 10, 2001 for Answers to Interrogatories, and Production of Documents in Connection With the Investigation of the Marjol Battery Site in Throop, Pennsylvania

JUL 23 2001

FROM: Thomas C. Voltaggio (3RA00)
Acting Regional Administrator

TO: Robert J. Martin (5101)
National Ombudsman

This memorandum and attachments shall constitute EPA Region III's response to the National Ombudsman's request of July 10, 2001 for answers to interrogatories and production of documents in connection with your investigation of the Marjol Battery Site located in Throop, Pennsylvania. You have requested a printed or electronic response by July 24, 2001, and that EPA Region III attest to having provided copies of its response to all other individuals named in the Service List attached, Appendix A, to your document and interrogatory request.

In your July 10, 2001 discovery request, you posed six interrogatories and fifteen requests for production of documents which require extensive response from both the Superfund and Resource Conservation and Recovery Act (RCRA) Programs in Region III.

During the course of responding to your interrogatories and requests for production for documents, Region III located several boxes of documents. Thousands of pages of EPA documents that are responsive to your request have been reproduced at considerable administrative and financial cost. We note that the following materials being supplied as attachments to this memorandum are in addition to materials already provided to you.

(1) Documents relating to several informal meetings between Region III staff and your staff.

(2) The response to the your first set of interrogatories to Region III dated February 21, 2001 and answered by Region III on March 2, 2001.

(3) The complete Administrative Record for the Final Remedy at the Marjol Battery Site which was forwarded to your office on December 20, 2000.

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Region III has made every effort to supply your office with any and all materials requested during the course of your investigation of the Marjol Battery Site. The Region has responded to both formal and informal requests and has made all staff available for meetings. I believe that with today's submission of answers to interrogators and production of documents, Region III has fully met your requests in a direct, forthright and timely manner.

I have noted that in your July 10, 2001 request, you have directed that copies of today's submission be served upon nine other individuals named in the Service List. The documents the Region is providing consist of several thousand documents; the cost incurred for the copying of these documents is also several thousand dollars. Because of the administrative and financial burdens such a request imposes, Region III will not serve copies on those individuals; we believe we have fulfilled our obligation to your Office by providing a copy of the documents to you directly. We note that all other interested parties who wish to examine the Administrative Record of any EPA decision may do so at any time during business hours and that requests for such documents pursuant to the Freedom of Information Act can be forwarded to Region III Offices at any time by any citizen.

Finally, today we submit to the National Ombudsman documents which EPA Region III considers Confidential Records. We provide these Confidential Records to your Office in the interest of full disclosure; however, these records may not be released to any individual or entity outside the U.S. Environmental Protection Agency. As you know, any unauthorized disclosure to non-Agency personnel would compromise the confidential nature of this and related documents. If the Office of the Ombudsman disagrees with this characterization of confidentiality, Region III requests an opportunity to meet to discuss that issue with the National Ombudsman before any confidential material is released outside the Office of the Ombudsman.

If you have any questions in regard to this response, do not hesitate to contact me at 215-814-3125 or Maria Parisi Vickers at 215-814-3149.

EPA Region III's
Response to the National Ombudsman's July 10, 2001 Interrogatories and Request for Production of Documents for the Marjol Battery Site
July 23, 2001

The Interrogatories and Request for Production of Documents for the Marjol Battery Site, dated July 10, 2001, requested an extensive amount of information from the RCRA Marjol Battery file, the CERCLA Marjol Battery file, and material related to other sites and remedy decisions in the Region. Several requests are very broad; such as: cross-sections, aerial photos, and communications between particular parties related to the Marjol Battery Site. These documents are not grouped together in any particular section of our extensive files of the Marjol Battery Site. Documents such as cross-sections and photos are frequently found within reports, rather than as separate documents. Both the RCRA and CERCLA programs have substantial files resulting from the significant amount of investigation and remediation work done at the Marjol Site. We have devoted substantial time and effort to provide the information that you requested in the time frame requested. It is important to note that **all information considered by EPA to select the final remedy at the Marjol Battery Site is included in the RCRA Administrative Record**, which was forwarded to the Office of the National Ombudsman on December 20, 2000. When appropriate, this response references the documents in the RCRA Administrative Record and notes their location therein. We have provided everything found in our file search that is responsive to your request. In addition, our files are available for review by members of your staff.

RESPONSE TO INTERROGATORIES

INTERROGATORY #1 *- Please explain why the final remedy states air pollution problems will arise from excavation of the Marjol Battery Site ("EPA further understands that the greater the volume of contaminated material removed from the site the greater the increase in short-term risk" p.7) when the North Woods Completion Report indicates that "High Volume Air Monitoring results were below the Action Level of 0.025 mg/L^3 for airborne lead concentrations" during excavation of contaminated soils and Regional Administration James Seif stated in his August 5, 1988 letter to Annemarie Crocetti "[a]nalysis of air data has shown no significant release of contamination due to work in progress."*

Response - You requested a comparison of the air pollution that might occur during a total site removal in light of the dust generated during previous removal actions at the site. Total removal of contaminated material will involve both significantly larger quantities of waste than those managed under previous removal efforts for the Marjol Battery Site, and waste containing lead at concentrations much higher than that previously managed. Even when dust control measures are employed, some amount of contamination is likely to escape. Therefore, the remedy that manages the least amount of material is preferred. The estimated quantity of lead released to the atmosphere is given in the Corrective Measures Study - Marjol Battery Site (CMS), dated March

15, 1995, and the Corrective Measures Study Revisions, dated June 21, 1999. These document are included in the RCRA Administrative Record, on pages 350001 to 351418, and 390128 to 390945, respectively. The air emission modeling work is in Appendix J, and the estimated quantities are in the evaluation tables of Appendix E.

INTERROGATORY #2 *- Was a RCRA permit ever issued for the Marjol Battery Site by the state or region? Is the site currently operating under a RCRA permit? If yes to either question, please provide a copy of all RCRA permit applications, permitting documents, and any and all official communications related to the permitting process at the Marjol site. If no, please provide a list of all sites in Region III that are currently or have in the past been remediated under RCRA Corrective Action that do not possess a RCRA permit.*

Response - A RCRA permit was never issued for the Marjol Battery Site; nor is the facility currently operating under a RCRA permit. The facility operated as a RCRA Interim Status facility, subject to the Corrective Action requirements of RCRA. Documents related to the facility's permitting process are included in the RCRA Administrative Record. Their description and location, as provided in the index to the RCRA Administrative Record, are given below:

United States Environmental Protection Agency (U.S.EPA) Notification of Hazardous Waste Activity form, 08/15/80. P. 010001-010002.

U.S. EPA Acknowledgment of Notification of Hazardous Waste Activity, 10/09/80. P. 010003-010003.

U.S. EPA Potential Hazardous Waste Site Identification and Preliminary Assessment form, 08/80. An outline of a site operation is attached. P. 010004-010009.

U.S. EPA Notification of Hazardous Waste Site form, 06/03/81. P. 010010-010021. The following are attached:

a) A Potential Hazardous and Waste Site Identification and Preliminary Assessment form, dated March 27, 1984;

b) A field trip summary report, dated March 27, 1984;

c) A sketch of the casings dump location at the Site, (undated);

d) An Olyphant Quadrangle topographic map, (undated); and

e) A Moscow Quadrangle topographic map, (undated).

U.S. EPA Notification of Hazardous Waste Site update, 04/26/82. P. 010022-010022.

Letter to Marjol Battery Equipment Company, from Mr. Donald J. Frost, IU Conversion Systems Incorporated (IUCS), re: Analysis of a five-gallon sample of battery casings, 06/16/80. P. 020001-020002.

Letter to Gould Incorporated (Gould, Inc.), Metals Division, Marjol Operation, from the U.S. EPA, re: Acknowledgment of application for a Hazardous Waste Permit, 12/31/80. P. 020003-020003.

Letter to the U.S. EPA, from Mr. David C. Ross, Gould, Inc., Metals Division, Marjol Operation, re: Revision to the Notification of Hazardous Waste Activity, 08/11/80. The revisions are attached. P. 020004-020006.

Letter to Mr. Joseph Fiegleman, Gould, Inc., Metals Division, Marjol Operation, from Ms. Shirley D. Bulkin, U.S. EPA, re: Initial review treatment/storage/disposal permit, 07/08/81. P.020007-020008.

U.S. EPA Hazardous Waste Permit Application, 11/18/80. 030001-030005.

U.S. EPA General Information form, 11/18/80. P.030006-030008.

A description of the RCRA Interim Status activity at the facility is also included in the RCRA Section 3008(h) Corrective Action Consent Order, on page 410005 of the RCRA Administrative Record.

A list of sites in Region III that do not have a RCRA Operating Permit but are being remediated under the RCRA Corrective Action program is included in **ATTACHMENT 1** to this response. The list is divided into those facilities that are implementing Corrective Action under a RCRA Corrective Action Order and those that are implementing it under a Facility Lead Agreement.

INTERROGATORY #3 *- Has the Marjol Battery Site ever been scored for possible listing on the National Priorities List? Please submit any and all documents in your possession related to this scoring*

Response - Documents related to the Site scoring are include in **ATTACHMENT 2** to this response.

INTERROGATORY #4 *- Please provide a list of all technical studies related to the remediation of the Marjol site that were completed between the publication of the proposed and final remedies. If there are none, so state.*

Response - The list of technical studies that were completed between the publication of the proposed remedy, on 10/15/99, and final remedy, on 12/1/00, are given below.

The following documents are included in the RCRA Administrative Record. Their description and location, as provided in the index to the RCRA Administrative Record, are given below:

Report: Comments On The EPA's Statement of Basis for the Marjol Battery Site, prepared by Advanced GeoSevices Corp., 01/18/00. P.360527-360844.

Final Quantity Estimate and Calculations of Contaminated Soil Volumes, 09/22/00. P. 420019-420028.

Letter of transmittal to Ms. Sybil Hinnant, U.S. EPA, from Mr. Christopher Evans, U.S. Department of Defense, re: Gloria Markovci's memo on dust control measures, 09/12/2000. P.420029-420049.

Draft Stormwater Management Basin Report, undated - issued during 2000. p. 420050-420075.

Detailed cost estimate for EPA's final remedial alternative using RACER estimates, 09/14/00. P.420076-420131.

Detailed cost estimate for EPA's final remedial alternative using cost estimates from Brown's Battery Site, 09/19/00. P. 420132-420147.

Report: Analysis of Coal Stratigraphy And Croplines: Commentary On The U.S. EPA Statement of Basis And Previous Subsurface Investigations, prepared by Gannett Fleming, Inc., 01/18/00. P.510805-510844.

Report: Spatial Distribution of Battery Casing Material, prepared by Gannett Fleming, Inc., 01/18/00. P. 510845-510937.

Letter to Mr. James Barnick, Throop Borough Council, from U.S. EPA, re: The potential for technology developed by Pittsburgh Mineral & Environmental Technology (PMET) to clean up lead contamination at the Marjol Battery Site, 05/11/00. P.510941-510943.

Letter to Mr. Paul Gotthold, U.S. EPA, from Mr. Frank Swit, Gannett Fleming, Inc., re: Report: Assessment of Subsidence Potential Associated With Possible Mining of the Top Split of Top Four Foot and Top Four Foot Coal Seams, prepared by Gannett Fleming, Inc., 07/18/00. A copy of the report is attached. P. 510944-510959.

The following report is included in **ATTACHMENT 3** to this response.

Quantity Estimate Memo And Calculation Sheet for the Volume of Material that can fit on the 10-acre site, US Army Corps of Engineers, dated July, 18, 2000.

INTERROGATORY #5 *- Please provide a list of all contaminated coal mine sites within Region III that have been remediated under CERCLA or RCRA Corrective Action with corresponding fact sheets for each.*

Response - The Region does not have an index of facilities that lists the presence of coal mines at RCRA Corrective Action or CERCLA sites. The current project managers in the RCRA Corrective Action and CERCLA programs were surveyed to identify sites where coal mining activity played a role in remedy selection. Two sites were identified where coal mining activity played a role in remedy selection: the Osborne Landfill Site and the Lackawanna Refuse Site. Fact sheets for the projects are included in **ATTACHMENT 4** to this response.

INTERROGATORY #6 *- Please provide a list of all sites in Region III under CERCLA or RCRA Correctives Action where Solidification/Stabilization has been utilized for only the top portion of a landfill and a cap installed over the treated material.*

Response - The Region does not have an index of facilities that lists the use of solidification/ stabilization under only the top portion of a landfill cap. The current project managers in the RCRA Corrective Action and CERCLA programs were surveyed to identify sites where such a remedy was required. Only one site was identified that met that treatment description: the Tonolli Corporation Site. Other containment remedies required either no treatment or treatment of all the waste material. The Preliminary Construction Completion Report for the Tonolli Corporation Site is included in **ATTACHMENT 5** to this response.

RESPONSE TO REQUEST FOR PRODUCTION OF DOCUMENTS

REQUEST #1 *- Please provide any and all sampling plans, contaminant analysis, field journals, and logs from the CERCLA emergency cleanup and removal in connection with the Marjol Battery Site and surrounding areas. Additionally, include any and all recommendations made by Technical Assistance Team members regarding the site.*

Response - The CERCLA emergency cleanup and removal documents are included in **ATTACHMENT 6** to this response. The following off-site investigation report is also included in the attachment:

> Report of Composite Sampling and Analysis for the Verification Study of Remediation - Marjol Battery Site, Tetra Tech EM Inc., dated 1/18/01.

REQUEST #2 *- Please provide the following pages from the Administrative Record of the CERCLA emergency cleanup at the Marjol Battery Site. Include all maps, figures, and attachments.*

pp. 100001-100009

pp. 100012-100500
pp. 100502
pp. 100505-100514
pp. 100519-100595
pp. 100609-100611
pp. 100613-100668
pp. 100671-100672
pp. 100674-100685
pp. 100687-100709

Response - A CD-ROM disc that contains the complete CERCLA Marjol Battery Administrative Record, an index of the documents included in the CERCLA Administrative Record, the oversized maps that are part of the Administrative Record, and CD-ROM User Instructions are included in **ATTACHMENT 7** to this response. The requested pages may be found in the CD-ROM version of the Administrative Record.

REQUEST #3 *- Please provide all communications between both EPA Region III and Pennsylvania Department of Environmental Resources (Protection) and EPA Region III and US EPA that occurred between 1986 and December 2000 in which Marjol is captioned, excluding progress reports.*

Response - The following communications between EPA Region III and PADER/PADEP, and EPA Region III and USEPA-Headquarters are related to the Marjol Battery Site.

The following documents are included in the RCRA Administrative Record. Their description and location, as provided in the index to the RCRA Administrative Record, are given below:

Letter to Mr. Rich Watman, U.S. EPA, from Mr. Douglas J. Lorenzen, PADER, re: Transmittal of the Site Inspection Report for the 1984-1985 fiscal year, 10/25/85. The report is attached. P.270021-270090.

Memorandum to Mr. Larry Reed, U.S. EPA, from Mr. Thomas C. Voltaggio, U.S. EPA, re: Nominating candidates for Update #10 of the National Priorities List, 03/11/89. P. 260042-260042.

Letter to Mr. Stanley L. Laskowski, U.S. EPA, from Mr. Mark M. McClellan, PADER, requesting the Commonwealth of Pennsylvania be allowed to adjoin in the RCRA Consent Order, 04/14/89. P. 400007-400008.

Letter to Mr. Stanley L. Laskowski, U.S. EPA, from Mr. James N. Logue, Pennsylvania Department of Health, re: Review of technical documents concerning lead clean-up, 04/07/89. P. 510036-510037.

Letter to Ms. Kate Crowley, PADER, from Ms. Humane L. Zia, U.S. EPA, re: Attachments A, B, & C to Consent Order, 4/24/89. P. 400010-400010.

Letter to Ms. Humane Zia, U.S. EPA, from Ms. Kate Crowley, PADER, re: The PADER request for changes to Consent Order, 4/28/89. A copy of the letter is attached. P. 400011-400013.

Routing and transmittal slip to Ms. Kate Crowley and Ms. Kelly Greensmith, PADER, from Ms. Humane L. Zia, U.S. EPA, re: Letter illustrating agreement between U.S. EPA and the PADER on dispute resolution issues, 5/9/89. A copy of the letter to Mr. Steven Miano, U.S. EPA, from Ms. Winifred M. Prendergast, PADER, re: U.S. EPA/PADER agreements concerning SEPTA/Paoli Railyard, 7/31/87, is attached. P. 400014-400016.

Letter to Mr. Mark McClellan, PADER, from Mr. Edwin B. Erickson, U.S. EPA, re: Continuing efforts of U.S. EPA to maintain an effective presence at the Marjol Battery site, 5/25/89. P. 400017-400018.

Letter to Mr. William Steuteville, U.S. EPA, from Ms. Kate Crowley, PADER, re: Confirm 07/06/89 meeting and construction and operations impoundments, 06/29/89. P. 440023-440024.

Record of Communication to the File, from Ms. Humane L. Zia, U.S. EPA, re: Conversation with Kate Crowley, PADER, on status of the PADER review of Order, 8/29/89. P. 400019-400019.

Letter to Mr. Bill Steuteville, U.S. EPA, from Ms. Kate Crowley, Bureau of Waste Management, Wilkes-Barre Regional Office, re: Consideration of Gould proposal to use "low contaminated" soil to stabilize on-site landfill, 09/15/89. P. 320001-320002.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Reno P. Ducceschi, PADER, re: Comments on the review of the Description of Current Conditions (DCC), Pre-Investigation Evaluation of Corrective Measure Technologies, RCRA Facility Investigation (RFI) Workplan, and Quality Assurance Project Plan (QAPP), 11/27/90. P. 290003-290010.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. William Tomayko, PADER, re: Comments on the DCC, Pre-Investigation Evaluation of Corrective Measure Technologies, RFI Workplan and QAPP, 02/12/91. P. 290011-290016.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Ms. Kate Crowley, PADER, re: Comments on the June 3, 1991, revised RFI Workplan, DCC, Evaluation of Corrective Measures, and QAPP, 09/04/91. P. 290053-290062.

Letter to Mr. Michael C. Veysey, Gould, Inc., from Ms. Cheryl Atkinson, U.S. EPA, re: EPA's conditional approval of the amended November 6, 1991, RFI Workplan, 07/08/92. A March 18, 1992, letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Leonard Zelinka, PADER, regarding comments on the RFI, and a certified mail receipt are attached. P. 290144-290148.

Letter to Mr. William Steuteville, U.S. EPA, from Mr. Leonard Zelinka, PADER, re: Comments on the North Woods Security Fence Workplan, Marjol Battery Site, 02/18/93. P. 610004-610004.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Leonard Zelinka, PADER, re: Comments on the Fate and Transport portion of the Baseline Risk Assessment, 07/27/93. P. 330004-330004.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Leonard Zelinka, PADER, re: Comments on the North Woods Security Fence Workplan, 10/14/93. P. 610001-610012.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Leonard Zelinka, PADER, re: Comments on the September 13, 1993, lead mobility study for the Site, 10/19/93. P. 610034-610035

Letter to Cheryl Atkinson, EPA, from Len Zelinka, PADEP, re: Review of Stormwater Management Report, 9/2/94, P. 600719

Letter to Cheryl Atkinson, EPA, from Len Zelinka, PADEP, re: Review of Stabilization/Solidification Bench-Scale Treatability Study Report, 9/20/94, P. 600715-600715.

Letter to Mr. John Armstead, U.S. EPA, from Mr. William McDonnell, PADEP, re: Draft Statement of Basis for Marjol Battery Site, 10/13/99, P. 520003.

Additional documents are contained in the CERCLA Administrative Record for Marjol Battery Site. A CD-ROM disc that contains the complete CERCLA Marjol Battery Administrative Record and an index of the documents included in the CERCLA Administrative Record are included in **ATTACHMENT 7** to this response. Record documents #12, 38, 40, 46 and 51 are responsive to this request.

Additional documents are also included in the CERCLA Emergency Removal documents included in **ATTACHMENT 6** to this response.

Other communications are included in **ATTACHMENT 8** to this response.

REQUEST #4 *- Please provide any and all documents in your possession where the name*

Annemarie Crocetti is captioned including, but not limited to, her July 29, 1988 report concerning the Marjol site, the subsequent news releases concerning her visit to the area, and her letter to Senator Arlen Specter, all of which are referenced in Regional Administrator James Seif's letter to Ms. Crocetti dated August 5, 1988.

Response - Documents related to Annemarie Crocetti are included in **ATTACHMENT 9** to this response.

REQUEST #5 *- Please provide a copy of all EPA guidance documents that Region III relied upon to decide that the Marjol Battery Site should be handled under RCRA Corrective Action rather than CERCLA.*

Response - The following documents describe EPA's policy to use Subtitle C of RCRA to address environmental remediation at sites that are subject to RCRA Corrective Action authority, commonly referred to as the RCRA Deferral Policy. The documents are included in **ATTACHMENT 10** to this response.

a. Federal Register Notice 51 FR 21057-21062, dated June 10, 1986. The Federal Register Notice included in the attachment was downloaded from the web. The pages are numbered consecutively, starting with page 1, rather than as numbered in the original Notice. Pages 8 to 20 of the attached Notice apply to the use of RCRA Corrective Action authority for remediation of contaminated sites..

b. OSWER Directive 9320.1-5, RCRA/NPL Listing Policy, dated September 10, 1986.

c. Region III Memo from Thomas C. Voltaggio, Superfund Branch Chief, to Superfund Branch Staff, subject: Branch Procedures for ERRIS Sites Potentially Subject to RCRA Corrective Action, April 11, 1985.

REQUEST #6 *- Please provide a copy of all documents in your possession in which both "Marjol" and "due diligence" are captioned.*

Response - The file search produced no documents with those captions.

REQUEST #7 *- Please provide documents explaining the remediation scheme at the Tonolli site. Include any and all guidance documents that EPA relied upon to determine whether the site should be remediated under CERCLA or RCRA Corrective Action. Also, provide a list of PRPs and any and all cost recovery documents in your possession.*

Response - The information on the remediation at the Tonolli Corporation Site is included in **ATTACHMENT 5** of this response. The list of PRPs and the cost recovery documents (two CD-ROM discs) are included in **ATTACHMENT 11** of this response. Also included in **ATTACHMENT 11** of this response are the CD-ROM disc that contains the complete CERCLA Tonolli Corporation Site Administrative Record, and an index of the documents included in the

Administrative Record. The remediation of the Tonolli Corporation Site was not handled under the RCRA Corrective Action program because it was a bankrupt company. The guidance documents provided in **ATTACHMENT 10** of this response were used to make this decision to use CERCLA authorities to remediate the site.

REQUEST #8 *- Please provide all title searches in your possession every performed on the Marjol site property including but not limited to the North Woods.*

Response - Title search information is included in **ATTACHMENT 6** to this response.

REQUEST #9 *- Please provide the plates that accompany the RFI.*

Response - The eighteen (18) plates for the RCRA Facility Investigation Report (RFI) are included in **ATTACHMENT 12** to this response.

REQUEST #10 *- Please provide any and all geologic cross sections of the Marjol Battery Site and North Woods in your possession.*

Response - Geologic cross-sections of the Marjol Battery site are included in the following reports, as noted in the table of contents for these reports. These reports are included in the RCRA Administrative Record. Their description and location, as provided in the index to the RCRA Administrative Record, are given below:

a. Report: RCRA Facility Investigation Report, prepared by Advanced GeoServices Corp., 03/15/93. P. 310001-313100.

b. Report: Corrective Measures Study Report, prepared by Advanced GeoServices Corp., 03/15/95. P. 350001-351418.

c. Report: Corrective Measure Study Revisions, prepared by Advanced GeoServices, 06/21/99. P. 390128-390991.

d. Throop Borough's Written Submission and Comments to the Administrative Record Regarding EPA's October 15, 1999, Proposed Statement of Basis for the Marjol Battery Site, 01/18/00, pages 360983 and 360991.

e. Final Report: Mine Subsidence Investigation, Prepared by AGC, 01/28/99, P. 603512 - 603852.

f. Gannett Fleming report titled Analysis of Coal Stratigraphy and Croplines: Commentary on the USEPA Statement of Basis and Previous Subsurface Investigations, Marjol Battery Site, Throop Borough, Lackawanna County, Pennsylvania, dated January 18, 2000, P. 510805 - 510844.

g. Report: Limit of the Five Foot Coal Seam, Marjol Battery Site, prepared by Gannett Fleming, Inc., 09/21/99. P.560001 - 560014.

Cross-sections are also included in the report: Proposal Ground Water Investigation at the Marjol Battery Plant in Throop, PA. This report is contained in the CERCLA Marjol Battery Site Administrative Record, on pages 100024-100202 of the record. A CD-ROM disc containing the Administrative Record is included in **ATTACHMENT 7** to this response.

Additional cross-sections are included in **ATTACHMENT 13** to this response. They are described below.

Diagrammatic cross-sections were prepared for a meeting at EPA Region III with a congressional delegation and the EPA National Ombudsman on February 1, 2001. These four (4) cross-sections were part of a presentation made by EPA during that meeting. The enclosed cross-sections are derived from a cross-section in the RFI report (see Figure 4, Mining Conditions along Section B, prepared by GAI Consultants, Inc., contained in Appendix H-3 of the RFI Report). That RFI cross-section was modified by: coloring in the General Eight Foot, General Five Foot, and General Four Foot coal seams; drawing in the relative positions of the Top Split Four Foot and Top Four Foot coal seams; highlighting the elevation of the mine pool; drawing in the approximate position of the primary Battery Casing Material (BCM) fill area; and drawing in the relative topography around and location of Sulphur Creek The sequence of the four cross-sections shows current conditions, relocation of the BCM waste to below the limit of the Five Foot coal seam, isolation from the Five Foot coal seam, and capping of the BCM.

REQUEST # 11 *- Please provide a copy of all studies in your possession investigating the health effects of lead in Throop, PA, including, but not limited to, all research conducted by Dr. Charles Becker.*

Response - The following documents are included in the RCRA Administrative Record. Their description and location, as provided in the index to the RCRA Administrative Record, are given below:

Report: Health Consultation, prepared by Pennsylvania Department of Health, 11/18/99. P. 090001-090040.

Report: Petitioned Public Health Assessment, Lackawanna County, prepared by Agency for Toxic Substances and Disease Registry, 7/21/92. P. 090041-090075.

Letter to Mayor Lukowski and Mr. James Barnick, Throop Borough, from Ms. Sibyl Hinnant, U.S. EPA, re: Efforts of the U.S. EPA to respond to the health concerns raised by the citizens of Throop, 03/25/99. The EPA toxicologist's report in which responses were provided to health questions during the November 18, 1998, meeting, is attached.

P. 540005-540016.

Report: Report: RCRA Facility Investigation Report, prepared by Advanced GeoServices Corp., 03/15/93. P. 310001-313100. The Baseline Risk Assessment is included as Appendix G. The following documents are related to the Baseline Risk Assessment and are included in the RCRA Administrative Record.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Leonard Zelinka, PADER, re: Comments on the Fate and Transport portion of the Baseline Risk Assessment, 07/27/93. P. 3300044.

Letter to Mr. Michael C. Veysey, Gould, Inc., from Ms. Cheryl Atkinson, U.S. EPA, re: Comments on and disapproval of the March 1993 Risk Assessment, 12/09/93. P. 330021-330032.

Memorandum to Mr. Michael C. Veysey, Gould, Inc., from Ms. Cheryl Atkinson, U.S. EPA, re: Disapproval of the Baseline Risk Assessment based upon the listed concerns, 12/09/93. A certified mail return receipt is attached. P. 330033-330044.

Letter to Ms. Cheryl Atkinson, U.S. EPA, and Mr. Leonard Zelinka, PADER, from Ms. Barbara L. Forslund, AGC, re: Response to U.S. EPA's comments on the Baseline Risk Assessment, 02/08/94. Table 1 and Table 2 are attached. P. 330047-330053.

Memorandum to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Roy L. Smith, U.S. EPA, re: Comments on Gould's response to U.S. EPA's concerns with the Baseline Risk Assessment, 02/17/94. P. 330054-330055

Letter to Mr. Michael C. Veysey, Gould, Inc., from Ms. Cheryl Atkinson, U.S. EPA, re: Comments on the Baseline Risk Assessment, 02/22/94. A certified mail return receipt is attached. P. 330056-330059.

Letter to Ms. Cheryl Atkinson, U.S. EPA, and Mr. Leonard Zelinka, PADER, from Mr. Christopher T. Reitman and Ms. Barbara L. Forslund, AGC, re: Response to comments on the Baseline Risk Assessment, 03/01/94. P. 330060-330062.

Letter to Ms. Cheryl Atkinson, U.S. EPA, and Mr. Leonard Zelinka, PADER, from Mr. Michael C. Veysey, Gould, Inc., re: Responses to U.S. EPA comments on the Baseline Risk Assessment, 04/01/94. The comments are attached. P. 330063-330292.

Letter to Mr. Michael C. Veysey, Gould, Inc., from Ms. Cheryl Atkinson, U.S. EPA, re: Transmittal of comments on the Baseline Risk Assessment, 02/09/95. The comments are attached. P. 330297-330324.

Letter to Ms. Cheryl Atkinson, U.S. EPA, and Mr. Leonard Zelinka, PADER, from Mr. Christopher T. Reitman, and Ms. Barbara L. Forslund, AGC, re: Responses to U.S. EPA and PADER Comments on the Baseline Risk Assessment, 03/31/95. The comments are attached. P. 330325-330358.

Letter to Ms. Cheryl Atkinson, U.S. EPA, from Mr. Christopher T. Reitman and Barbara L. Forslund, AGC, re: Comments on the Baseline Risk Assessment, 07/27/95. P. 330359-330360.

Additional documents are included in **ATTACHMENT 14** to this response.

REQUEST # 12 *- Please provide any and all aerial photographs in your possession ever taken of the Marjol Battery Site including the North Woods and surrounding residential areas and list the origin of the print.*

Response - Aerial photos are included in the Corrective Measures Study - Marjol Battery Site (CMS), dated March 15, 1995, pages 350001 to 351418 of the RCRA Administrative Record, and the Corrective Measures Study Revisions, dated June 21, 1999, pages 390128 to 390945 of the RCRA Administrative Record. The location of the photos are identified in the table of contents for the reports.

Aerial photos are also available to downloaded from a Microsoft Terraserver web site, available at http://terraserver.homeadvisor.msn.com/default.asp. Four (4) individual air photos were downloaded. According to the web site, each of the four individual photos is 800 pixels wide by 600 pixels high. Each pixel represents 1 by 1 meters of earth. The image was extracted from a Color Infra-Red (CIR) digital orthophoto quadrangle provided by the USGS. The image was photographed on April 15, 1992 by the National Aerial Photography Program, and digitized by the USGS DOQ Program on January 25, 1995. In addition to the four (4) individual air photos, one (1) air photo which stitches together the four individual photos, and the same stitched-together air photo in which the brightness and contrast was increased are also provided. The six (6) photos are included in **ATTACHMENT 15** of this response.

REQUEST #13 *- Please provide any and all tracer studies indicating the path of groundwater flow in the unsaturated zone of the Marjol Battery Site.*

Response - No dye tracer studies were found in the Marjol files. However, the RFI report (p. 310001 - 313100 of the RCRA Administrative Record) provides a discussion and evaluation of the different types of water and their potential sources based on common anion/cation geochemistry (see pages 5-8 through 5-20 in the RFI report). Page 5-15 of the RFI report discusses flow system dynamics and the difficulty in tracing flow paths. A followup investigation to the RFI was conducted which further evaluated unsaturated zone water. This investigation included the installation of lysimeters, additional monitoring well sampling, and a continuous water level monitoring program. These results are provided in the Supplementary RFI Activities Report, dated July 17, 1995 (P. 602236 - 603477 of the RCRA Administrative

Record). The Mine Subsidence Investigation Report dated January 28, 1999 (P. 603512 - 603852 of the RCRA Administrative Record), includes analytical results of sampling mine pool water under the site, which represents saturated conditions.

REQUEST #14 *- Please provide any and all mining maps of the Marjol Site you have in your possession.*

Response - Mining maps are provided in **ATTACHMENT 16** to this response.

REQUEST #15 *- Please provide an index of any and all emails, memorandum, letters, faxes, and notes in your possession from December 2000 to the present where the names "Voltaggio" and "Marjol" are captioned.*

Response - The documents are provided in **ATTACHMENT 17** to this response. E-mail records of the following individuals were reviewed: Thomas Voltaggio, James Burke, Maria Vickers, Paul Gotthold, Luis Pizarro, Joel Hennessey, Maureen Essenthier, Susan Hodges, Yvette Hamilton, William Early, Neil Wise, Lydia Isales, Susan Hodges, Yvette Hamilton, Mary Coe and Diane Ajl. The indices of the e-mail records are included in the attachment. There may be other Region III employees to whom this request applies. EPA will finalize that list and forward e-mail indices to the Office of the Ombudsman by July 31st, if there are other applicable indices.

Marjol Battery Site Ombudsman Request
List of Attachments

Attachment 1 - RCRA Corrective Action Sites without RCRA Permits

Attachment 2 - Marjol Battery Site NPL Listing Documents

Attachment 3 - Marjol Battery Site Quantity Estimate Memo and Calculation Sheet

Attachment 4 - Fact Sheets for Osborne Landfill Site and Lackawanna Refuse Site

Attachment 5 - Fact Sheet for Tonolli Corporation Site

Attachment 6 - CERCLA Marjol Battery Site Emergency Removal Documents

Attachment 7 - CERCLA Marjol Battery Site Administrative Record

Attachment 8 - Marjol Battery Site Communications between 1986 and December 2000

Attachment 9 - Annemarie Crocetti Documents

Attachment 10 - RCRA Deferral Policy Documents

Attachment 11 - Tonolli Corporation Site Information

Attachment 12 - Marjol Battery Site RFI Plates

Attachment 13 - Marjol Battery Site Cross-Sections

Attachment 14 - Marjol Battery Site Health Effects Study

Attachment 15 - Marjol Battery Site Aerial Photos

Attachment 16 - Marjol Battery SiteMining Maps

Attachment 17 - Marjol Battery Site "Voltaggio" and "Marjol" Documents

********** -IND. XMT JOURNAL- ********** DATE JUL-23-2001 ***** TIME 17:07 ********

DATE/TIME	= JUL-23-2001 17:02
JOURNAL No.	= 25
COMM.RESULT	= OK
PAGE(S)	= 018/018
DURATION	= 00:05'36
FILE No.	= 161
MODE	= MEMORY TRANSMISSION
DESTINATION	= 912024011740
RECEIVED ID	= / 202 401 1740
RESOLUTION	= STD

-EPA RCRA -

********** - - ***** - 215 814 3114- *********

Marjol Ombudsman's Request
- Additional info sent 7/31/01

FAX TRANSMISSION

To:	Robert Martin	**Date:**	July 31, 2001
Fax #:	202-401-1740	**Pages:**	11, including this cover sheet.
From:	James J. Burke 215-814-2055		
Subject:	Marjol Battery		

COMMENTS: This is a follow-up to EPA Region III's July 23, 2001 response to the National Ombudsman's July 10, 2001 request.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Region III's Response to the National Ombudsman's Request of July 10, 2001 for Answers to Interrogatories, and Production of Documents in Connection With the Investigation of the Marjol Battery Site in Throop, Pennsylvania

JUL 31 2001

FROM: James J. Burke (3WC00), Director
Waste and Chemicals Management Division

TO: Robert J. Martin (5101)
National Ombudsman

This is a follow-up to EPA Region III's July 23, 2001 response to the National Ombudsman's request of July 10, 2001 in connection with your investigation of the Marjol Battery Site located in Throop, Pennsylvania.

As indicated in Region III's response to request #15, additional e-mail indices that are responsive to that request are attached. Indices for the following individuals are included: Joan Schafer, Susan Hodges, Ruth Prince, Ken Kryszczun, Ruth Wuenschel, William Early and Cynthia Yu.

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Customer Service Hotline: 1-800-438-2474

Who	Date	Size	Subject
Roy Seneca	06/15/2001 08:57 AM	1,773	Marjol Article in Scranton Times
Paul Gotthold	04/26/2001 12:52 PM	90,921	last revision of Doug Blazey/Marjol letter
Paul Gotthold	04/25/2001 05:57 PM	91,049	final letter to Doug Blazey re: Marjol
Tom Voltaggio	03/28/2001 08:43 AM	64,726	Marjol Cartoons
Ruth Wuenschel	03/27/2001 03:00 PM	17,367	FINAL MARJOL OP-ED
Ruth Wuenschel	03/27/2001 11:03 AM	17,350	Last (?) Draft of Marjol Op-Ed
Ruth Wuenschel	03/26/2001 03:58 PM	51,495	Re: Marjol Op-Ed
Ruth Wuenschel	03/23/2001 01:50 PM	16,837	Marjol Op-Ed
Tom Voltaggio	03/22/2001 12:29 PM	12,204	Communication action items for Marjol
Tom Voltaggio	03/01/2001 03:51 PM	19,485	Marjol Fact Sheet
Ruth Wuenschel	12/18/2000 05:00 PM	22,495	FINAL MARJOL OP-ED AS OF 4:58 MONDAY
James Burke	04/30/2001 08:01 AM	3,192	Marjol
Kenneth Kryszczun	03/02/2001 02:12 PM	44,324	Marjol Battery
Tom Voltaggio	02/08/2001 07:28 AM	5,296	Re: Scranton Times Call Re: Marjol
James Burke	01/31/2001 07:55 AM	8,464	Marjol Article in Scranton Times
Joan Schafer	01/11/2001 07:34 AM	1,759	Marjol
Patrick Boyle	01/05/2001 08:36 AM	14,000	Re: Marjol Ombud Review on Hold
Tom Voltaggio	12/19/2000 08:26 AM	94,806	Marjol Letter
Cynthia Yu	12/19/2000 08:11 AM	23,661	Today's Marjol Announcement
Patrick Boyle	12/08/2000 08:08 AM	28,729	Scranton Times Article Re Marjol
Patrick Boyle	12/07/2000 10:13 AM	13,556	Today's Article in the Scranton Times re Marjol
Ruth Wuenschel	12/06/2000 07:28 AM	15,308	Scranton Times Article Re Marjol Decision - Dec. 6
Cynthia Yu	12/05/2000 07:49 AM	15,036	Scranton Times Article re Marjol Decision
Cynthia Yu	06/21/2001 12:20 PM	3,359	update on Marjol/Tranguch visits to Senators in DC.
James Burke	06/19/2001 09:42 AM	63,875	Marjol - Throop Residents Visit Washington on Thursday
James Burke	05/14/2001 07:42 AM	65,263	Today's Marjol Article - May 14
James Burke	05/10/2001 10:00 AM	6,115	TV Coverage of Ombudsman's Visit at Marjol
James Burke	05/10/2001 09:03 AM	64,809	Marjol Article - 5/10
James Burke	05/01/2001 07:27 AM	65,220	Marjol Article May 1
James Burke	04/26/2001 08:22 AM	68,197	Letter to the Editor from the Lackawanna River Corridor Assoc re Mar
Paul Gotthold	04/17/2001 07:50 AM	125,314	Sunday Articles about Marjol/Ombudsman
Paul Gotthold	04/09/2001 07:29 AM	10,686	Marjol Article in Sunday's Scranton Times
Joan Schafer	04/04/2001 11:38 AM	63,909	Talking Paper for Marjol
Paul Gotthold	04/04/2001 11:38 AM	64,656	Talking Paper for Marjol
James Burke	04/02/2001 07:33 AM	7,843	Today's Marjol Article - 4/2- Scranton Times
Tom Voltaggio	03/27/2001 11:30 AM	19,548	Re: Last (?) Draft of Marjol Op-Ed
Paul Gotthold	03/26/2001 04:08 PM	56,294	Re: Marjol Op-Ed
Tom Voltaggio	03/26/2001 02:58 PM	34,695	Re: Marjol Op-Ed
Tom Voltaggio	03/22/2001 05:19 PM	14,196	Re: Communication action items for Marjol
James Burke	03/05/2001 10:38 AM	6,126	Marjol Article
Paul Gotthold	02/23/2001 07:30 AM	6,970	Marjol Article Feb. 23 in Scranton Times
Tom Voltaggio	02/07/2001 06:51 PM	3,306	Re: Scranton Times Call Re: Marjol
James Burke	01/22/2001 07:36 AM	6,326	Scranton Times Editorial Re Marjol - Jan. 22
Ruth Wuenschel	01/12/2001 08:47 AM	13,280	1/12 Marjol Article in Scranton Times
James Burke	01/11/2001 07:34 AM	2,636	Marjol

64 Documents - from [illegible]

Who	Date	Size	Subject Joan Schafer
Cynthia Yu	01/10/2001 02:19 PM	2,552	proposed Congresional briefing on Marjol
Maria Vickers	01/09/2001 08:15 AM	13,847	Today's Article About Marjol
James Burke	01/03/2001 01:43 PM	27,250	Scranton Times Article about EPA/Marjol/Superfund Sites
James Burke	12/21/2000 08:25 AM	13,793	Today's Editorial in Scranton Times Re Marjol 12/21/00
Ruth Wuenschel	12/18/2000 04:01 PM	55,472	OOPS, Forgot to attach revised Marjol press release
Ruth Wuenschel	12/18/2000 09:10 AM	19,052	Re: Marjol Press Release to go with Op-ed
Patrick Boyle	12/11/2000 02:44 PM	20,099	Inquiry on Marjol
Cynthia Yu	06/21/2001 01:56 PM	8,168	Re: update on Marjol/Tranguch visits to Senators in DC.
Tom Voltaggio	03/27/2001 08:15 AM	53,437	Re: Marjol Op-Ed
James Burke	06/21/2001 10:03 AM	69,069	Re: Marjol - Throop Residents Visit Washington on Thursday
Kenneth Kryszczun	05/24/2001 08:16 AM	24,867	Marjol
Cynthia Yu	03/19/2001 03:28 PM	3,960	My conversation with Sherwood's staffer about Marjol
Mike Shapiro	01/05/2001 12:40 PM	8,606	Re: Marjol Ombud Review on Hold
Tom Voltaggio	12/11/2000 03:55 PM	22,400	Re: Inquiry on Marjol
Cynthia Yu	06/21/2001 02:18 PM	8,621	Re: update on Marjol/Tranguch visits to Senators in DC.
Paul Gotthold	01/05/2001 02:00 PM	10,195	Re: Marjol Ombud Review on Hold
Cynthia Yu	01/08/2001 02:44 PM	14,586	Re: Marjol Ombud Review on Hold
Joan Schafer	01/05/2001 08:36 AM	13,515	Re: Marjol Ombud Review on Hold
Patrick Boyle	12/12/2000 09:42 AM	17,083	EPA Defends Marjol Decision (Scranton Times)

Susan Hodges

Who	Date	Size	Subject
William Smith	06/26/2001 12:01 PM	91,607	Re: Fabricante hearing: questions on Marjol and Dupont/titanium
Diane Ajl	06/26/2001 11:52 AM	89,958	Re: Fabricante hearing: questions on Marjol and Dupont/titanium
William Smith	06/26/2001 11:23 AM	87,475	Re: Fabricante hearing: questions on Marjol and Dupont/titanium
William Smith	06/26/2001 11:20 AM	88,795	Re: Fabricante hearing: questions on Marjol and Dupont/titanium
Lydia Isales	06/26/2001 11:12 AM	87,171	Re: Fabricante hearing: questions on Marjol and Dupont/titanium
Diane Ajl	06/26/2001 10:43 AM	83,542	Fabricante hearing: questions on Marjol and Dupont/titanium
Diane Ajl	06/25/2001 08:18 AM	72,078	Re: Marjol - Throop Residents Visit Washington on Thursday
Yvette Hamilton	06/21/2001 11:57 AM	70,529	Re: Marjol - Throop Residents Visit Washington on Thursday
Cynthia Yu	06/19/2001 12:36 PM	66,934	Re: Marjol - Throop Residents Visit Washington on Thursday
Joan Schafer	06/19/2001 09:42 AM	63,232	Marjol - Throop Residents Visit Washington on Thursday
Diane Ajl	06/18/2001 03:53 PM	5,342	Marjol Article in Scranton Times
Yvette Hamilton	06/14/2001 10:52 AM	2,283	Marjol Battery Update
Maureen Essenthier	05/14/2001 11:44 AM	9,815	Re: TV Coverage of Ombudsman's Visit at Marjol
Joan Schafer	05/14/2001 07:42 AM	64,438	Today's Marjol Article - May 14
Joan Schafer	05/10/2001 10:00 AM	5,225	TV Coverage of Ombudsman's Visit at Marjol
Joan Schafer	05/10/2001 09:03 AM	63,964	Marjol Article - 5/10
Diane Ajl	05/09/2001 04:25 PM	4,044	Marjol: Bob Collings called
Maria Vickers	05/09/2001 03:19 PM	2,293	Marjol: Bob Collings called
Diane Ajl	05/03/2001 04:45 PM	5,218	Re: Marjol/Kaufman discrimination suit
Diane Ajl	05/03/2001 02:53 PM	1,349	Marjol/Kaufman discrimination suit
Joan Schafer	05/01/2001 07:27 AM	64,563	Marjol Article May 1
Diane Ajl	04/30/2001 01:33 PM	26,135	Marjol Battery,Throop PA - Administrator's Scheduled Meeting with Activists.
Paul Gotthold	04/26/2001 12:52 PM	84,652	last revision of Doug Blazey/Marjol letter
Yvette Hamilton	04/26/2001 11:38 AM	3,167	Re: final letter to Doug Blazey re: Marjol
Joan Schafer	04/26/2001 08:22 AM	67,450	Letter to the Editor from the Lackawanna River Corridor Assoc re Marjol
Paul Gotthold	04/25/2001 05:57 PM	84,778	final letter to Doug Blazey re: Marjol
Diane Ajl	04/11/2001 10:22 AM	1,962	FOIA issue - Marjol Battery
Joan Schafer	04/09/2001 07:29 AM	9,956	Marjol Article in Sunday's Scranton Times
Joan Schafer	04/02/2001 07:33 AM	7,275	Today's Marjol Article - 4/2- Scranton Times
Diane Ajl	03/29/2001 03:49 PM	7,231	Scranton Times Article on T. Voltaggio and Marjol
Joan Schafer	03/15/2001 07:26 AM	6,720	Today's (3/15)Marjol Article
Joan Schafer	03/05/2001 10:38 AM	5,480	Marjol Article
Paul Gotthold	03/01/2001 03:17 PM	31,961	Re: Marjol response to Ombudsman request
Diane Ajl	03/01/2001 02:10 PM	30,187	Re: Marjol response to Ombudsman request
Paul Gotthold	02/28/2001 01:08 PM	20,913	Re: marjol
Diane Ajl	02/26/2001 02:27 PM	6,973	Scranton Times article on Marjol
Paul Gotthold	02/05/2001 09:28 AM	2,748	Marjol meetings
Yvette Hamilton	01/31/2001 04:58 PM	21,589	Notice to the RA: Marjol and the SREA

Susan Hodges

Who	Date	Size		Subject
Joan Schafer	01/31/2001 07:55 AM	7,976		Marjol Article in Scranton Times
Diane Ajl	01/25/2001 09:22 AM	3,996		Gould, Inc. (Marjol Battery)
Diane Ajl	01/17/2001 01:00 PM	4,889		Re: Marjol
Joan Schafer	01/11/2001 07:34 AM	1,781		Marjol
Diane Ajl	01/08/2001 01:39 PM	7,226		Gould, Inc. case (Marjol Battery)
Diane Ajl	01/08/2001 09:23 AM	5,663		Gould, Inc. case (Marjol Battery)
Joan Schafer	01/03/2001 01:43 PM	26,739	📎	Scranton Times Article about EPA/Marjol/Superfund Sites
Diane Ajl	12/18/2000 08:34 AM	2,941		Marjol
Bradley Campbell	12/18/2000 08:15 AM	4,687		Re: Marjol--Tolling of Dispute Resolution provision
Paul Gotthold	12/15/2000 05:42 PM	16,660	📎	Marjol Op-Ed with Suspension Language
Maria Vickers	12/15/2000 01:37 PM	2,464		Marjol--Tolling of Dispute Resolution provision
Maria Vickers	12/14/2000 01:49 PM	3,210		Marjol letter to Ombudsman
Diane Ajl	12/14/2000 01:16 PM	87,867	📎	Marjol-Ombudsamn Letter
Maria Vickers	12/14/2000 12:13 PM	3,034		Re: Marjol-Ombudsamn Letter
Maria Vickers	12/14/2000 11:10 AM	86,307	📎	Marjol-Ombudsamn Letter
Maria Vickers	12/12/2000 04:39 PM	2,071		Memo re Marjol,
Paul Gotthold	12/08/2000 04:38 PM	2,853		Marjol dispute resolution
Diane Ajl	12/07/2000 02:48 PM	9,701		scranton times article on Marjol
Paul Gotthold	12/07/2000 12:34 PM	2,673		contacts for Gould re: Marjol Site

WordPerfect 9 - Document1 (unmodified)

Ruth Prince - All Documents - Lotus Notes

Ruth Prince - All Documents

Mail

- Inbox
- Drafts
- Sent
- All Documents
- Trash
- Discussion Threads
- Rules
- Stationery
- Working Files

Search for: AND date created is after 12/01/2000 AND date created is before 07/11/2001

Search | Clear Results

relevance

New Memo | Reply | Forward | Delete | Folder | Copy into | Tools

Ruth Prince

Who	Date	Size	Subject
Tom Voltaggio	02/12/2001 04:51 PM	589	Marjol
Tom Voltaggio	01/29/2001 03:03 PM	1,045	Marjol
Tom Voltaggio	01/08/2001 04:39 PM	15,856	Re: Marjol Ombud Review on Hold
Joan Schafer	12/05/2000 07:49 AM	14,757	Scranton Times Article re Marjol Decision
Joan Schafer	05/10/2001 09:03 AM	63,964	Marjol Article - 5/10
Tom Voltaggio	05/10/2001 07:53 AM	20,281	Re: Marjol
Tom Voltaggio	05/09/2001 05:13 PM	9,908	Re: Marjol
Tom Voltaggio	05/09/2001 03:01 PM	1,645	Marjol
Joan Schafer	04/17/2001 07:50 AM	124,613	Sunday Articles about Marjol/Ombudsman
Tom Voltaggio	03/01/2001 05:07 PM	132,038	Marjol Response to Ombudsman
Tom Voltaggio	03/01/2001 04:18 PM	89,336	Marjol Response to Ombudsman
Joan Schafer	01/09/2001 08:15 AM	13,258	Today's Article About Marjol
Tom Voltaggio	01/08/2001 04:42 PM	17,549	Re: Marjol Ombud Review on Hold
Tom Voltaggio	12/13/2000 05:03 PM	826	Marjol/Ombudsman
Tom Voltaggio	03/01/2001 03:41 PM	45,747	Marjol Response to Ombudsman
Tom Voltaggio	12/18/2000 08:30 AM	95,666	Re: Marjol Letter
Tom Voltaggio	01/04/2001 04:01 PM	7,398	Marjol Ombud Review on Hold
Patrick Boyle	12/11/2000 02:44 PM	19,986	Inquiry on Marjol
Tom Voltaggio	12/11/2000 03:55 PM	22,447	Re: Inquiry on Marjol
Cynthia Yu	06/25/2001 08:08 AM	7,325	Throop's visit to Capitol (Marjol) article in 6/23/01 Scranton
Cynthia Yu	01/09/2001 09:40 AM	8,116	Marjol in Washington Times

Ken Kryszczun

Who	Date	Size	Subject
Tom Voltaggio	12/11/2000 04:12 PM	23,789	Re: Inquiry on Marjol
Patrick Boyle	12/11/2000 04:23 PM	23,708	Re: Inquiry on Marjol
Tom Voltaggio	12/15/2000 03:15 PM	21,189	Marjol Op-Ed with Suspension Language
Tom Voltaggio	12/15/2000 05:19 PM	15,334	Marjol Press Release to go with Op-ed
Tom Voltaggio	12/18/2000 05:00 PM	23,666	FINAL MARJOL OP-ED AS OF 4:58 MONDAY
Tom Voltaggio	01/08/2001 12:52 PM	1,141	Re: Marjol Ombud Review on Hold
Tom Voltaggio	02/07/2001 03:59 PM	1,321	Scranton Times Call Re: Marjol
Tom Voltaggio	03/22/2001 04:31 PM	2,192	Marjol Editorial Board
Tom Voltaggio	03/22/2001 05:09 PM	1,346	Re: Marjol Editorial Board
Tom Voltaggio	03/23/2001 09:50 AM	2,942	Scranton Times Editorial Board Meeting Details
Tom Voltaggio	03/27/2001 11:03 AM	17,617	Last (?) Draft of Marjol Op-Ed
Tom Voltaggio	03/27/2001 03:00 PM	17,634	FINAL MARJOL OP-ED

Ruth Wuerschel

Who	Date	Size	Subject
Michele Mckeever	06/25/2001 08:08 AM	7,483	Throop's visit to Capitol (Marjol) article in 6/23/01 Scranton
Tom Voltaggio	06/11/2001 03:11 PM	1,429	Marjol - next Congressional step?
Paul Gotthold	02/16/2001 10:28 AM	5,022	Re: Santorum to visit Marjol and Tranguch on Feb. 23!
Paul Gotthold	04/25/2001 05:57 PM	84,770	final letter to Doug Blazey re: Marjol
Michael Burke	04/23/2001 05:06 PM	14,461	Marjol memo
Maria Vickers	04/19/2001 12:49 PM	7,125	Re: MARJOL - HEADS UP!!
Ruth Wuenschel	01/04/2001 04:19 PM	8,067	Marjol Ombud Review on Hold
Joan Schafer	06/21/2001 02:18 PM	9,138	Re: update on Marjol/Tranguch visits to Senators in DC.
Kenneth Kryszczun	03/19/2001 03:28 PM	4,458	My conversation with Sherwood's staffer about Marjol
Bradley Campbell	01/09/2001 03:34 PM	6,768	Re: Marjol
Dennis Carney	02/15/2001 05:22 PM	2,639	Santorum to visit Marjol and Tranguch on Feb. 23!
Tom Voltaggio	01/10/2001 04:36 PM	3,323	Re: I may see Andy Wallace this Friday - TRanguch - Marjol?
Abe Ferdas	12/19/2000 10:36 AM	3,102	EDM site affected by Marjol announcement
Joan Schafer	03/05/2001 10:38 AM	5,402	Marjol Article
Tom Voltaggio	01/10/2001 04:36 PM	4,997	Re: proposed Congresional briefing on Marjol
Mike Shapiro	01/05/2001 12:40 PM	8,606	Re: Marjol Ombud Review on Hold
Joan Schafer	02/23/2001 07:30 AM	6,392	Marjol Article Feb. 23 in Scranton Times
Joan Schafer	01/22/2001 07:36 AM	5,602	Scranton Times Editorial Re Marjol - Jan. 22
Joan Schafer	01/12/2001 08:47 AM	12,537	1/12 Marjol Article in Scranton Times
Dawn Shellenberger	01/10/2001 01:44 PM	6,908	HAZARDOUS WASTE NEWS and SUPERFUND WEEK Have Site in NE PA in first issue.
Joan Schafer	04/09/2001 07:29 AM	9,878	Marjol Article in Sunday's Scranton Times
Tom Voltaggio	04/23/2001 01:34 PM	16,093	Briefing Paper for Administrator on Recent Marjol Developme
Tom Voltaggio	06/21/2001 07:28 AM	25,645	Re: Marjol - Letter from Citizens of Throop Requesting the O Contacts with the Citizens
Kenneth Kryszczun	05/24/2001 08:16 AM	24,867	Marjol
Joan Schafer	04/04/2001 11:38 AM	63,846	Talking Paper for Marjol
Joel Hennessy	02/01/2001 05:13 PM	751,127	Marjol Remedy Slide Show
Joan Schafer	04/17/2001 07:50 AM	124,535	Sunday Articles about Marjol/Ombudsman

Cynthia Y. Robinson

Who	Date	Size	Subject
Tom Voltaggio	02/02/2001 03:13 PM	15,373	WCMD Hot Sites (Enforcement Confidential) - Week Ending February 2, 2001
Tom Voltaggio	02/07/2001 11:11 AM	21,115	Non-Attendees of Nuts & Bolts: Merit Principles and Practices Training
Cynthia Yu	04/20/2001 11:06 AM	7,067	Re: MARJOL - HEADS UP!!
Daniel Ryan	04/20/2001 03:11 PM	1,679	Marjol Briefing

William Early

********** -IND. XMT JOURNAL- ********** DATE JUL-31-2001 ***** TIME 16:21 ********

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RESOLUTION	= STD

-EPA RCRA -

********** - - ***** - 215 814 3114- *********

FAX TRANSMISSION

To:	Robert Martin	**Date:**	August 8, 2001
Fax #:	202-401-1740	**Pages:**	4, including this cover sheet.
From:	Maria Vickers 215-814-3149		
Subject:	Marjol Battery		

COMMENTS: This is a follow-up to EPA Region III's July 23, 2001 response to the National Ombudsman's July 10, 2001 request.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

AUG 8 2001

SUBJECT: Region III's Response to the National Ombudsman's Request of July 10, 2001 for Answers to Interrogatories, and Production of Documents in Connection With the Investigation of the Marjol Battery Site in Throop, Pennsylvania

FROM: Maria Vickers, Deputy Director FOR
Waste and Chemicals Management Division

TO: Robert J. Martin (5101)
National Ombudsman

This is a follow-up to EPA Region III's July 23, 2001 response to the National Ombudsman's request of July 10, 2001 in connection with your investigation of the Marjol Battery Site located in Throop, Pennsylvania.

In response to Interrogatory #5, an additional contaminated coal mine site within Region III has been identified, the Taylor Borough Dump CERCLA site. A fact sheet for the site is attached. The project manager for this site did not identify it earlier because she was out of the office during the month of July.

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Customer Service Hotline: 1-800-438-2474

EPA United States Environmental Protection Agency **Region 3**

Hazardous Site Cleanup Division

TAYLOR BOROUGH DUMP

EPA REGION 3
Lackawanna County
Taylor Borough, 3 miles south of City of Scranton

PENNSYLVANIA
EPA ID# PAD980693907

Other Names:
Old City of Scranton Landfill #1

Last Updated: April 2000

10th Congressional District

Current Site Status

EPA is conducting operation and maintenance activities at the site to ensure the protectiveness of the soil cover. Results of the sampling conducted so far shows that the remedy is performing as expected and it is protective of human health and the environment. EPA deleted the site from the NPL on September 30, 1999

Site Description

The Taylor Borough Dump, located in Lackawanna County, Pennsylvania, is a privately owned, inactive landfill that covers 125 acres. The City of Scranton, located about 3 miles north of the site, used the former underground and strip mine as a municipal dump from 1964 through 1968. The unfenced site was placed on the National Priorities List (NPL) because approximately 1,200 drums containing hazardous organic chemicals and heavy metals had been dumped illegally there. Drums were found in six main areas on the site. Wastes had escaped from the drums and contaminated the soil, surface water, sediments, groundwater, and the surrounding air. Even after the EPA built a fence around the area, trespassers breached it to bike, jog, and hunt on the site. The landfill is near a residential area and a community park. It is estimated that 1,000 people live within a one-mile radius of the site, and 10,000 people live within 3 miles of the site. A residential development borders the southeastern edge of the landfill, but the nearest dwelling is several hundred feet from the closest area used for drum waste disposal. Residents obtain water from a surface water supply that does not receive runoff from the site. Contaminants in the groundwater on site included phthalic acid esters, polychlorinated biphenyls (PCBs), chlordane, and arsenic. Contaminants detected in sediments included antimony, arsenic, lead, and PCBs. On-site soils contained phthalic acid esters, polycyclic aromatic hydrocarbons (PAHs), arsenic, and lead. Off-site surface water contained lead, chlordane, and PCBs.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL Listing History: This site was proposed to the National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites requiring long term remedial action on September 8, 1983. The site was formally added to the list September 21, 1984, making it eligible for federal cleanup funds.

Threats and Contaminants

Ambient air on the site and at a nearby residence showed the presence of volatile organic compounds (VOCs) and chlordane, a pesticide. People who came in direct contact with, inhaled, or accidentally ingested contaminants were at risk. Residents using ponds on-site for recreation and fishing may have been at risk from contact with contaminated water or from eating contaminated fish. Contaminant descriptions and associated risk factors are available at: (ATSDR web site) "http://www.atsdr.cdc.gov/hazdat.html"

Cleanup Progress

In 1983, a fire broke out on the surface of the landfill and drums became partially buried due to mine spoil pushed over burning areas to extinguish the fire. EPA conducted a removal operation that involved disposal, drum repacking, organization of materials, control of contaminant movement, excavation, security restoration, and sampling. A total of 1,141 drums were removed from the site. In 1987, a Consent Decree (CD) was signed between EPA and five settling potential responsible parties (PRPs) to implement the remedial action. The remedy featured removal and off-site disposal of 125 drums and remnants; collection and treatment of contaminated water in ponds; excavation and off-site disposal of contaminated soils; and construction of a soil cover over the area. This cleanup work was completed in 1988. Source control actions were effective in preventing further release of contaminants to the ground water. Testing of ground water following removal of contaminated soils and treatment of pond water showed that ground water was within safe levels. Therefore, no additional ground water cleanup was required. EPA is conducting operation and maintenance (O&M) activities at the site to ensure the protectiveness of the soil cover, as well as to perform ground water, surface water, and sediment monitoring. In addition to the O&M activities required by the Records of Decision (ROD), EPA conducted additional post-remediation activities. These activities included: surface water, sediment, and biota sampling of Ponds 7 & 8, landfill gas monitoring; on-site and residential ambient air monitoring; and storm water sampling. Results of the sampling conducted so far shows that the remedy is performing as expected.

Contacts

Remedial Project Manager
Maria de los A. Garcia
215-814-3199
garcia.maria@epa.gov

Community Involvement Coordinator
William Hudson
215-814-5532
hudson.william@epa.gov

Detailed public files (Administrative Record) on EPA's actions and decisions for this site can be examined at the following locations:

Taylor Borough Municipal Building
122 Union Street
Taylor, PA 18517

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
215-814-3157

Please call for an appointment

Taylor Borough menu

********** -IND. XMT JOURNAL- ********** DATE AUG-08-2001 ***** TIME 16:02 ********

DATE/TIME = AUG-08-2001 16:00

JOURNAL No. = 13

COMM.RESULT = OK

PAGE(S) = 004/004

DURATION = 00:01'19

FILE No. = 154

MODE = MEMORY TRANSMISSION

DESTINATION = 912024011740

RECEIVED ID = / 202 401 1740

RESOLUTION = STD

-EPA REG. III WCMD -

********** - - ***** - 215 814 3113- *********

ATTACHMENT 1

Response to Interrogatory #2

RCRA Corrective Action Sites without RCRA Permits

FACILITY LEAD

	Facility	Facility_ID
1	Chesapeake Finished Metals	MDD069380657
2	Beazer East, Inc.	PAD063764898
3	BP Oil	PAD071612683
4	Elf Atochem North America Inc	PAD002290823
5	Sartomer Co Inc	PAD042259374
6	Bingham & Taylor	VAD003064490
7	Hercules-Franklin	VAD003122165
8	Hercules Inc. - Hopewell	VAD003121928
9	Honeywell Chesterfield (Allied Signal)	VAD023690183
10	International Paper - Masonite Corp.	VAD044736213
11	Mobil Manassas Terminal	VAD048565279
12	University of Virginia	VAD000820712
13	US Army-Fort A.P. Hill	VA2210020416
14	BASF - Huntington	WVD000068601
15	Union Carbide - PTO	WVD000739722

ORDERS

	Facility	Facility_ID
1	General Services Adm.	DC8470090004
2	Akzo Chemicals Inc	DED980551667
3	DuPont - Glasgow	DED042263764
4	DuPont - Seaford	DED002348845
5	General Chemical	DED154576698
6	Johnson Controls	DED002353092
7	Occidental Chemical	DED003913266
8	Bethlehem Steel	MDD053945432
9	Honeywell Baltimore Works (Allied Signal-Balt)	MDD069396711
10	Action Mfg	PAD096844311
11	American Color & Chemical	PAD003047792
12	American Nickeloid Co	PAD002399285
13	Ametek	PAD002342236
14	AMP Inc.-GlenRock	PAD041421223
15	ASEA-BROWN	PAD082957127
16	Bethlehem Steel Corp-Steelton	PAD003026531
17	Dixon Ticonderoga Co	PAD041250242
18	Fulton Financial Realty Corp	PAD082434747
19	General Elecctric - Lancaster (RCA)	PAD003026903
20	Gold Mills	PAD002377703
21	Gulf Oil Corp	PAD014304976
22	Honeywell	PAD002386761
23	Kennametal Inc	PAD004397683
24	Lehighton Electronics Inc	PAD002399186
25	Marjol Battery (Gould Inc)	PAD003041910
26	NGK Metals	PAD044540136
27	Osram Sylvania Inc (1)	PAD003046794
28	PECO Energy Co	PAD000731026
29	Quebecor Printing Atglen Inc	PAD051397768
30	Superior Tube	PAD002353407
31	Uniform Tubes Inc	PAD002344463
32	USS Fairless Works	PAD002375376

ORDERS

	Facility	Facility_ID
33	Amoco Oil-Yorktown	VAD050990357
34	Bayer (med)	VAD003379062
35	Cooper Industries	VAD023717853
36	CSX Trans. Inc. (Beazer East)	VAD003121977
37	Genicom	VAD003132438
38	IBM-Manassas	VAD064872575
39	ITT-Roanoke (1)	VAD003123072
40	ITT-Roanoke (2)	VAD980550909
41	Motiva Enterprises (Star Enterprise-Picket Rd)	VAD093952935
42	Roanoke Electric Steel	VAD003122553
43	Schrader (Piedmont)	VAD082881970
44	VA Emer. Fuel - Cheatam	VAD988193223
45	Viasystems Tech Corp LLC (Lucent)	VAD066000993
46	Appalachian Timber Service	WVD063461958
47	G E Speciality Chemicals (1)	WVD061776977
48	G M C - Martinsburg (med)	WVD044145209
49	KACC Spl Pile	WVD988766127
50	Koppers-Follans (Beazer East)	WVD004336749
51	Occidental Chem Corp (med)	WVD005010277
52	Quaker State-Congo	WVD057634776
53	St. Mary's (Quaker State)	WVD004337135
54	Weirton Steel	WVD000068908
55	Wheeling - Pitts Steel	WVD004319539

ATTACHMENT 2

Response to Interrogatory #3

Marjol Battery Site NPL Listing Documents

Also sent: CERCLA folders

PA-0486 - Removal

Marjol Operations

① - Section 1d - HRS Reports

- Folder PFE 1

② Section 1d - HRS Reports

- Reference Packages

- Folder PFE 2

8810-02-11

NUS CORPORATION

999 WEST VALLEY ROAD
WAYNE, PENNSYLVANIA 19087
215-687-9510

ORIGINAL
(Red)

January 13, 1989
T-585-01-9-63
68-01-7346

Mr. Ben Mykijewycz
U.S. Environmental Protection Agency
841 Chestnut Street
Philadelphia, PA 19107

Dear Mr. Mykijewycz:

Attached please find EPA file information for Marjol Battery TDD No. F3-8810-02.

Please endorse below confirming that you have received the attached subject data and return the form to the above address.

Sincerely,

Garth Glenn w/las

Garth Glenn
Regional Operations Manager,
FIT 3

GG/las

Attachments

Signature: _____
Ben Mykijewycz

Date: 1-18-89

8810-02-14

NUS CORPORATION

999 WEST VALLEY ROAD
WAYNE, PENNSYLVANIA 19087
215-687-9510

January 20, 1989
T-585-01-9-93
68-01-7346

Mr. Ben Mykijewycz
U.S. Environmental Protection Agency
841 Chestnut Street
Philadelphia, PA 19107

Dear Mr. Mykijewycz:

Attached please find ~~three~~ five uncontrolled copies of the final Hazard Ranking System of Marjol Battery and Equipment Company, prepared under TDD No. F3-8810-02.

Please endorse below confirming that you have received the attached subject data and return the form to the above address.

Sincerely,

Garth Glenn/nfs

Garth Glenn
Regional Operations Manager,
FIT 3

GG/nfs

Attachments

Signature: _____
Ben Mykijewycz

Date: _____

8810-02-15

NUS CORPORATION
999 WEST VALLEY ROAD
WAYNE, PENNSYLVANIA 19087
215-687-9510

January 26, 1989
T-585-01-9-121
68-01-7346

Mr. Ben Mykijewycz
U.S. Environmental Protection Agency
841 Chestnut Street
Philadelphia, PA 19107

Dear Mr. Mykijewycz:

Attached please find five copies of ~~references~~ "DRAFT" page showing what the references number 1 thru 13 for the Marjol Battery TDD No. F3-8810-02. Please foward to Bob Panebianco. Thank you.

Please endorse below confirming that you have received the attached subject data and return the form to the above address.

Sincerely,

Garth Glenn/las

Garth Glenn
Regional Operations Manager,
FIT 3

GG/las

Attachments

Signature: _____
Ben Mykijewycz

Date: 1-27-95

8810-02-16

NUS CORPORATION

999 WEST VALLEY ROAD
WAYNE, PENNSYLVANIA 19087
215-687-9510

February 13, 1989
T-585-2-9-85
68-01-7346

Mr. Ben Mykijewycz
U.S. Environmental Protection Agency
841 Chestnut Street
Philadelphia, PA 19107

Dear Mr. Mykijewycz:

Attached please find five copies of the final HRS list of references for Marjol Battery and Equipment Company TDD No. F3-8810-02.

Please endorse below confirming that you have received the attached subject data and return the form to the above address.

Sincerely,

Garth Glenn/las

Garth Glenn
Regional Operations Manager,
FIT 3

GG/las

Attachments

Signature: Ben Mykijewycz

Date: 2/14/89

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NOV 15 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Art Dalla Piazza
PA DER
7th Floor, Fulton Bldg.
P.O. Box 2063
Harrisburg, PA 17120

RE: Marjol Battery and Equipment Company
(PA-486)

Dear Mr. Dalla Piazza:

I am forwarding to you one copy of the DRAFT Hazard Ranking System Report prepared by EPA-FIT III (TDD: F3-8810-02) for the above referenced project, for your review and comments.

To ensure the inclusion of your comments in any revision, please have your staff review the report and provide their written comments to me by December 13, 1988. Any comments received after that date will be kept on file for future consideration.

As you know, these draft reports should not be reproduced or released to anyone outside of your agency. When you have completed your review and provided your comments, please return this copy of the report to me by certified mail.

If there are any questions concerning this report, please call me at 215/597-8333.

Sincerely,

Robert Panebianco, SIO
Site Investigation Section

CONCURRENCES

SYMBOL	Panebianco	Acker						
SURNAME	SIWES	SIWES						
DATE	11/15	11/15						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ORIGINAL
(Red)

NOV 15 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Kate Crowley
PA DER Wilkes-Barre Regional Office
90 E. Union Street, 2nd Floor
Wilkes-Barre, PA 18701

RE: Marjol Battery and Equipment Company
(PA-486)

Dear Ms. Crowley:

I am forwarding to you one copy of the DRAFT Hazard Ranking System Report prepared by EPA-FIT III (TDD: F3-8810-02) for the above referenced project, for your review and comments.

To ensure the inclusion of your comments in any revision, please have your staff review the report and provide their written comments to me by December 13, 1988. Any comments received after that date will be kept on file for future consideration.

As you know, these draft reports should not be reproduced or released to anyone outside of your agency. When you have completed your review and provided your comments, please return this copy of the report to me by certified mail.

If there are any questions concerning this report, please call me at 215/597-8333.

Sincerely,

Robert Panebianco, SIO
Site Investigation Section

CONCURRENCES

SYMBOL	Panebianco	Acker						
SURNAME	Shaw E.S.	Shaw E.S.						
DATE	[illegible]	[illegible]						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

8810-02-05

NUS CORPORATION

999 WEST VALLEY ROAD
WAYNE, PENNSYLVANIA 19087
215-687-9510

November 4, 1988
T-585-8-11-26
68-01-7346

Ben Mykijewycz
U.S. Environmental Protection Agency
841 Chestnut Street
Philadelphia, PA 19107

Dear Mr. Mykijewycz:

Attached please find six uncontrolled draft copies of the hazard ranking system for Marjol Battery and Equipment Company, prepared under TDD No. F3-8810-02. You will find three copies of the complete model with the Air pathway not scored. Also, three other copies of the text with Air pathway evaluated and additional references to support the Air pathway score.

Please endorse below confirming that you have received the attached subject data and return the form to the above address.

Sincerely,

Garth Glenn /dg

Garth Glenn
Regional Operations Manager,
FIT 3

GG/dg

Attachments

Signature:_____
Ben Mykijewycz

Date:_____

10 21 88 10:22 ☎ 717 963 3909 SCRANTON I 88 I 04

NOTE - CULTURAL SITES NEED WORK!!

... CULTURAL & HISTORIC RESOURCES MAP/BROCHURE PROJECT

SITE STATUS CODES: 1= BASE MAP SITE
2= SITE W/PUBLIC ACCESS
3= SITE W/OUT PUBLIC ACCESS
4= SITE PENDING

COUNTY: LACKAWANNA

REPORT 2

SITE CATEGORY:

(MAP) PRINTED 09/30/88 PAGE 1

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE: 1

ORIGINAL (Red)

(12) BAPTIST BIBLE COLLEGE
538 Venard Rd. (717)
SCRANTON Clarks Summit PHONE: 587-1172
DESCRIP: COLLEGE
MAP ID:
MAP SITING INFORMATION:

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE: 1

(13) JOHNSON SCHOOL OF TECHNOLOGY
3427 N. Main Avenue (717)
SCRANTON PA PHONE: 342-6404
DESCRIP: COLLEGE
MAP ID:
MAP SITING INFORMATION:

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE: 1

(50) KEYSTONE JUNIOR COLLEGE
LA PLUME PA 18440 PHONE: 717-945-5141
DESCRIP: COLLEGE
MAP ID:
MAP SITING INFORMATION: MAP 43

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE: 1

(51) LACKAWANNA JUNIOR COLLEGE
901 PROSPECT AVENUE
SCRANTON PA 18505 PHONE: 717-961-7834
DESCRIP: COLELGE
MAP ID:
MAP SITING INFORMATION: MAP 44

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE:

(52) MARYWOOD COLLEGE
2300 ADAMS AVENUE
SCRANTON PA 18509 PHONE: 717-348-6211
DE EGE
MAP
MAP SITING INFORMATION: MAP 45

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE: 1

(54) PENN STATE UNIVERSITY/WORTHINGTON SCRANTON CAMPUS
120 RIDGEVIEW DRIVE
DUNMORE PA 18512 PHONE: 717-961-4783
DESCRIP: COLLEGE
MAP ID:
MAP SITING INFORMATION: MAP 47

SITE CATEGORY: BASE MAP: COLLEGE SITE STATUS CODE: 1

(53) UNIVERSITY OF SCRANTON
LINDEN ST & MONROE AVENUE
SCRANTON PA 18510 PHONE: 717-961-7400
DESCRIP: COLLEGE
MAP ID:
MAP SITING INFORMATION: MAP 46

SITE CATEGORY: BASE MAP: COUNTY SEAT SITE STATUS CODE: 1

(217) LACKAWANNA COUNTY COURTHOUSE
N. Washington Ave. (717)
SCRANTON PHONE: 963-6711
DESCRIP: COUNTY SEAT
MAP ID:
MAP SITING INFORMATION:

SITE CATEGORY: BASE MAP: STATE PARK LAND SITE STATUS CODE: 1

(1) ARCHBALD POTHOLE STATE PARK
ROUTE 6
EYNON PA 18403 PHONE: 717-945-3239
DESCRIP: WORLD'S LARGEST GLACIAL POT HOLE
MAP ID:
MAP SITING INFORMATION: I-81 TO EXIT 57 EAST ONTO ROUTE 6 FOR 9 MILES

LAKE = LACKAWANNA

3= SITE W/ PUBLIC ACCESS
3= SITE W/OUT PUBLIC ACCESS
4= SITE PENDING

SITE CATEGORY:

ORIGINAL (Red)

SITE CATEGORY: BASE MAP: STATE PARK LAND SITE STATUS CODE: 1

(207) LACKAWANNA STATE PARK
RD 1 Box 251, Dalton, PA
N/A PHONE: 717 945-3064
DESCRIP: STATE PARK
MAP ID:
MAP SITING INFORMATION:

SITE CATEGORY: CULTURAL: ARCHITECTURE SITE STATUS CODE: 2

(65) ARCHITECTURAL HERITAGE ASSOCIATION
429 PITTSTON AVENUE
SCRANTON PA 18505 PHONE:
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 52

SITE CATEGORY: CULTURAL: ARTS FESTIVAL SITE STATUS CODE: 4

(56) LACKWANNA ARTS FESTIVAL
~~CHAMBER OF COMMERCE BLDG~~ 428 Spruce St
SCRANTON PA 18503 PHONE: 717-343-3015
DESCRIP: Demonstration Crafts + regional art featured
MAP ID:
MAP SITING INFORMATION: MAP 51

SITE CATEGORY: CULTURAL: ARTS FESTIVAL SITE STATUS CODE: 2

(57) WAVERLY COMMUNITY HOUSE
P.O. BOX 142
WAVERLY PA 18471 PHONE: 717-586-8191
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 52

SITE CATEGORY: CULTURAL: ARTS GROUP SITE STATUS CODE: 2

(58) LACKAWANNA ARTS COUNCIL
~~CHAMBER OF COMMERCE BLDG~~ 428 Spruce St.
SCRANTON PA 18503 PHONE: 717-343-3015
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 54

SITE CATEGORY: CULTURAL: DANCE SITE STATUS CODE: 4

(59) BALLET THEATRE OF SCRANTON
321 LACKAWANNA AVENUE
SCRANTON PA 18503 PHONE: 717-347-0208
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 55

SITE CATEGORY: CULTURAL: DANCE SITE STATUS CODE: 4

(60) THE DANCE ASSOCIATION OF NORTHEASTERN PENNSYLVANIA
P.O. BOX 1271
SCRANTON PA 18501 PHONE: 717-344-7221
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 56

SITE CATEGORY: CULTURAL: LIBRARY SITE STATUS CODE: 2

(42) SCRANTON PUBLIC LIBARY & PA DISTRICT CENTER
N WASHINGTON & VINE ST
SCRANTON PA 18503 PHONE: 717-961-2451
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 34

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 2

(47) NORTHEASTERN PENNSYLVANIA PHILHARMONIC
BOX 71
AVOCA PA 18641 PHONE: 717-655-4788
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 40

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 3

(43) COMMUNITY CONCERT ASSOCIATION OF SCRANTON
~~CHAMBER OF COMMERCE BLDG~~ [illegible]
SCRANTON PA 18503 PHONE: 717-342-4137
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 38

1504 N. Washington Ave

SITE CATEGORY

2= SITE W/PUBLIC ACCESS
3= SITE W/OUT PUBLIC ACCESS
4= SITE PENDING (MAP)

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 4

(44) DUNMORE COMMUNITY CHORUS
429 THROOP STREET
DUNMORE PA 18512 PHONE: 717-343-3714
DESCRIP:
MAP ID
MAP SITING INFORMATION: MAP 37

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 4

(45) HIGHLAND CENTER AT RABBITY HILL FARM
R.D. 2, BOX 141
DALTON PA 18414 PHONE:
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 38

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 4

(46) NORTHEASTERN PENNSYLVANIA FOLKLORE SOCIETY
???? PA PHONE: 717-563-2104
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 39

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 4

(?) OPERA IV
1000 CHURCH STREET
JESSUP PA 18434 PHONE: 717-489-4275
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 41

SITE CATEGORY: CULTURAL: MUSIC SITE STATUS CODE: 4

(49) ROBERT DALE CHORALE
R.D 3, BOX 445
CLARKS SUMMIT PA 18411 PHONE: 717-587-4869
DESCRIP:
MAP ID:
MAP SITING INFORMATION: MAP 42

SITE CATEGORY: CULTURAL: POETRY/LIT SITE STATUS CODE: 2

(54) FRIENDS OF SCRANTON PUBLIC LIBRARY POETRY SERIES
ALBRIGHT LIBRARY
SCRANTON PA 18503 PHONE:
DESCRIP: Poetry reading group
MAP ID:
MAP SITING INFORMATION: MAP 60

SITE CATEGORY: CULTURAL: THEATRE SITE STATUS CODE: 2

(9) SCRANTON PUBLIC THEATRE
LUCAN CENTER FOR THE ARTS
SCRANTON PA 18503 PHONE: 717-344-3856
DESCRIP: Presents a blend of contemporary comedies, dram
MAP ID: & original plays.
MAP SITING INFORMATION: I-81 TO EXIT 53 TO DOWNTOWN SCRANTON

SITE CATEGORY: CULTURAL: THEATRE SITE STATUS CODE: 2

(61) ABINGTON PLAYERS
WAVERLY COMMUNITY HOUSE
WAVERLY PA 18471 PHONE: 717-586-8191
DESCRIP: [illegible]
MAP ID:
MAP SITING INFORMATION: MAP 57

SITE CATEGORY: CULTURAL: THEATRE SITE STATUS CODE: 3

(62) BROADWAY THEATRE OF NORTHEASTERN PENNSYLVANIA
P.O. BOX 407
SCRANTON PA 18501 PHONE: 717-342-7784
DESCRIP: [illegible] Broadway Productions
MAP ID:
MAP SITING INFORMATION: MAP 58

SITE CATEGORY: CULTURAL: THEATRE SITE STATUS CODE: 2

(7) PA SUMMER THEATRE FESTIVAL
MONTAGE MOUNTAIN ROAD
SCRANTON PA 18505 PHONE: 717-344-3856
DESCRIP: [illegible] musical productions performed
MAP ID: [illegible] test
MAP SITING INFORMATION: I-81 TO EXIT 51 TO MONTAGE SKI AREA

Mulberry Poets

8810-02-04

FIT REGION 3
NUS CORPORATION
WORK PLAN FOR CONDUCTING
A HAZARD RANKING SYSTEM MODEL OF

MARJOL BATTERY

REV - 0
TDD No. F3- 8810 - 02
Charge No. PA8GHR
EPA Site No. PA - 486

Submitted By	Reviewed and Approved By	Reviewed and Approved By
TIMOTHY UNDRADY, GEOLOGIST		
FIT Name, Title	FIT OM	RQAR
9/30/88		10/3/88
Date	Date	Date

Rev. 1

FIT Name, Title	FIT OM	RQAR
Date	Date	Date

Rev. 2

FIT Name, Title	FIT OM	RQAR
Date	Date	Date

Assignment Description

FIT 3 has been assigned to conduct a Hazard Ranking System scoring at the MARJOL BATTERY site. The objective of an HRS is to assign a score to a hazardous waste site, through the use of an EPA-approved and -mandated set of evaluation criteria.

Task Breakdown

The task breakdown of an HRS scoring is as follows.

1) Review background information.
2) Contact state and local agencies for relevant information.
3) Compute HRS score.
4) Prepare and submit HRS report, including all required documentation.
5) Address comments and finalize report.

Estimated Technical Hours

The estimated technical hours for completing this project are 120.

Project Staff

FIT Project Manager TIMOTHY UNGRADY

Additional Personnel:	Project Assignment:

Proposed Schedule of Activities

The draft report for this project is proposed for completion by 11/4/88.

Background Data/Data Assessment Summary

See TDD No. F3-___—___ for the site inspection report of the subject site.

Additional information can also be found in

TDD No. F3- 8511-17

TDD No. F3-___—___

Required Resource List

✓ No limited resources/equipment needed

___ List any limited resources/equipment needed

Quality Assurance Applicability

The following portions of the Quality Assurance Manual are applicable to the performance of the specific elements defined in TDD No. F3- 8810-02

✓	QAP	2.5	Work Plans
✓		8.1	Controlled and Accountable Documents
✓		8.2	Issuance and Distribution of Controlled Documents
✓		13.1	Nonconformance Reporting, Evaluation, and Disposition
✓		14.1	Implementation and Documentation of Corrective Actions
✓		15.1	Storage and Retrieval of QA Records and Project Files

Technical Approach

All activities will be conducted according to FIT 3 Regional Operations Manual.

✓	SOP II3	Documentation of Telecons
✓	SOP II4	Documentation of Filing and Docketing
✓	SOP III1	Review of Technical Reports

Technical activities will also be performed in accordance with the current EPA Hazard Ranking System model as published in the Federal Register and implemented by EPA and MITRE Corporation on behalf of EPA.

Report/Product Requirements

_____

_____

_____

_____

Report/Product Review

The FITOM or designee will be responsible for quality verification of the final report.

Documents to be Generated

Check below to indicate the documents that will be generated in the course of the project (both deliverable and non-deliverable):

✓	Final Report
✓	Draft Report
✓	Task-Related Correspondence
✓	Report Processing Forms
✓	Telecon Records
✓	TDD
✓	Completion Document

Distribution

The undersigned have received, read, and understood this work plan or have attended a meeting and have discussed the contents of this work plan (must be signed by all project personnel).

Name	Date
Timothy C. Fitzgerald	9/30/88

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

REPLY TO
ATTENTION OF

CENAB-EN-GG

18 July 2000

RECEIVED
PA/DC
JUL 19 2000
EPA REGION III

LETTER OF TRANSMITTAL

PROJECT: Marjol Battery Site

LOCATION: Throop Borough, PA

TO: Ms. Sibyl Hinnant.
RCRA Project Manager
U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

TRANSMITTAL OF: Quantity Estimate Memo and Calculation Sheets for the Volume of Fill Material that can fit on the 10-acre site.

We look forward to discussing this information with you at 1:00 PM on Monday, 24 July 2000. Please call us at (410) 962-6127, when you are ready to begin.

Christopher L. Evans, P.E.
Design Team Leader

Pre-Decisional, Not For Release Under FOIA

CENAB-EN-GF July 13, 2000

Marjol Battery Site, Throop, Pa.
Quantity Estimate- 10-acre site (Primary Fill Area)

1. Background. The Baltimore District Corps of Engineers has been tasked by USEPA Region III to provide an estimate of the amount of additional material that can reasonably be placed on the 10-acre area of the Marjol Battery Site, Throop, Pa. This office has estimated the potential additional volume that can be placed assuming 4H:1V side slopes with the top elevation varying from elevation 810 to 855. Using topographic maps of the site, the volumes were estimated based on cross-sectional areas multiplied by average lengths.

2. Available Quantities. The estimated volumetric quantities were calculated for the upper area of the site and the lower area of the site (storm water management pond). It is estimated that the upper area can accept a maximum of an additional 150,000 cubic yards of material and still retain the side slope of 4H:1V. The lower area, if this is available for use, can accept an additional 160,000 cubic yards. The 10-acre site can accept an additional 310,000 cubic yards of materials without steepening the side slopes or placing materials outside the 10-acre area.

3. Required Quantities. Based on the Corrective Measures Study Report by Advanced GeoServices Corporation prepared for Gould Electronics, March 15, 1995, the total quantity of contaminated materials is 372,000 cubic yards. An estimated 184,000 cubic yards of this material is already placed within the primary fill area (10-acre site). This means that approximately 188,000 cubic yards of additional material must be placed. Unless the storm water management area (lower area) is available for material storage, the 10-acre site cannot store all the additional contaminated materials.

4. Point of Contact. If you have any questions concerning this report, please contact Mike Stello at 410-962-4314.

Michael W. Stello

Michael W. Stello, PE

Marjol - | Computed by MWS | checked by BDG

PRIMARY FILL AREA QUANTITIES - EXISTING

7.7 acre primary fill area

0.8 acre Western 5' strip pit

0.5 acre 8' strip pit

9.0 acres

> Battery Casing Materials (Table 2-2 Report)

% Prim Fill = $\frac{7.7}{9.0}$ = 85%

Residental Topsoil in above areas = 25,000 yds³

0.85 × 25,000 yds³ = 21,250 yds in Prim fill area

Say 21,000

BATTERY CASING MAT'LS IN STRIP PITS

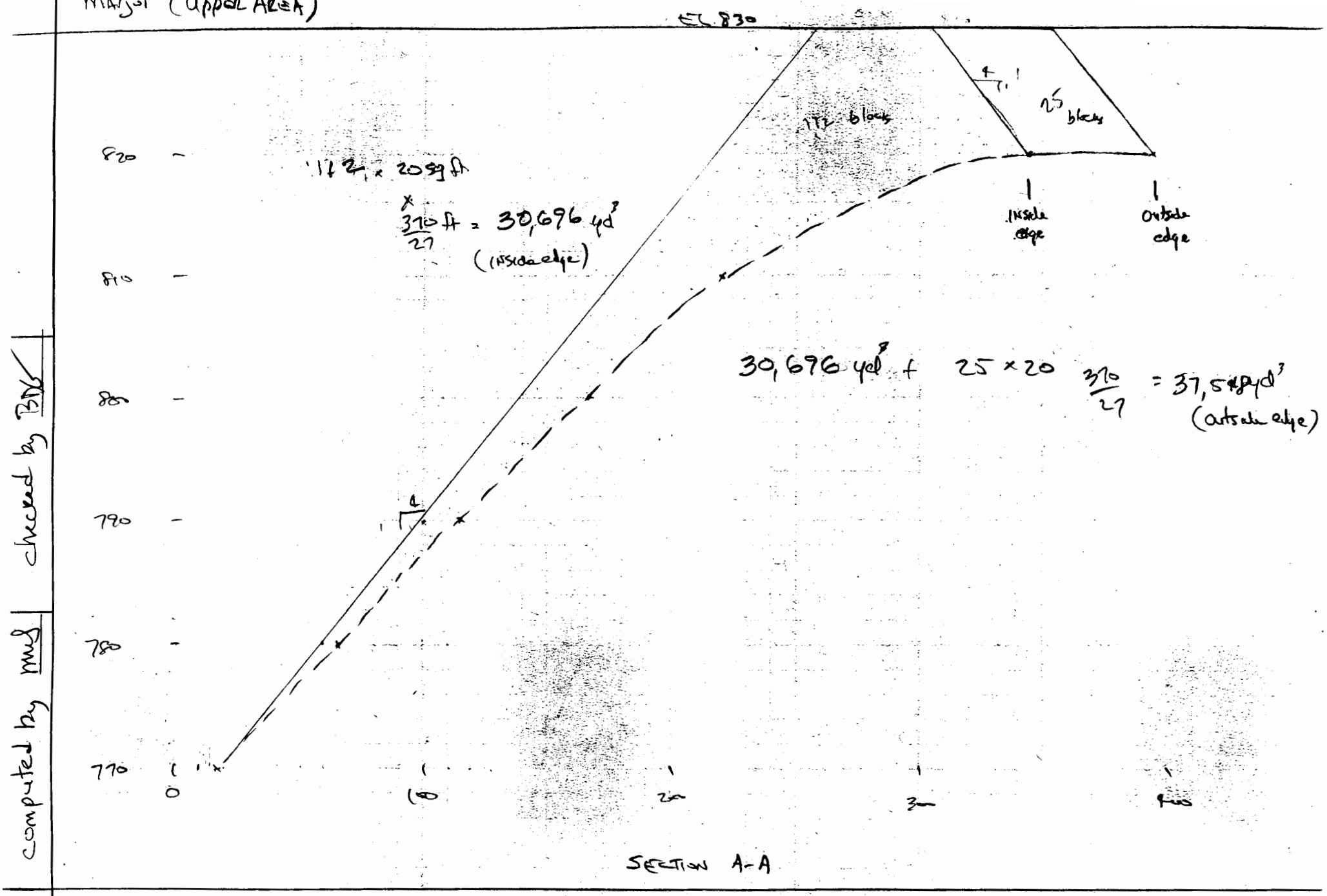
0.8 acres × $\frac{43,560}{27}$ × 5' = 6,453 cuyds

0.5 acres × $\frac{43,560}{27}$ × 8' = 6,453 cuyds

12,906 cuyds - say 13,000 yds³

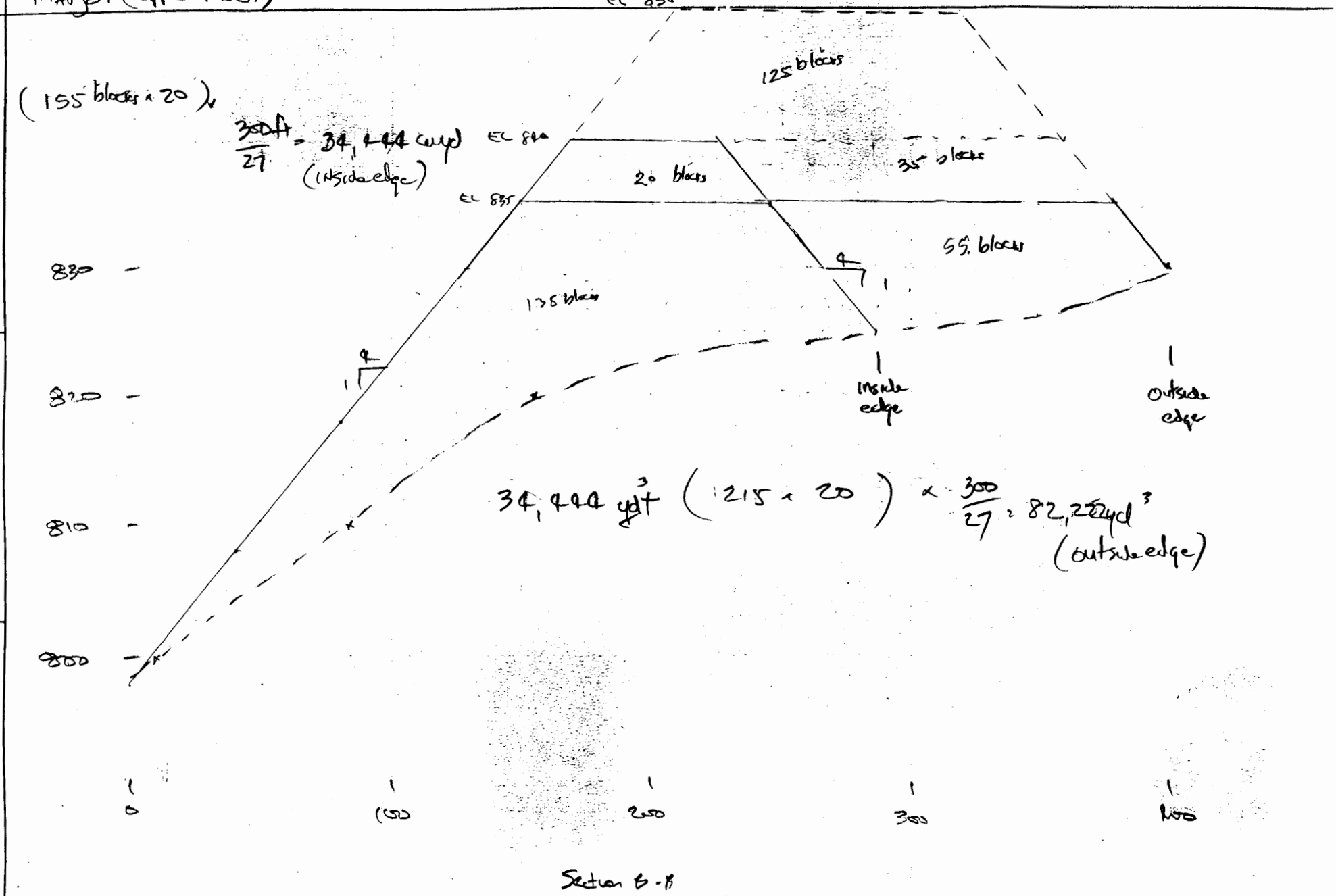
TOTAL Battery Casings IN Primary Fill = 176,000 - 13,000 = 163,000 cuyds

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD



22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

Marjol (Upper Area)

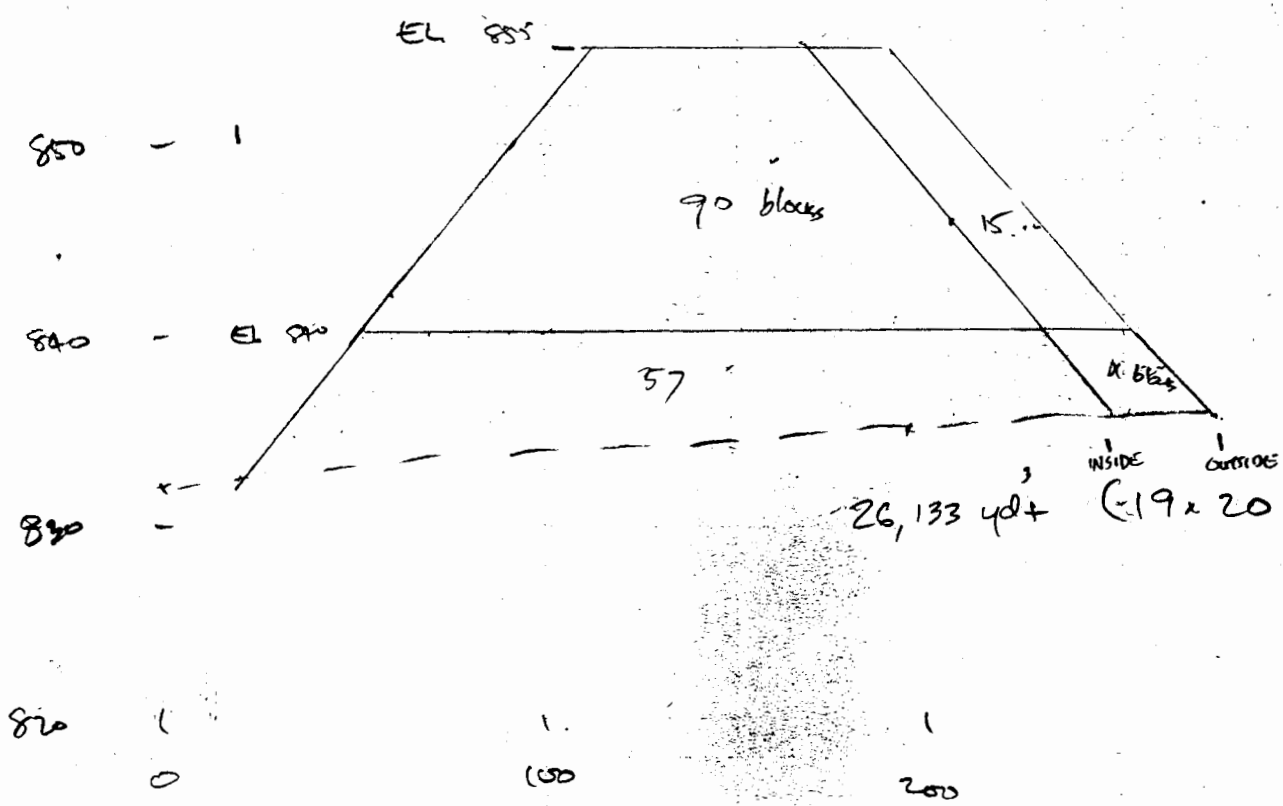


Computed by Mul | checked by BDG

AMPAD 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS

Marjol (Upper Area)

$(147 \times 20) \times \frac{240}{27} = 26{,}133\ yd^3$ (inside edge pavement)



$26{,}133\ yd^3 + (19 \times 20) \times \frac{240}{27} = 29{,}511$ yds (outside edge pavement)

Section C-C

Computed by Mud

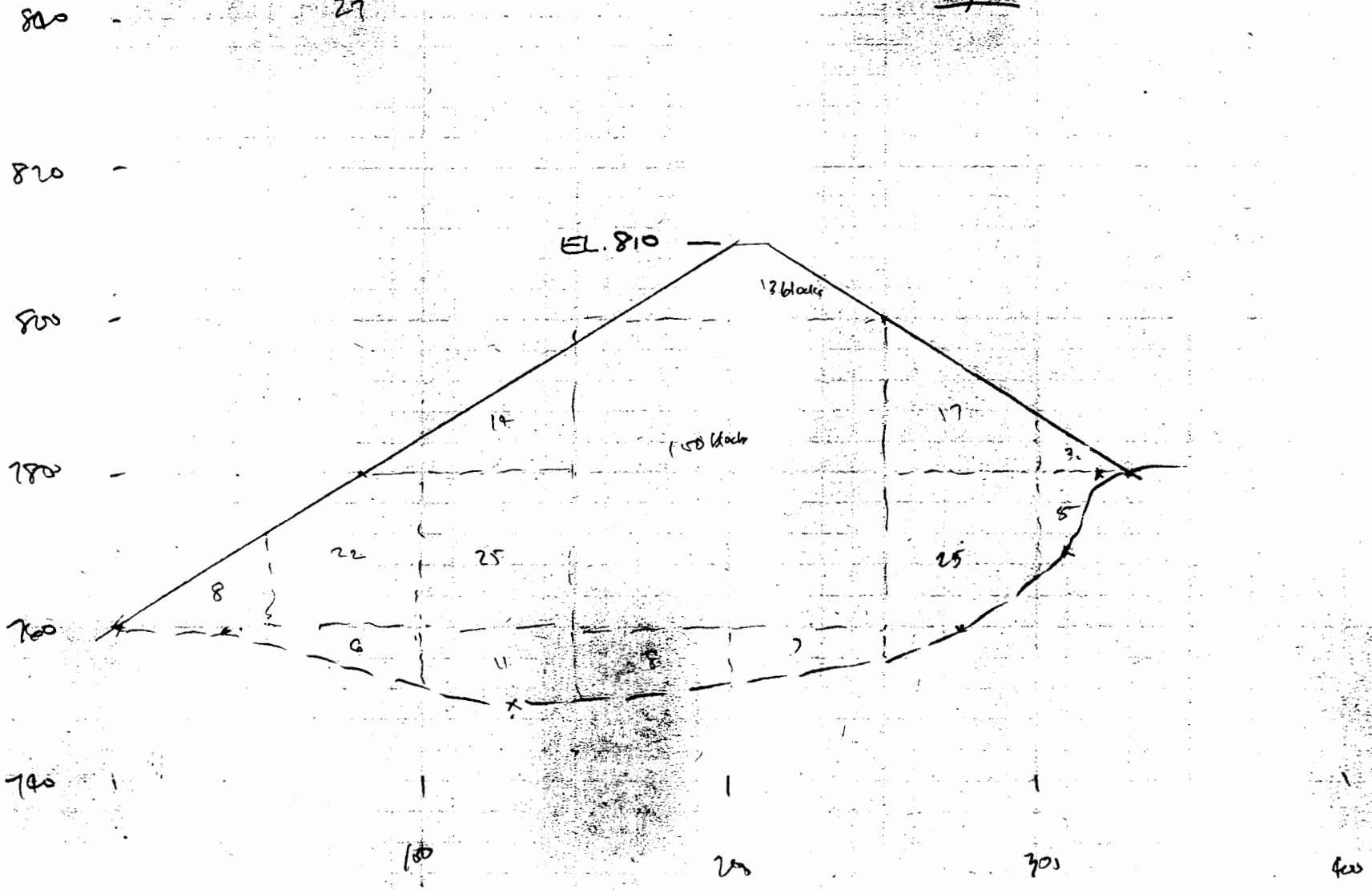
Checked by BDG

AMPAD 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS

Marjol – Storm Water Basin (Lower Area)

Area Length

$(264 \times 40\ ft^2) \times \frac{420}{27} = 164{,}266\ yds^3$ (4:1 slope) Storm Water Ponding Basin



Section D-D

computed by MWS | checked by BDG

AMPAD 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS

Margol

CONTAMINATED MATERIALS

SUMMARY: (from Corrective Measures Study Report, Advanced GeoScience, Mar. 15, 1995, Table 3-1)

AREA	cubic yds.
High Hazard Stockpile	22,000
Low Hazard Stockpile	12,000
Affected Soils	79,000
Residential Topsoil	25,000
Mine Spoils	58,000
Battery Casing Materials	176,000
TOTAL	372,000

MATERIALS IN PRIMARY FILL AREA - ESTIMATED (see calc sheets)

Battery Casing Materials - 163,000

Residential Topsoil - 21,000

TOTAL - 184,000 cu yds

Additional Material Needing Storage in Primary Fill Area - 372,000 - 184,000 = 188,000 cu yds

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

Marjol

Available Storage Quantities - Primary Fill Area - 10-acre site

Assumptions: - 4H:1V side slopes
- Top elevation varies - 810 to 855
- property limits & inside/outside edge of asphalt road.

Available Storage (see calc sheets)

Upper Area (Sections A, B, C)

Inside Edge - 30,698 + 34,444 + 26,133 = 91,273 yd³

Outside Edge - 37,548 + 82,222 + 29,511 = 149,281 yd³

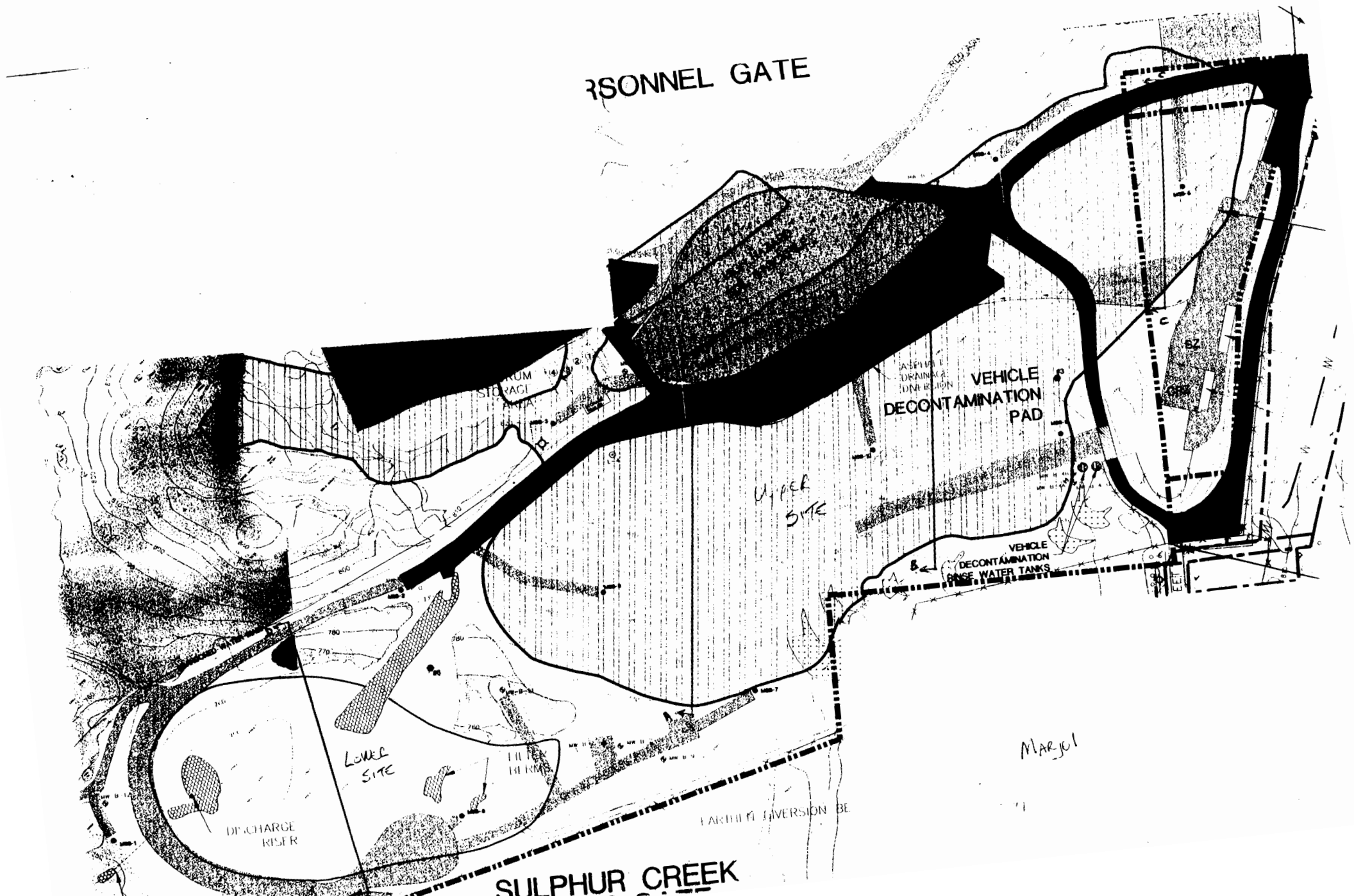
say 90,000 to 150,000 yds³

Lower Area (Section D, Stormwater Management Pond)

- 164,266 yd³

say 160,000 yds³

Total (Both Areas) - Up to 310,000 yd³


RSONNEL GATE
VEHICLE
DECONTAMINATION
PAD
UPPER
SITE
VEHICLE
DECONTAMINATION
RINSE WATER TANKS
LOWER
SITE
DISCHARGE
RISER
EARTHEN DIVERSION BE
SULPHUR CREEK
MARJOI

FIVE-YEAR REVIEW REPORT

Osborne Landfill
Superfund Site

Pine Township, Mercer County
Pennsylvania

Prepared by:

U.S. Environmental Protection Agency

Region III

Philadelphia, Pennsylvania

_____ _____

Abraham Ferdas, Director
Hazardous Site Cleanup Division

Date

U.S. Environmental Protection Agency
Region III
Hazardous Site Cleanup Division
Five-Year Review
Osborne Landfill Superfund Site
Pine Township, Mercer County, Pennsylvania

I. Introduction

EPA Region III conducted this review pursuant to CERCLA Section 121(c), N.C.P. Section 300.400(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1991), and 9355.7-02A (July 26, 1994). It is a statutory review. The purpose of a five-year review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become a part of the Site file.

II. Background

The Osborne Landfill Site is located in Pine Township, Mercer County, Pennsylvania. Located less than one mile east of Grove City, Pennsylvania, the Site encompasses approximately 15 acres along the East Pine Street extension. To the north of the Site are woodlands. Farmland is present to the east and southeast across the East Pine Street Extension. A large shallow pond is located just west of the Site and considered to be a federally protected wetland. Another wetland is situated south of the Site on both sides of the East Pine Street Extension. The immediate Site area is sparsely populated. Most of the residential homes near the Site, are located along Enterprise Road, which is approximately 1/4 mile north of the Site, or are located to the east along Diamond Road. Homes along Enterprise Avenue and Diamond Road previously used ground water, until Cooper Cameron, a Potentially Responsible Party (PRP), extended the municipal water line around the eastern perimeter of the Site. Cooper Cameron connected any resident, within one hundred and fifty feet of the water line, who was willing to accept the connection. Only one resident refused the connection to public water and this well has been periodically sampled and Site contaminants have not been detected.

Strip mining was conducted at the Site during the 1940s, prior to disposal of wastes in the strip mine pit. Fill material was deposited into the strip pool at the base of the highwall from the late 1950s to 1978, when the Site was closed by the Pennsylvania Department of Environmental Protection (PADEP) for not having a permit to accept wastes. A wide array of wastes were disposed which contained metals, volatile organic hydrocarbons, semi-volatiles and polychlorinated biphenyls (PCB)s. The primary waste by volume was foundry sand from Cooper Industries (Currently Cooper Cameron).

Several Remedial Investigations have been conducted at the Site. The investigations have focused on the fill area, the wetlands to the southwest of the Site, the Clarion Aquifer/Mine Void system, the Homewood Aquifer System and the deeper Connoquenessing and Burgoon Aquifers.

These investigations documented contamination in the fill above EPA's action levels. These investigations also documented contamination of ground water in the Clarion Formation with vinyl chloride above Maximum Contaminant Levels ("MCLs") allowed by the EPA's Safe Drinking Water Act. The wetlands to the southwest did not contain contaminants at levels of concern.

The first Record of Decision (ROD#1) which was issued in September of 1990 selected installation of a slurry wall around the perimeter of the Site, and a clay cap to prevent infiltration of rain into the fill. To prevent leachate from leaving the fill, extraction wells were installed in the fill to remove leachate and to produce an inward hydraulic containment. This is measured by six well nests which measure the pressure in the fill, the Clarion Formation and the Homewood Formation.The collected leachate is treated by an iron and manganese removal system, air stripping and carbon adsorption. The treated leachate is injected into the mine pool to the east of the Site. This was done to prevent any potential for subsidence of nearby homes due to ground water extraction.

ROD#1 also selected pump and treatment as the remedy for contaminated ground water in the Clarion Aquifer. A fence restricts access to the Site and additional warning signs near the entrance gate are posted. Post-closure use of the property, which is owned by a PRP who is the respondent to a Unilateral Order, will be restricted to protect the cap and associated systems indefinitely. The PRP has placed a deed restriction on the property which satisfies this requirement.

During the design of the remedies selected in ROD#1, pump tests showed that it was not possible to remediate the Clarion Aquifer as described in ROD#1. Aquifer response tests performed during the Remedial Design indicated that reasonable ground water capture zones could not be created by extraction wells placed in the Clarion Aquifer. Instead, very narrow columns of water would be drawn from the more contaminated mine pool into the Clarion sandstone aquifer. At that time, EPA was also conducting an investigation of the deeper aquifers at the Site, which are in communication with the shallow aquifer. Therefore, EPA decided to wait until the investigations were completed, so that an integrated ROD for all Site ground water could be issued. The second ROD (ROD#2) issued on December 30, 1997 addressed all Site ground water and the wetlands to the southwest of the Site. The wetlands had not been impacted by Site contaminants and EPA selected "No Action" for the southwest wetlands. EPA selected "Natural Attenuation with Monitoring" for the contaminated Clarion aquifer and three years of ground water monitoring for the deeper uncontaminated aquifers at the Site.

Site construction began on August 5, 1995, and all construction at the Site has been completed. A Preliminary Close Out Report (POOR) was signed in September 1998 and Site was declared "Construction Complete". The leachate treatment system has operated since January 1996 and has drawn the water level down inside the slurry wall containment producing an inward pressure gradient for the Clarion Aquifer, as measured by the performance wells.

III. Site Chronology

The Osborne Landfill operated from the 1950s through 1978 when the Site was closed by the Pennsylvania Department of Environmental Resources (Previously the Pennsylvania Department of Environmental Resources). EPA began assessing conditions at the Osborne Landfill Site ("Site") in the early 1980s. The Site was proposed for the National Priorities List (NPL) in 1982 and formally placed on the list in September 1983. Cooper Industries, a potentially responsible party, built a security fence around the Site and posted it with warnings to prevent unauthorized access in 1983. Cooper Industries also removed and disposed of 83 filled drums, 460 empty drums, and 45 cubic yards of contaminated soil. In 1994, Cooper Cameron (previously Cooper Industries) extended a public water line on the east side of the Site in reaction to high levels of contamination found in a resident's well. This extension virtually completed a loop which now supplies residents potentially at risk, near the perimeter of the Site, with municipal water.

Under a Consent Order with Pennsylvania, Cooper Industries conducted a Remedial Investigation of the Site, but was unwilling to comply with all of the conditions required by the State and EPA. In 1988, at the request of the State, the EPA took over the investigation and completed an intensive study of Site conditions and produced the Remedial Investigation (RI), Feasibility Study (FS) and Risk Assessment (RA) reports. On September 28, 1990, the EPA chose a remedy (Record of Decision or "ROD") for the fill material, the on-Site water table, and the shallow aquifer. After long negotiations, EPA was unable to obtain an agreement with the Responsible Parties. EPA issued a Unilateral Administrative Order (UA) to Cooper Industries in March 1991 to install a slurry wall, clay cap, and leachate treatment system for the fill area. The UA also required the installation of a pump and treat system to reduce low levels of vinyl chloride to the Maximum Contaminant Levels (MALS) or non-zero Maximum Contaminant Level Goals (MCLGs) set by EPA for drinking water. General Electric, who sent wastes to the Site, contributed a cash settlement to reimburse EPA for past costs. A slurry wall has been constructed around the perimeter of the fill area to a depth of forty feet, and a low permeability cap has been installed over the fill to reduce infiltration of rain and the leaching of contaminants. In addition, leachate is being extracted from the fill area, treated, and re-injected into the on-Site mine pool. The construction of the remedy for the fill area was completed during the summer of 1997. The leachate treatment system has operated for several years.

Earlier studies indicated that the deep groundwater under the Site was flowing towards the Grove City municipal wells. Under a Consent Order with EPA, Cooper Industries installed a line of deep wells between the Site and the Grove City wells to protect the water supplies . These wells have not shown Site related contamination to date. Under the Consent Order, Cooper Industries also conducted additional studies of an adjacent wetlands area and completed a supplemental RI/FS for groundwater. A ROD for groundwater and the adjacent wetlands was signed on December 30, 1997. The ROD selected No Action for the wetlands, and Natural Attenuation with monitoring for groundwater, changing the remedy from pump and treatment to Natural Attenuation. Two Explanation of Significant Differences (ESDs) documents were later issued for the Site. The first ESD modified the way that the inward hydraulic gradient is measured, and

modified some institutional controls for the Site. A second ESD changed some of the well locations that would be used to monitor ground water contamination. The Site is considered "Construction Complete", but leachate treatment will continue for at least several more years, and groundwater monitoring for natural attenuation will continue for at least seven years. The monitoring around the perimeter of the landfill to verify that the containment remains protective will continue indefinitely.

IV. Remedial Actions

The following sections will focus on the completed portions and modifications to the remedy at the Site and will discuss the effectiveness of the various cleanup actions.

ROD#1 - Fill Area

A slurry wall was installed around the perimeter of the fill area to a depth of approximately 40 feet and was keyed into the clay layer beneath the Site. A multilayered cap was installed over the slurry wall to reduce infiltration. Storm water channels around the perimeter of the cap collect runoff and carry it around the cap system. The runoff from the storm water channels is discharged through two culverts to a nearby stream. After some initial problems, the cap has been heavily vegetated. Extraction wells in the fill lower the water table to produce an inward gradient so that leakage would be inward and this also produces an inherent pump and treatment remedy, since the extraction wells remove about ten to twenty gallons per minute of contaminated ground water (leachate). This water comes from the surrounding aquifers which supply this leakage.

The gradient between the fill and the Clarion Aquifer is adequate along the wall. The lowered water level in the containment has generally produced an inward gradient between the Homewood Aquifer and the fill, however two wells have not responded as expected. The performance wells H3 and H4 indicate that there is not an inward gradient at the southern end of the Site along the Pine Street extension. There were several possibilities that could have produced this problem: 1) Remedial Design studies indicated that the clay confining layer was missing at the southern end of the Site. The strip mine pit did not extend to the southern end of the Site, and the extraction well farthest to the south is in natural geological materials of much lower permeability. This lack of clay could reduce the pressure gradient due to pumping. 2) A limited section of the slurry wall near the Pine Street extension was produced in two phases. The slurry wall was constructed to the required depth, and the area above the slurry wall was backfilled and compacted to the final elevation. The shallow section of the slurry wall was then constructed and keyed into the deeper segment. If this were not done properly, water could flow into the containment through "windows" in the slurry wall reducing the gradient across the wall. 3) The yield from the extraction wells at the southern end of the Site are relatively low. During construction, EPA and Cooper Cameron realized that additional extraction wells in this area might be needed and ran additional piping in case more wells were necessary.

EPA required Cooper Industries to analyze the available information and to try to determine the cause for the lower gradient along this section of the slurry wall. This analysis was included in a report titled: "Performance of OU1 Remedial Action, Osborne Landfill, March 17, 1998". The report showed that the problem is not primarily related to leakage into the containment. The water levels in the fill have dropped, but the pressure in the Homewood Aquifer has dropped faster. When Cooper industries shut down one of the extraction wells at the Site (EX-8), within one and one half hours, the Homewood Aquifer water level recovered more than three feet. The report from Cooper Industries suggests that these extraction wells are preferentially drawing water from the Homewood Aquifer rather than the "fill" due to the lack of the clay layer in this area. EPA determined that the inward gradient was sufficient to satisfy the performance standard in the Record of Decision.

Since that time, there has been some overall decline in well yields possibly due to iron bacteria, and well maintenance was conducted on one well to restore its previous yield. The well yield actually dropped initially and then recovered to the same level observed before treatment. On July 12, 2000, EPA met with Cooper Industries to review all of the recent ground water data, including extraction well yields, performance well levels and concentrations and trends over the past several years. It appears that the decline in well yields may be due to a steady decline in the adjacent aquifers, which is documented by computer logs of the pressure levels in both the Homewood and Clarion Aquifers. The hydraulic gradients are still very similar now as those observed in previous years. The inward gradient is still sufficient to be protective. Iron in this area is high and periodic well maintenance and treatment may be needed in the future. Additional data is included in the attached memo to the file dated 7/13/2000.

There are six performance well nests installed at even intervals along the perimeter of the slurry wall. At each nest, one well is installed in the fill, another installed in the vertically adjacent aquifer, and a third installed below the clay layer in the Homewood aquifer. These nests monitor water levels, and are sampled periodically for contaminants of concern. After several years of data, it appears that the containment is working as expected and that there have been no major releases of contamination through the slurry wall. One interesting result seen both in the leachate in the fill, and in the wells adjacent to the wall is that vinyl chloride has shown a slight increase. Although the leachate extraction wells were not included in the remedy as a pump and treat system for the contaminated Clarion Formation adjacent to the fill, they are functioning as a minor pump and treatment system. As water is extracted from the containment, water from the Clarion Formation leaks into the containment and the extraction wells, in effect, act as a minor pump and treat supplement to the Natural Attenuation remedy selected for the Clarion Formation. As explained in the attached memo dated 7/13/00, Cooper Industries will attempt to re-focus the extraction well rates to achieve a faster cleanup of the vinyl chloride in the containment and to reduce concentrations in one of the performance well nests.

Water from the extraction wells is treated by iron/manganese removal, air stripping and polished by carbon adsorption. At this time the only significant contamination in the leachate is vinyl chloride and dichloroethenes. The treated water is transported to injection wells to the east

of the Site, at a location generally to the east of the contaminant plume in the Clarion Formation. This provides a small hydraulic "barrier" between the residents to the east and the vinyl chloride plume. EPA avoided placing the extraction wells close to the fill area, which might have "pushed" contaminated water towards the residents.

EPA believes that this containment system is meeting the Remedial Action Objectives (RAOs). An added protection is the presence of a water line, which was extended around the eastern perimeter of the Site to provide the residents closest to the Site with municipal water. The residence closest to the Site contained the only contaminated residential well discovered at the Site. This water line gave the resident public water and provided protection to other residents further from the Site.

ROD#2

ROD#2 was issued in December of 1997 and revised the ground water remedy for the Clarion Aquifer from pump and treatment to Natural Attenuation. A description of the Site geology is necessary to understand EPA's decision to revise the selected remedy. The top layer to the east of the Site is about ten to twenty feet of overburden over twenty to thirty feet of sandstone. The sandstone is considered the Clarion Aquifer. Underlying the Clarion sandstone was a layer of coal, know as the Brookville coal seam. The coal seam angled downward to the east and the coal seam was deep mined using the "room and pillar technique". To the east of the fill area are a network of open mine voids full of ground water forming a mine pool. Based on numerous monitoring wells, the vinyl chloride contamination was relatively high in the mine voids (one well was 47 ppb), but only trace levels of vinyl chloride were present in the Clarion Aquifer. The only exception to this was the one residential well in the Clarion aquifer which did contain 10 - 15 ppb of vinyl chloride. Underneath the Clarion Formation is a clay layer and then the sandstone Homewood aquifer. With the exception of one well directly adjacent to the slurry wall, vinyl chloride has not been detected in the Homewood Aquifer .

During the design phase, it became apparent that due to mine subsidence, the Clarion Aquifer was fractured and that a well placed in the Clarion Formation would preferentially draw mine void water upward in a column through the thin Clarion sandstone layer. Each well would have a tiny lateral capture zone and numerous wells would be needed. An extraction well would also draw contaminated mine water into the Clarion Formation which is used as a drinking water aquifer in the vicinity. The other option would be to attempt to pump and treat a very large volume of mine water to remove relatively small levels of contaminants. An additional consideration was the steady decline in vinyl chloride levels in the mine voids. EPA was concerned that by the time the ROD was issued, negotiations completed, the design approved and the pump and treat system constructed, there might not be contamination left above MCLs. EPA changed the remedy, for the Clarion Formation, to Natural Attenuation in December 1997.

The deeper aquifers were of special concern because the municipal wells were within two

miles to the northeast of the Site. In the 1997 ROD, EPA required the placement of some additional deep well nests in both the Connoquenessing Aquifer and the even deeper Burgoon Aquifer between the municipal well location and the Site. These well nests did not show contamination. Cooper Industries will continue to monitor them for three years, but if no contamination is detected, they will be abandoned.

Recent analytical results from the Natural Attenuation ground water monitoring support the continued decline in vinyl chloride levels over a wide area of the plume. Contamination is approaching MCLs over much of the area. The one exception is a small area around the one contaminated residential well which continues to show about 5 ppb of vinyl chloride. It appears that this area will be the last section to attenuate to MCLs. The municipal water line is available in this area and no residents are at risk. EPA considers the ground water remedy to be protective at this time, but will continue to monitor the ground water concentrations until MCLs are met and afterwards for five years.

Additional residential wells around the Site were sampled this year on a one time basis to give nearby residents greater confidence that our remedy is fully protective. After this major sampling event, a more targeted periodic residential sampling will occur. None of the additional wells sampled contained Site related contaminants.

The PRP performing the Site work, Cooper Cameron, purchased the landfill property so that the property would be under their control. They will enforce the institutional controls, and are a respondent to a Unilateral Administrative Order from EPA, so that they must comply with the institutional control requirements. Cooper Cameron has placed a deed restriction on the property. General Electric was also a PRP, but this corporation chose to enter a cash settlement with EPA to pay for its obligations.

Throughout the cleanup, a site-specific, action-specific, Health and Safety Plan and Contingency Plan were developed and properly implemented for each of the field activities and remedial actions. Each plan was regularly reviewed and updated as appropriate throughout the cleanup. All workers at the Site are required to be briefed on hazards and precautions, and must read the relevant portions of the Site Health and Safety Plan (HASP). All workers must have Safety Training and comply with all OSHA standards and the HASP. All visitors must be accompanied by a qualified representative of Cooper Cameron or their contractor.

V. Five Year Review Findings

EPA and PADEP visit the Site periodically to oversee the remedial action and related activities. Concerns raised during oversight have been routinely addressed by Cooper Cameron. This five year review is partially based on these visits. In early 1998, Mr. Robert Kimball visited the Site several times and reported erosion problems which were subsequently corrected. EPA and Mr. Robert Kimball of the PADEP visited the Site for a construction completion inspection on March

9, 1998. The last inspection was conducted on July 11, 2000 during which the Site was inspected and recent data reviewed with Cooper Cameron and their contractor (CEC). The PADEP was invited to the inspection, but was unable to attend because of conflicting commitments. The PADEP has been sent a copy of the memo to the file documenting both the inspection and the data/performance standard review.

VI. Assessment

Cooper Cameron has completed the remedial actions to date in accordance with the remedial designs, Records of Decision, and their modifications.

VII. Deficiencies

Extraction well maintenance is needed, but the remedy is still protective even at current extraction rates.

VIII. Recommendations and Required Actions

Continuing attention to extraction well maintenance and operation will be necessary to assure that the remedy remains protective. Additionally, oversight of the monitoring activities will be necessary to assure that the contamination continues to decline to MCLs throughout the plume. EPA and the PADEP will insure that appropriate maintenance is performed.

IX. Protectiveness Statement

The remedies selected in ROD#1 (Fill Area) are protective of human health and the environment. The immediate threats have been addressed as described above and all remedial actions have been performed in accordance with the design and the remedy decision documents.

The Natural Attenuation remedy (ROD#2) will not be fully protective until MCLs are met. EPA expects this to occur within five years.

X. Next Five-Year Review

The next five-year review will be conducted by August 5, 2005.

EPA United States Environmental Protection Agency **Region 3**

Hazardous Site Cleanup Division

LACKAWANNA REFUSE

EPA REGION 3
Lackawanna County
Between the Borough of Old Forge and Ransom Township

PENNSYLVANIA
EPA ID # PAD980508667

Other Names:
Lackawana Refuse Removal Company, Inc.
Iacavazzi Landfill
Old Forge Landfill

Last Update: April 2000

10th Congressional District

Current Status

All remedial actions have been completed at this site. EPA deleted the Lackawanna Refuse Site from the National Priorities List in September 1999.

Site Description

The Lackawanna Refuse site consists of 258 acres in Lackawanna County, Pennsylvania and lies in an area previously used for deep mining and strip mining of coal. In 1973, the Pennsylvania Department of Environmental Resources (PADER) issued a permit for the disposal of municipal and commercial refuse in three strip-mine cuts covering approximately 18 acres. Two of the strip-mine cuts contained commercial and municipal refuse, and the third contained approximately 15,000 buried drums. PADER authorized an addendum for the disposal of sludge in 1978, but suspended the solid waste disposal permit later that year, after discovering the unauthorized disposal of industrial and hazardous wastes. In 1980, the EPA excavated 200 drums and sampled 18 others. Leachate flows from the site into an intermittent stream, drainage ditches, and nearby St. John's Creek, which flows into the Lackawanna River. The site is located in a rural area of Pennsylvania and is surrounded by residential, agricultural, and former strip-mining areas. Approximately 9,000 people live within a one-mile radius of the site. The nearest residences are along the site's eastern border. Local residents obtain drinking water from a public system that takes water from reservoirs several miles north of the site.

Site Responsibility: This site is being addressed through Federal and State actions.

NPL Listing History: This site was proposed to the National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites requiring long-term remedial action on December 30, 1982. The site was formally added to the list September 8, 1983. The site was deleted from the list on September 28, 1999.

Threats and Contaminants

On-site ground water was found to be contaminated with nitrate, heavy metals including arsenic and cadmium, and volatile organic compounds (VOCs) from disposal activities at the site. Off-site ground water was found to be contaminated with the pesticide dieldrin. Surface water on-site had boron, manganese, and methylene chloride contamination. Fish were found to have traces of polychlorinated biphenyls (PCBs), VOCs, and dieldrin. Heavy metals including lead and nickel and VOCs were found in rabbits in the area. People who accidentally ingested or came in direct contact with contaminated water and sediments may have been at risk. In addition, eating rabbits and fish with bioaccumulated levels of contaminants was found to pose a health threat. Contaminant descriptions and associated risk factors are available at: (ATSDR web site) http://www.atsdr.cdc.gov/hazdat.html

Cleanup Progress

In 1983, the owners and operators of the site pleaded guilty to failing to notify EPA that hazardous substances were disposed of, paid a fine, and agreed to use the proceeds from any sale of the land to help finance cleanup at the site. The following remedial actions were completed in accordance with EPA's Record of Decision (ROD). All drums and highly contaminated solid waste have been removed, and approximately 40,000 cubic yards of contaminated soil were excavated and disposed off-site. The leachate collection system and the synthetic cover were installed in 1989. The final grading and seeding of the site was completed in 1990. Subsequent to the placement of the synthetic cover, EPA's sampling showed that the landfill was generating a negligible amount of leachate due to the effectiveness of the synthetic cover in reducing rainfall infiltration to the landfill. EPA issued an Explanation of Significant Difference (ESD) on September 28, 1993 documenting EPA's decision to eliminate the leachate treatment plant due to insufficient leachate flow. The site has been removed from the NPL.

Contacts

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Community Involvement Coordinator
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Detailed public files (Administrative Record) on EPA's actions and decisions for this site can be examined at the following locations:

Old Forge Borough Council
312 South Main Street
Old Forge, PA 18518

U.S. EPA Region III
6th Floor Docket Room
1650 Arch Street
Philadelphia, PA 19103
(215) 814-3157

Lackawanna menu

Record of Decision (ROD) Abstracts

LACKAWANNA REFUSE

Site Information | RODs List

Site Information:

Site Name: LACKAWANNA REFUSE
Address: SOUTH KEYSER AVENUE
OLD FORGE BOROUGH, PA 18504

EPA ID: PAD980508667
EPA Region: 03
County: 069 LACKAWANNA

Latitude: 41.37305
Longitude: 75.755281

NPL Status: Deleted from the Final NPL
Federal Facility Flag: Not a Federal Facility
Incident Category: Landfill

Record of Decision (ROD) List:

	ROD ID	ROD Date	OU
1	EPA/ROD/R03-85/010	03/22/1985	01

1) Record of Decision (ROD):

Operable Unit: 01
ROD ID: EPA/ROD/R03-85/010
ROD Date: 03/22/1985

Media: SOIL SURFACE WATER

Contaminant: ORGANIC ACIDS, PAINTS AND THINNERS, SLUDGES, TOXIC METAL, VARIOUS SOLVENTS

Abstract: THE LACKAWANNA REFUSE SITE IS LOCATED ALONG A SECTION OF THE NORTH-SOUTH BORDER BETWEEN THE BOROUGH OF OLD FORGE AND RANSOM TOWNSHIP, IN LACKAWANNA COUNTY, PA. FIVE STRIP MINE PITS OF FIVE TO SIX ACRES EACH WERE EXCAVATED IN THIS AREA DURING THE LAST CENTURY, AND

THREE WERE LATER USED FOR WASTE DISPOSAL IN THE 1970'S. ONE ABANDONED PIT (PIT 5) CONTAINS ABOUT 15,000 BURIED DRUMS OF HAZARDOUS WASTE AS WELL AS MUNICIPAL REFUSE. PIT 5 IS APPROXIMATELY FIVE ACRES AND IS ESTIMATED TO BE 30-50 FEET DEEP. THE PIT HAS ONLY A THIN COVER OF SOIL ABOVE THE WASTE. THE CONTENTS OF 20 DRUMS WERE SAMPLED AND FOUND TO CONTAIN VARIOUS SOLVENTS, PAINTS AND THINNERS, SLUDGES, ORGANIC ACIDS, AND TOXIC METALS.

THE SELECTED REMEDIAL ACTION INCLUDES; REMOVAL OF ALL DRUMS AND HIGHLY CONTAMINATED MUNICIPAL REFUSE FROM PIT 5 FOR DISPOSAL AT A RCRA-REGULATED FACILITY, CLAY CAPPING (WITH GAS VENTING SYSTEMS) OF PITS 2, 3, AND 5, INSTALLATION OF SURFACE WATER DRAINAGE DIVERSION AND CONSTRUCTION OF A LEACHATE COLLECTION AND TREATMENT SYSTEM FOR ALL THREE PITS, REMOVAL AND DISPOSAL OF THE TOP LAYER OF CONTAMINATED SOIL FROM THE BORE HOLE PIT AND THE ACCESS ROAD, RECONSTRUCTION OF THE ROAD WITH APPROPRIATE DRAINAGE AND SEDIMENTATION CONTROLS, AND REMOVAL OF THE DRIED PAINT AND CONTAMINATED SOIL IN THE PAINT SPILL AREA FOR OFF-SITE DISPOSAL OF A RCRA-REGULATED FACILITY. THE ESTIMATED TOTAL PROJECT CAPITAL COST FOR THESE REMEDIAL ACTIONS IS $8,200,000.

Remedy: - REMOVAL OF ALL DRUMS AND HIGHLY CONTAMINATED MUNICIPAL REFUSE FROM PIT 5 FOR OFF-SITE DISPOSAL AT A QUALIFYING RCRA FACILITY.
- CONSTRUCTION OF A CLAY CAP OVER PITS 2, 3, AND 5 TO MEET RCRA REQUIREMENTS.
- INSTALLATION OF SURFACE WATER DRAINAGE DIVERSION AROUND ALL THREE PITS AND CONSTRUCTION OF A LEACHATE COLLECTION AND TREATMENT SYSTEM FOR ALL THREE PITS.
- CONSTRUCTION OF A GAS VENTING SYSTEM THROUGH THE CAPS OF ALL THREE PITS.

- REMOVAL OF THE TOP LAYER OF CONTAMINATED SOIL FROM THE BOREHOLE PIT FOR OFF-SITE DISPOSAL AT A QUALIFYING RCRA FACILITY AND RETURNING TO GRADE WITH A SOIL COVER.
- REMOVAL OF THE TOP LAYER OF CONTAMINATE SOIL FROM THE ACCESS ROAD AND RECONSTRUCTION OF THE ROAD WITH APPROPRIATE DRAINAGE AND SEDIMENTATION CONTROLS.
- RE MOVAL OF THE DRIED PAINT AND CONTAMINATED SOIL IN THE PAINT SPILL AREA FOR OFF-SITE DISPOSAL AT A QUALIFYING RCRA FACILITY.
- DEVELOPMENT OF A MONITORING PROGRAM DURING THE REMEDIAL ACTION, TO INCLUDE MONITORING THE EXISTING WELLS ON-SITE, THE GAS VENTING SYSTEM AND THE LEACHATE TREATMENT SYSTEM.
- OPERATION AND MAINTENANCE TO BE IMPLEMENTED BY THE COMMONWEALTH OF PENNSYLVANIA (THE STATE). QUARTERLY INSPECTIONS OF THE SITE WILL BE PERFORMED AND ANY REPAIRS NECESSARY TO THE CAP WILL BE MADE. THE LEACHATE COLLECTION AND TREATMENT SYSTEM AND ANY GAS TREATMENT FOUND TO BE NECESSARY THROUGH THE MONITORING SYSTEM WILL BE OPERATED BY THE STATE.

[Back to ROD List]

[Back to TOP]

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This page was last updated on: February 05, 2001
Site maintained by: Office of Emergency and Remedial Response
brown.margret@epa.gov

ATTACHMENT 5

Response to Interrogatory #6

Fact Sheet for Tonolli Corporation Site

SUPERFUND PRELIMINARY SITE CLOSEOUT REPORT

Tonolli Corporation
Borough of Nesquehoning, Carbon County, Pennsylvania

I. INTRODUCTION

This Preliminary Close Out Report documents that EPA has completed construction activities for the Tonolli Corporation Superfund Site in accordance with OSWER Directive 9320.2-3C. EPA and the Pennsylvania Department of Environmental Protection (PADEP) conducted a pre-final inspection on November 29, 1999 and determined that the remedy was constructed in accordance with the remedial design (RD) plans and specifications. Activities necessary to achieve site completion are underway.

II. SUMMARY OF SITE CONDITIONS

Background

The Tonolli Corporation Site (Site) is located in the Green Acres-West Industrial Park on the north side of State Route 54 in the Borough of Nesquehoning, Carbon County, Pennsylvania. The Site covers approximately 30 acres and is situated three miles west of the Borough's business district. The Tonolli Corporation Site operated as a secondary lead smelter and lead-acid battery recycling facility between August 1974 and January 1986. The operations at the Site included the storage, breaking, processing and smelting of spent batteries, battery components, and other lead-bearing materials. The Site included a lined landfill containing about 105,000 cubic yards of waste and 2,000,000 gallons of standing water. The Site also contained an estimated 39,000 cubic yards of lead contaminated soil and 13,000 cubic yards of battery wastes. In 1985, Tonolli filed for bankruptcy and abandoned the Site.

Between February and August of 1987, EPA completed three site assessment and sampling activities. High concentrations of lead, cadmium, chromium, arsenic and copper were detected in both on- and off-site soils, ground water, and surface water. In 1989, EPA completed removal actions involving the excavation and treatment of liquids and sludges in a lagoon, treatment and disposal of liquids from the Site's 500,000 - gallon storage tank, construction of a surface water collection and treatment system, and repair of the fence to limit Site access. The Site conditions were stabilized, hazardous substances were removed, the lagoon was filled, the area was regraded, and security measures were taken.

The Tonolli Site was proposed for inclusion on EPA's Superfund National Priorities List (NPL) in June 1988 with a Hazard Ranking System (HRS) score of 46.58, based on pathway scores for ground water, surface water, and air. The Tonolli Site was listed on the final NPL on October 4, 1989.

On September 19, 1989, 46 potentially responsible parties (PRPs) entered into an Administrative Order on Consent (AOC) with EPA to conduct the remedial investigation and feasibility study (RI/FS). On December 17, 1991, EPA issued a Unilateral Administrative Order (UAO) to the same 46 PRPs requiring them to operate and maintain an on-site storm water treatment system. EPA continued to develop information on additional PRPs associated with the Site during the RI/FS. As a result, a total of 528 PRPs were identified for the Tonolli Site. In July 1992, EPA entered into a de minimis settlement with 170 Tonolli Site PRPs. On April 20, 1994, EPA entered into a second de minimis settlement with an additional 31 Tonolli Site PRPs.

Remedial Construction Activities

In September 1992, EPA signed the Record of Decision (ROD) selecting the remedy for the cleanup of the Site. This remedy called for: 1) the off-site transport and treatment of battery wastes by resource recovery at a secondary lead reclamation facility; 2) excavation of all soils with greater than 1,000 milligrams per kilogram (mg/kg) of lead from on-site areas and 500 mg/kg of lead in off-site residential areas; 3) stabilization of all soils with greater than 10,000 mg/kg of lead; 4) consolidation of lead contaminated soil at the Site in the on-site landfill and closure of the landfill; 5) cleanup of contaminated sediment in the Nesquehoning Creek; 6) treatment of landfill leachate; 7) treatment of contaminated overburden ground water with a limestone trench; and 8) decontamination of the on-site buildings.

In December 1993, EPA published a proposed Consent Decree (CD) for remedial design and remedial action and cost recovery in the Federal Register for public comment. During the 30-day public comment period, the Pennsylvania Department of Environmental Resources (PADER) submitted extensive comments which focused on the applicability of the State's hazardous and residual waste regulations to the remedy. Hence, the CD was not entered at that time. In response to comments EPA received, EPA modified the selected remedy in an Explanation of Significant Differences (ESD No. 1) signed in February, 1995. The major concern addressed in ESD No.1 was the condition of the on-site landfill and the design criteria required to meet the Pennsylvania hazardous and residual waste regulations for landfills and to clarify technical matters set forth in the Technical Issues Appendix attached to the proposed CD. EPA issued a second ESD (ESD No. 2) on January 7, 1997 to address the isolation distance between the ground water table and the landfill liner.

In February, 1996, EPA signed another Administrative Order on Consent with a group of PRPs to begin removing battery chips and other reclaimable wastes from the Site for off-site recycling.

EPA approved the final Remedial Design (RD) for the Site on February 20, 1998. EPA and the Commonwealth of Pennsylvania have entered into a CD with a group of the PRPs performing the cleanup through the Tonolli Site Steering Committee (TSSC). The CD was lodged with the United States District Court for the Middle District of Pennsylvania on March 4, 1998 and entered by the Court on May 7, 1998.

Construction of the remedy for the Site began on April 20, 1998. EPA issued a third ESD (ESD No.3) on March 12, 1999, based on new information learned during the course of the remedial action. EPA determined that the following actions, in addition to those delineated in the ROD must be implemented: 1) demolition and removal of the former smelter buildings' concrete walls and foundations; 2) excavation of an increased volume of lead contaminated soils; 3) expansion of the on-site landfill to accommodate the increased volume of soil; 4) pumping and treatment of an increased volume of landfill leachate; 5) bioremediation of petroleum-contaminated soil; and 5) modification of the final grading plan for the Site.

Construction activities at the Site commenced with the decontamination, demolition, and asbestos abatement of the former smelter and crusher buildings, as well as other operational buildings and tanks at the Site. Building debris was taken to the on-site landfill for disposal, while scrap metal was recovered and sent off-site for recycling. Approximately 8,700,000 pounds of lead containing materials were sent off-site for resource recovery at a secondary lead reclamation facility. Following building demolition, excavation of the contaminated soil at the Site commenced. The following are estimates of the volume of excavated soil and debris that were consolidated into the on-site landfill: 114,300 cubic yards of on-site soil containing lead concentrations above 1,000 mg/kg; 33,400 cubic yards of soil and wastes containing lead concentrations above 10,000 mg/kg were stabilized and subsequently consolidated in the on-site landfill; 3,000 cubic yards of off-site soil containing lead concentrations above 500 mg/kg; 38 cubic yards of sediment from Nesquehoning Creek with lead concentrations above 300 mg/kg; 2,400 cubic yards of previously treated sludge and lagoon soils; 250 drums of melted plastic; and over 9,800 cubic yards of excavated concrete walls/foundations from the demolished buildings. Fourteen on-site buildings and all other above ground structures were demolished with the exception of the office building which was decontaminated only. The office building is suitable for reuse.

Off-site excavations in residential areas were backfilled with topsoil, seeded, and restored to original condition. On-site excavations were backfilled with lime amended culm, regraded, and covered with six inches of topsoil and seeded. A fence was also constructed around the perimeter of the Tonolli Site property to restrict access.

Over 6,558,000 gallons of landfill leachate and storm water at the Site have been treated and discharged to the Nesquehoning Creek in accordance with requirements specified by the PADEP. On-site leachate treatment shall continue until it becomes more economical to transport the leachate off-site for treatment. The construction of the limestone trench for the treatment of the overburden ground water has been completed. The trench was constructed parallel to the Nesquehoning Creek and is approximately 1,400 feet long, 24 feet deep and 3 feet wide. Monitoring wells on both the upgradient and downgradient sides of the limestone trench will be monitored as part of the operation and maintenance activities at the Site to assess the performance of the limestone trench in remediating the overburden ground water. The current performance standard for the overburden ground water is cleanup to background levels (the cleanup standard may, however, be modified from background to drinking water maximum contaminant levels). If, at anytime, sampling confirms that the performance standards for the

overburden ground water have been attained and remain at the required levels for twelve consecutive quarters, the monitoring may be suspended. The overburden ground water should meet the performance standards within 30 years.

During remedial action, over twice the volume of lead contaminated soil was excavated as originally estimated. It became apparent that the existing on-site landfill would not be able to accommodate the increased volume of soil. Therefore, the landfill was redesigned to include an adjacent cell to accommodate the additional volume of contaminated soil. The new landfill cell includes a bottom liner and leachate collection system. The bottom liner consists of a 32 oz/sy geocushion subbase overlain by a geosynthetic clay liner, 60 mil HDPE synthetic liner, geonet-geotextile composite drainage layer, and an 18-inch leachate collection/protection sand layer.

The landfill was closed in accordance with Resource Conservation and Recovery Act (RCRA) closure regulations for hazardous waste landfills. The southern, eastern and northern side slopes of the landfill were expanded and stabilized to the specifications required in the remedial design. The cap construction entailed the placement of the following from bottom to top: 6-inch lime enhanced remediated soil; 6-inch structural fill bedding layer; geosynthetic clay liner; 60 mil textured LLDPE synthetic liner; geonet-geotextile composite drainage layer; 18 inches of cover fill; and six inches of topsoil. The landfill was seeded and covered with temporary erosion mat. Storm water management systems for the cap consisted of the construction of detention basins, overflow structures and drainage channels lined with rip-rap or permanent erosion mat.

Several underground oil storage tank areas and more than 5,500 cubic yards of No.4 fuel oil petroleum contaminated soil were excavated and closed pursuant to PADEP underground storage tank regulations. EPA had proposed in ESD No.3 that this soil undergo bioremediation on-site. The scope of work for the bioremediation is contained in the document entitled, "*U.S. Environmental Protection Agency Conceptual Plan for On-Site Bioremediation of Soil Contaminated with No.4 Fuel Oil; Tonolli Superfund Site, Nesquehoning, Carbon County, PA*"dated March 11, 1999 and later revisions. The PRPs agreed to screen the TPH soil, prepare the treatment area, operate the earthmoving equipment, and provide the soil amendments. EPA agreed to develop the plan for bioremediation, provide technical support, and monitor the TPH soil area until the cleanup standards for the contaminants in the TPH soil were met. EPA also agreed to perform characterization, except for lead which remained the PRPs responsibility, and treatability testing of the TPH soil.

Lead concentrations in the TPH soil were found to be under 1,000 mg/kg. EPA tested the soil for contaminants associated with No.4 fuel oil utilizing the standards found in the PADEP Storage Tank Program Technical Document entitled, "*Closure Requirements for Underground Storage Tank Systems*" which became effective April 1, 1998. The analytical results revealed that the TPH soil still contained approximately 3,000 mg/kg petroleum hydrocarbons; however, petroleum compounds regulated under the PADEP Technical Document met all the requirements for reuse on-site with no additional treatment. The remaining hydrocarbon compounds are biodegradable, but only slowly. Although the TPH soil did not require further treatment for reuse on-site, EPA decided to proceed with a plant-mediated bioremediation system to evaluate

it's effectiveness to biodegrade the remaining hydrocarbon compounds. The TPH soil was screened and spread in a six inch lift covering approximately 3 acres in the northern section of the Tonolli Site property. Three native grasslands were established within the treatment area of approximately one acre each. The course of petroleum hydrocarbon biodegradation will be monitored by EPA by periodic collection and analysis of soil samples over the next several years.

The pre-final inspection was conducted at the Site on November 29, 1999 with representatives from EPA, U.S. Army Corps of Engineers (USACE, provided oversight for EPA), ENTACT (construction contractor), Advanced GeoServices Inc. (AGC, the A/E firm), Leed Environmental (TSSC Project Coordinator) and PADEP in attendance. The punch list introduced at the pre-final inspection indicated that only minor items not affecting performance of the remedy needed to be addressed. Some of these items, such as repairing gullies and establishing vegetative cover, will not be completed until Spring 2000.

III. DEMONSTRATION OF QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) FROM CLEANUP ACTIVITIES

The remedial design and remedial action were carefully reviewed by EPA, PADEP, and USACE for compliance with all requirements of the ROD, as modified by the ESDs, and with all applicable QA/QC procedures and protocol. All sample collection activities at the Site were conducted in accordance with EPA protocols. Details of the analytical procedures and methods utilized are included in the site specific document entitled, "*Final Construction Quality Assurance Project Plan; Tonolli Corporation Superfund Site*" dated April 27, 1999, prepared by AGC. This document also described the procedures for monitoring and documenting that the remedial action activities were performed in accordance with the approved remedial design, construction drawings, and specifications. A resident engineer from AGC was on-site during the course of remedial activities to ensure that they were performed in accordance with the approved design. The U.S. Army Corps of Engineers also provided field oversight for EPA during construction.

The QA/QC program utilized throughout the remedial action was sufficient and enabled EPA and the PADEP to determine that the testing results reported are accurate to the degree needed to assure satisfactory execution of the remedial action consistent with the ROD.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

Construction completion at the Site shall be documented by the signature of this preliminary close out report. All preliminary completion requirements for the Site have been met as specified in OSWER Directive 9320.2-3C. The following activities will be completed according to the schedule below:

Task	Estimated Completion	Responsible Organization
Initiate Ground Water Monitoring	1/30/00	PRPs
Approve Operation and Maintenance Plan	6/30/00	EPA/PADEP
Implement Deed Restrictions	12/31/00	PRPs
Interim RA Report Completion	12/31/00	PRPs/EPA
Final RA Report Completion	9/30/29	PRPs/EPA
Approve Final Close Out Report	12/31/29	*PRPs/EPA*
Five-Year Review	4/20/03	PRPs/EPA/PADEP
Delete Site from NPL	3/31/30	EPA/PADEP

Five-Year Reviews

A Five-Year review is to be conducted five years from the date on which the remedial contractor first mobilizes on-site to install, construct, or implement the remedy. The contractor mobilized on-site on April 20, 1998 to begin the remedial action at the Tonolli Site. Therefore, EPA will complete the first Five-Year Review on or before April 20, 2003. Further Five-Year reviews will be conducted pursuant to OSWER Directive 9355.7-02, "Structure and Components of Five-Year Reviews," or other applicable guidance where it exists.

Long-term operation and maintenance of the landfill cap and sampling of the ground water wells as well as all other aspects of the remedy will be under the direction of the PRPs with EPA and PADEP oversight.

Abraham Ferdas, Director
Hazardous Site Cleanup Division

12/13/99
Date

ATTACHMENT 6

Response to Request for Documents #1

CERCLA Marjol Battery Site
Emergency Removal Documents

Sent 7 boxes of CERCLA removal information - Anna Butch is holding it seperately in the CERCLA file room. Removed from the CERCLA boxes and put into other response attachments are: ① NPL listing docs → Attm 2
② Annemarie Crocetti docs → Attm 9
③ Marjol Studies - Health Effects docs → Attm 14
④ Title Search docs → end of Attm 6 + marked "Title Search Docs"

Also included: RCRA generated report: Report of Composite Sampling + Analysis for Verification of Remediation (1/18/01)

ATTACHMENT 7

Response to Request for Documents #2

CERCLA Marjol Battery Site
Administrative Record

Also -
CDROM disk - CERCLA Admin Record
~~Index of docs~~ " " "
Oversized maps " " "
CD-Rom User Instructions

MARJOL BATTERY SITE
ENFORCEMENT REMOVAL ADMINISTRATIVE RECORD FILE *
INDEX OF DOCUMENTS

I. ENFORCEMENT DOCUMENTS

1. Letter to Mr. David C. Ross, Gould Inc., from Mr. Craig G. Robertson, R.E. Wright Associates, Inc., re: Issues of lead leachate at Marjol, 12/12/80. P. 100001-100003.

2. Letter to Mr. David J. Lamereaux, Pennsylvania Department of Environmental Resources (PADER), from Mr. David C. Ross, Gould Inc., re: By-product cleaning at Gould, 2/16/81. P. 100004-100009. A newspaper article is attached.

3. Letter to Congressman Joseph M. McDade, U.S. House of Representatives, from Mr. Robert F. Sheehan, Dunmore Elementary Center, re: Concern about Gould's operations, 10/29/81. P. 100010-100011. A letter is attached.

4. Letter to Mr. Gary Galida, PADER, from Mr. M.E. Elmore, Gould Inc., re: Cessation of hazardous waste activity at Gould Inc., 5/7/82. P. 100012-100014.

5. Letter to Mr. James W. Chester, PADER, from Mr. James E. Colleran, Beasley, Hewson, Casey, Colleran, Erbstein, and Thistle, re: Transmittal of a subpoena for court appearance, 8/18/82. P. 100015-100016. The subpoena is attached.

6. Sampling Data Reports, Marjol Battery, prepared by Wastex Industries, Inc., 11/5/84. P. 100017-100023.

7. Report: Proposal Ground Water Investigation at the Marjol Battery Plant in Throop, PA, for Gould Inc., prepared by Dames & Moore, 10/11/82 through 5/28/85. P. 100024-100202. Receipts and maps are attached.

8. Memorandum to Mr. Dale G. Williams, PADER, from Mr. Theodore O. Greary, PADER, re: Lead concentration analysis results for Gould Inc., 11/15/85. P. 100203-100203.

9. Documents provided to EPA from PADER files, 1/20/75 through 2/24/86. P. 100204-100399.

* Administrative Record File available 10/15/91.

** This information is considered confidential and privileged by the U.S. EPA. The information can be found at U.S. EPA Region III Headquarters, Philadelphia, PA.

10. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Jerry Saseen, U.S. EPA, re: Facts about Marjol, 4/24/87. P. 100400-100401.

11. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Jerry Saseen, U.S. EPA, re: Ten-point document, 4/30/87. P. 100402-100402.

12. Phone conversation record to Mr. Michael Mason, U.S. EPA, from Mr. Reno Ducceschi, PADER, re: Update on Marjol, 5/7/87. P. 100403-100404.

13. Memorandum to file from Mr. Michael R. Mason, U.S. EPA, re: Center for Disease Control sampling and survey, 5/19/87. P. 100405-100410.

14. Letter to Mr. James Gibbs, Gould Inc., from Mr. Bruce P. Smith, U.S. EPA, re: Request for information concerning site, 6/2/87. P. 100411-100414. A site map is attached.

15. Deeds and Sales Agreement, submitted by Gould Inc., 6/9/87. P. 100415-100499.

16. Phone conversation record of Mr. Michael Mason, U.S. EPA, from Mr. Jeff Lieberman, Weston SPUR, re: Update on On-Scene Coordinator-Technical Assistance Team site assessment at Marjol, 6/9/87. P. 100500-100500.

17. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. James Gibbs, Gould Inc., re: Gould's request for extension for 104(e) response, 6/18/87. P. 100501-100501.

18. Phone conversation record of Mr. Michael R. Mason, U.S. EPA, with Mr. Michael Veysey, Gould Inc., re: Decision for removal action at Gould Inc., 6/24/87. P. 100502-100502.

19. Pollution Report, #3, Marjol Battery Site, 6/24/87. P. 100503-100504.

20. Scope of Work, Marjol Battery Site, Throop, Lackawanna County, Pennsylvania, prepared by: U.S. EPA Technical Assistance Team, 6/24/87. P. 100505-100506.

21. Memorandum to Mr. Jerry Sasseen, U.S. EPA, from Mr. Jeff Lieberman, Roy F. Weston, Inc., re: Marjol Battery Site trip report, 6/29/87. P. 100507-100513.

* Administrative Record File available 10/15/91.

** This information is considered confidential and privileged by the U.S. EPA. The information can be found at U.S. EPA Region III Headquarters, Philadelphia, PA.

22. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Ms. Joyce McKerdy, Agency for Toxic Substances and Disease Registry, (ATSDR), re: Sampling data from emergency response, 6/30/87. P. 100514-100514.

23. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Tom Dent, Gould Inc., re: Extension for 104(e) response, 6/30/87. P. 100515-100515.

24. Letter to Mr. Michael R. Mason, U.S. EPA, from Mr. Michael C. Veysey, Gould, Inc., re: 104(e) response letter, 7/1/87. P. 100516-100518.

25. Letter to Mr. Staback, U.S. House of Representatives, from Mr. Kenneth R. Kryszczun, U.S. EPA, re: Site inspection at Marjol, 7/9/87. P. 100519-100520.

26. Letter to Mr. Michael Veysey, Gould Inc., from Ms. Rosanne Mistretta, U.S. EPA, re: Transmittal of sample removal order, 7/28/87. P. 100521-100521.

27. Memorandum to Mr. Jerry Saseen, U.S. EPA, from Mr. Bhupi Khona, Roy F. Weston, Inc., re: Report of soil and wipe samples, 8/6/87. P. 100522-100591. The report is attached.

28. Letter to Ms. Rosanne Mistratta [sic], U.S. EPA, from Mr. Michael C. Veysey, Gould Inc., re: Transmittal of Gould's Marjol Battery document file index, 8/7/87. P. 100592-100595. The index is attached.

29. Report: Proposed Work Plan, Initial Remedial Measures, former Marjol Battery Plant, Throop, Pennsylvania, prepared by NTH/Russell Associates, 8/11/87. P. 100596-100608.

30. Letter to Mr. Michael Veysey, Gould Inc., from Ms. Rosanne Mistretta, U.S. EPA, re: Sampling results for Marjol Battery Site, 8/25/87. P. 100609-100609.

31. Letter to Honorable Edward G. Staback, U.S. House of Representatives, from Mr. Kenneth R. Kryszczun, U.S. EPA, re: Final results of sampling conducted at Marjol, 8/25/87. P. 100610-100610.

32. Letter to Mr. Michael Mason, U.S. EPA, from Ms. Donna D. Cernansky, Gould Inc., re: Transmittal of documents for Marjol case, 9/23/87. P. 100611-100611.

33. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Tom Dent, Gould Inc., re: Status of 104(e) response document, 9/25/87. P. 100612-100612.

34. Memorandum to Mr. Bruce Molholt, U.S. EPA, from Mr. Michael R. Mason, U.S. EPA, re: Request for a toxicological assessment of Marjol Battery, 10/21/87. P. 100613-100614.

35. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Larry Fiegleman, Marjol Battery, re: Inquiry into records at Marjol Battery, 10/22/87. P. 100615-100615.

36. Memorandum to Ms. Joyce McCurdy, ATSDR, from Mr. Jeff Lieberman, Roy F. Weston, Inc., re: Soil sampling results, 10/25/87. P. 100616-100667. A blueprint map and results are attached.

37. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Jerry Saseen, U.S. EPA, re: Comments on Gould work plan for Marjol. 10/26/87. P. 100668-100668.

38. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Gary Schaeffer, PADER, re: Notification of Marjol Battery Meeting for November 4, 1987, 10/26/87. P. 100669-100669.

39. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Michael Veysey, Gould Inc., re: Cancellation of Marjol meeting, 10/30/87. P. 100670-100670.

40. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Gary Schaeffer, PADER, re: State review of Gould work plan for Marjol, 11/4/87. P. 100671-100671.

41. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Ernie Keller, Lackawanna Conservation District, re: Review of Gould work plan for Marjol, 11/4/87. P. 100672-100672.

42. Transmittal memorandum to Mr. Ernie Keller, Lackawanna Conservation District, from Ms. Barbara C. Forslund, NTH/Russell Associates, re: Proposed work plan for former Marjol Battery Plan, 11/5/87. P. 100673-100673.

43. Letter to Mr. Michael R. Mason, U.S. EPA, from Mr. Lawrence Fiegleman, Marjol Battery, re: Merger agreement between Gould Inc., and Marjol Battery and Equipment Company, Inc., 11/10/87. P. 100674-100674.

44. Phone conversation record of Mr. Michael R. Mason, U.S. EPA, with Mr. Ernie Keller, Lackawanna County Conservation District, re: Review of Gould work plan, 11/12/87. P. 100675-100677. Comments are attached.

45. Letter to Mr. Mike Mason, U.S. EPA, from Mr. Ernest A. Keller, Lackawanna County Conservation District, re: Review of Gould erosion and sediment control plan, 11/12/87. P. 100678-100681. The comments are attached.

46. Phone conversation record of Mr. Michael Mason, U.S. EPA, with Mr. Gary Schaeffer, PADER, re: Comments on Gould work plan, 11/13/87. P. 100682-100682A.

47. Memorandum to Mr. Jerry Saseen, U.S. EPA, from Ms. M. Joyce McCurdy, ATSDR, re: Health consultation on environmental sampling data from Marjol Battery Site, 11/20/87. P. 100683-100683.

48. Letter to Mr. Jerry Saseen, U.S. EPA, from Mr. Robert W. Riester, Pennsylvania Department of Health, re: Review of data samples for environmental lead levels, 12/2/87. P. 100684-100684.

49. Letter to Mr. Bill Steuteville, U.S. EPA, from Mr. Tony Naro, Resident of Throop, re: Information on Marjol Battery and Equipment Company, 3/3/88. P. 100685-100685.

50. Letter to Mr. Michael Veysey, Gould Inc., from Ms. Rosanne Mistretta, U.S. EPA, re: Transmittal of draft of the proposed order, 3/9/88. P. 100686-100686. A certified mail receipt is attached.

51. Memorandum to Dr. J. Winston Porter, U.S. EPA, from Mr. James M. Seif, U.S. EPA, re: Removal request for Marjol Battery Site, 3/14/88. P. 100687-100706. The request is attached.

52. Letter to Ms. Rosanne Mistratta [sic], U.S. EPA, from Mr. Michael C. Veysey, Gould Inc., re: Transmittal of newspaper article, 3/16/88. P. 100707-100708. The newspaper article is attached.

53. Letter to Mr. Michael C. Veysey, Gould, Inc., from Ms. Rosanne Mistretta, U.S. EPA, re: Response to newspaper article and request for comments on proposed order, 3/18/88. P. 100709-100709.

54. Mailgram to Ms. Rosanne Mistretta, U.S. EPA, from Ms. Rose Anne McGowan, Throop Borough Solicitor, re: Objection to proposed meeting date, 3/28/88. P. 100710-100710.

55. Consent Agreement and Order In the Matter Of: Marjol Battery Site, Throop, Lackawanna County, Pennsylvania, Gould Inc., Respondent, Docket #III-88-26-DC, 4/6/88. P. 100711-100735.

ATTACHMENT 8

Response to Request for Documents #3

Marjol Battery Site
Communications between 1986 and December 2000

Notes from Marjol Battery
EPA Project Manager's project
notebooks

7/18/95

7/18/95

attendees

Roseanne
Sibyl Hi
Cheryl
John M
Michael
Lynn
Alan
Len Z

Landfil
not f
fields
subs

Subsider

Agenda items
① EPA - DEP C
Background: 1990
remedy; Joint
Part 264 Padep Regs ... placed back
on-site may be considered (Pader discussion) a new landfill
Discussed process for remedy selection DEP + EPA
DEP looks at ARARS in Part 264 / EPA looks at
CA criteria;

MARJOL BATTERY MEETING
To Review Site / New RPM (EPA) Introduced
JULY 18, 1995

ROSANNE MISTRETTA	13th Fl.	EPA - ORC	215-597-8069
SIBYL HINNANT		EPA - RCRA	215-597-9287
Cheryl Atkinson		EPA - RCRA	215-597-3217
JOHN MELLOW	- hydro	PA DER	717-826-2064
[illegible] (Michael Ferrence)	- attorney	PA Der	717-826-2519
Lynne Sabol	- Mikes assistant	PA Der	717-826-2519
[illegible] Snelson	Len's boss	PADER	717-826-5434
Len Zelinka	- RPM my contr	PADER	717 826 5441

7/18/95 Meeting w/ Padep

attendees:

Roseanne Mistretta EPA/ORC x-8069
Sibyl Hinnant x-9287
Cheryl Atkinson x-3217
John Mellow Padep/Hydro 717-826-2064
Michael Ferrence Padep/attorney 717-826-2519
Lynn Fabol 717-826-2519
Alan Anelson Padep 717 826 5434
Len Zelinka RPM 717 826 5441

General Discussion

Landfill scenario at Marjol not feasible due to mine fields, mine pools + mine subsidence

Subsidence Control Program

agenda items:

① EPA-DEP CMS Comments:

Background: 1990 Consent Order; DEP + EPA must concur on remedy; Joint Signature DEP/EPA on Consent Order

Part 264 Padep Regs (HW) - ARAR; 82 waste placed back on-site may be considered (Padep discussion) a new landfill

Discussed process for remedy selection DEP + EPA

DEP looks at ARARS in Part 264 / EPA looks at CA criteria;

does Order give direction for joint review?

Capping Remedy →

→ only way to consider this would be RCRA cap

→ cannot use low permeability cap because its a hazardous waste

CAMU Rule →

→ viability of using CAMU → possible revocation of CAMU CHQ to LO Cherry → DEP regs more stringent how would this impact decision to use CAMU (Senate BILL 1 - waiver provisions)

→ temp. unit rule → Gould's CAMU proposal doesn't include treatment of waste → EPA's CAMU would include treatment of waste

CMS →

- options ① disapprove ~~both~~; ② accept CMS ~~or~~ but disapprove ③ approve but select EPA's remedy

→ identify volume of soil for incineration + combination of remedies vs. 1 alternate for entire site → battery casings possibly take to Exide + stabilize soil → Pader are battery casings 1 unit that could be recycled? - is it technically feasible for 1 alternative for all battery casings → soil washing + incineration are 2 recycling alternatives in CMS → 99% of landfill is battery casings → recycling of casings applies to Pb in battery casings → confirmation samples Pader regs - hw landfill or total removal 2 essential options

cost of HW landfill vs total removal → Paders Exclusionary clause → full-scale landfill → Landban Doug Donor EPA draft 508 → state review & concurrence

Consent Order requires:

→ if CMS is disapproved by EPA; EPA must provide a response to company w/ reasons for disapproval → company has addt'L 30 days to revise CMS → if still disapproved GOULD can invoke dispute resolution → ea

→ cant generate RISK # – Pb has no RfD

→ mine flushing? mineral rights? need mineral rights to flush mines / + to build landfill; coal undersite not owned by Gould → Pb: Removal [illegible] soil

→ [illegible] feasibility of [illegible] [illegible] [illegible] for [illegible] for [illegible] battery casings? → Soil

conditions for property to be zoned industrial.

* look for letter fr. Susan Schortz re: Act 2

Michael (PADEP attorney)
→ ARAR - State interpretation of Act 2
→ overall - site is EPA lead but w/ more PA involvement but Act 2 review may not be as part of PA involvement
→ Act 2 - State doesn't know how to apply

→ Technical Guidance Manual Act 2

→ background level for soil health based standard B2 for soil + groundwater

* Site - Spec. Std → applicability - what would site spec std be?
* residential zoning - by Borough?

* get current copy of Act 2 - (FINAL PASSAGE 5/19/95)
Eff. Date - 7/18/95

* get copy of risk assessment - RfD

Possibility of setting up call w/ Gould to get clarification on what their specific request is.

11/95

Discussion w/ HQ attorney

not Barbara Pace - but someone in her group →

Camu will probably be in effect until '96;

→ HWIR media rule - not yet proposed;

→ Guy Tomassoni 703 308 8622
Corrective action OSWER

Citizens Call -

Billy Meznick
714 Dudley St

blue car / 2 men taking pictures
he said they were from EPA? PADEP?
717-383-0137

12/4/96
Discussion w/ Steve Hirschner

→ ① Empty 55-gallon drums (from RFI spoils);

→ RFI spoils sent to landfill for disposal;

→ U.S. DOT permitted facility Scranton - Cooperidge;

→ triple-rinsed + shredded drums + then to a scrap metal recycler;

→ DEP / spoke to Len Zelinka + DEP inspector

→ ② there is a shed for dry storage - want to create more dry storage / contractor will modify existing building (shed) for more storage;

→ pile of logs below low haz. pile Bill Stendevilli allowed Mayor to give away logs from tree removal.

@2000 gallon of water in 55-gall. drums used to store mine spoils, etc; they will grab a sample @ 10% of all drums + test for Pb, Cd, + TCLP; if it fails TCLP + (Pb. + Cd levels are below std?) then they will discard water to the drill decontamination pad at center of site a 6" stone pad on top of the landfill; drums were originally used for PP+E, casings from test pits; mine spoils; asphalt from breakthru

discussion w/ Jen Zelinka ~~[illegible]~~ 1/11/96

Jen sent memo to his boss on 12/15
re: interim status for new or existing landfill (264 vs 265)

Jen's group - hierarchy

Hazardous Sites Cleanup Program

Allan Snelson
Paul Fosco
John Wilkes
Joey Brogna

Bill McDonald
Regional Director

RCRA usually handled by Waste Management - Bete Somako
(= Joe Brogna)

1 page

2/?/96
meeting w/ DEP

Bill Tomeko
Mike Ferrance
Alan Anderson
Len Zelinka
} PADEP

John Mellow (hydro)

Sheryl Hinnant
Paul Gotthold
} EPA

— ATTENDEES

Marjol has thus far, complied w/ Order

Solid Waste
HASCA
} frameworks —

will they allow on-site remedy?

originally said perfect site for CAMU (Paul) —
→ not moving soil to another community.
→ groundwater — is detection monitoring saturated conditions above aquifer — it isn't potable at this time w/o further treatment

→ Camu
moving of waste
* creates problem for PADEP
· 264 PA Haz waste regs.
· closure + post closure
· landfill design requirements

→ ∴ on-site disposal would require compliance with Part 264

→ on-site remedy would require CAMU (which waives LDR)
from EPA → state can't waive land disposal requirements

→ 265 might apply, however,
· conflict w/ 1987 action

→ if EPA invokes CAMU
· PADEP will say O.K if it meets requirements of part 264

→ hazardous waste piles from Cercla Removal

→ Check if it failed TCLP

Yachanamma Refuse
haz waste removed
capped contaminated soil

→ moving waste around 264 applies.
contaminated soil could be handled differently if it didn't fail TCLP

→ 264,
- includes siting requirements
- need actual RCRA-designed landfill
  - subsidence
  - mining issues
  - distance from streams + homes
- site would not pass Phase I criteria for landfill -

* would CAMU invoke 265 of state regulations

* send state a copy of CAMU

CAMU:

LDR:

- before disposal it must be treated to treatment stds (ie: Pb to below TCLP) then disposed into 264 landfill (not 265);
- cargo back to 265 for final containment

would require treatment of moved material

→ BCM wouldn't be moved ∴ wouldn't be treated (including '88 waste)

examples of CAMU usuage
→ no activity beyond 1980

send them copy of company evaluation of CAMU

Marjol meeting 2/ /96
attendees:

Sibyl Hinnant
Paul Gotthold
Doug Donor
EPA

Lenzelinka
Mike Ferrance
PADEP

CAMU (Doug) against its use at Marjol site. (Paul) thinks use of CAMU is possible;

(Mike - DEP): if remedy meets performance standards, ie: double-liner - DEP would be O.K. with EPA approving use of CAMU;

No obvious reason why Gould can't request use of CAMU;

High Hazardous Waste Pile -
should be taken off site because ① → more easily removed than BCM; → ② Cercla promised to remove waste piles (* check into this to see if this is a comittment in any document) → ③ it fails TCLP;

Low Hazardous Waste Pile
TCLP - 75% of samples must be below regulatory limit according to the Act 2 guidance (DEP);

DEP's - residual waste regulations

Considerations regarding hi- & Lo- haz. piles: human health, environment, technical concerns

ultimately 1 CAMU would be the result if waste was allowed to remain on-site;

TCLP (> 5%) waste should be removed & waste placed on-site after 1985

Landfill area

w/ cap alternative:
- potential problem possibility of bridging & subsidence
- flushing
- in-situ stabilization

Valuation of subsidence - has subsidence already occurred;

* Review Garrett Flemming comments action item

* Put together a proposal for State on a potential remedy action item

remediation waste?

N. Woods - coal company property

*Residual Waste Regulations - Mike F. will evaluate

Performance Stds (DEP)

Random Sampling

Lens fax# 717 826 2357

Marjol Mtg
EPA + DEP
9/25/96

Discussion between voltaggio + McDonald

Draft (PADEP) - summary of remedy

CMS report - conditional acceptance

- provide Gould w/ a detailed

~~[illegible]~~

Empire Landfill - flushing technique

- take waste (coal-waste) pulverized blowing under high P back into void;

Studies to mitigate 4-7' rough subsidence thru same means to stabilize material;

post-closure Bond for assurance of O+M for cap;

Conference Call w/ DEP / Technical Mtg. on Mining issues
12-20-96

ATTENDEES:

John Mellow
Joe Denafrio
Len Zelinka
Joel Hennessey.

Cap Failure Analysis:
John's comment - we need to tell Gould what the remedy is before they can provide an adequate evaluation - a design issue not CMS issue;

Portions of site subject to mine subsidence:

5' vein & north are subject to pothole subsidence - waste in these areas would be removed - DEP in agreement with this;

Abandoned Mines; Liner - how big? determines whether flushing would be required or not?

EPA/DEP accepts Gould's analysis of areas of mine subsidence (pothole) & it supports our proposed remed

John: TCLP: - consolidation of on-site soils
0.37 mg/L future TCLP for lead
RCRA land ban requirement
must be stabilized to 0.37 mg/L
to be placed in land;

Joel: May not trigger this because material
is being relocated to already contaminated
area;

Mackadoo Site (309) - similar to Marjol
strengthen subgrade - hi tensile strength geogrid

mineral rights / DEP's exclusionary criteria
Gould would need permission.

reinforcement for entrances to mines;

good indicator of subsidence
incase of Marjol - placed on top of waste
would help keep cap on place

4 basic designs to RCRA cap
1 synthetic

for stability
between existing soil cover + low permeability layer

RCRA cap - based on permeability
10^{-7} m/s ;
60 mls or greater

ted

Gould must
↳ meet performance stds for RCRA cap;
↳ ML thickness needs to be changed;

ıL

ELP Cap :
2' clay - it dries out + loses its molding capacity results in infiltration;

ben If they collapse 5' + 8' veins can they move cap area north of black line?

Joell Waste in (almost) direct contact with mine voids

excavated BCM - subject to land ban

See on-site BCM from excavation Could be redeposited on-site if it is for the benefit of the overall project. Off-site waste would be subject to land ban.

159,000	cu yrds	primary BCM
13,000	" "	western 5' strippit
4,000	" "	8' strip pit
176,000	cu yrds.	

Chg. from geophysical investigation not necessary from 5' & 8' seams;

In the final design - do this for 4' mine seam;

include this in S.O.B } * performance std -
- evaluate for 5-7' of subsidence
- for 5' & 8' seams;

& and performance std for RCRA Cap; pl.264;

* need from DEP - language for performance std. for mine subsidence; state regs - say a study acceptable to the Department. (Keystone & Machadoo - examples)

Groundwater Monitoring

get Joel to clarify John's comments:

Jim M.

- 264.98 - detection monitoring system no plume or distinguishable plume from site;
- refining background info., need upgradient & downgradient wells;
- lysimeters could be used for detection monitoring;
- would need some new wells;

264.99 - compliance monitoring

- no monitoring of mine pool;
- use lysimeter monitoring! can measure moisture or lack of, preferably, under cap;
- special pipes/vents for wells in cap - no

problem doing this;

long-term monitoring / O&M

↳ if wells are dry - no leaching is occurring;

↳ if we see Pb levels what is the action →
- can't tie it in to an MCL or action level;
- use wells to measure leachate at interface;
- INSOB remedial design - detection monitoring system; performance stds for EPA + DEP;

↳ we will need to discuss w/ Gould; (at their request)

- known functionality of Cap;

SMB:
↳ potentially increased
↳ especially monitored during remediation - tighten requirements
↳ can relax requirements somewhat after remediation;

↳ keep in long-term

↳ C+S program - state requirements:
- Chp. 102 ;
- silt fence, hay bails, clear out ;

End-Use:

↳ light recreation could be allowed;

↳ nothing piercing ground surface / or impact integrity of cap or prevent long-term maintenance

↳ no construction because of mine subsidence ;

↳ some deed restriction (John McDowell) no real mechanism for enforcing deed restriction ;

2/28/97
Discussion w/ DEP
Len Zel.
Paul Fosco
Sibyl H.
Paul G

(1) River Sediments → toxicological review to confirm Gould's BRA conclusion; (EPA will do this)
PADEP Lead Policy - 8/31/94* DEP didn't confirm that river sediments must be removed (not what is cited in the letter.)

(2) Mine Subsidence → (Paul F.) if mine subs. issues can't be mitigated - waste can't be left in place;
Study? what would it involve?

Soil Borings - to determine what?
any guidance on what we would want?

(Paul F.) 4-7' of potential subsidence -
NOT enough data at this time to make a conclusive determination about subsidence;

(Paul F.) Mitigate mine subsidence issue for an on-site remedy - technical soln

(Len) Bureau of Mines → Supported 4-7' of mine subsidence

(3) Exclusionary Criteria - State regulations mineral rights; we may need ORC to review this an make a conclusive determination about mineral rights.

(4) DEP will check with their mining engineers & see if they will provide us with an evaluation of what must be done to protect against mine subsidence (Paul)

2/28/97
Discussion w/ Frank Swit

it A meeting was held at the Borough Council last Tuesday (2/18) to discuss issues with the volunteer fire depts. in Throop + surrounding communities concerns: the cost of decontaminating equipment if it is necessary for the volunteer fire dept. to respond to a call at the site. The volunteer depts. will provide assistance at site only in the event of a severe or "life-threatening" fire.

ence

2/28/97 Discussion w/ Kim Beck - Air Division
I discussed w/ her air emission controls during ☆☆ remedial activities. There may be some guidance on control of fugitive dust emissions in the library.

Data provided by Gould:

on-site particulate	0.54 g/m³	routine activity
on-site vapor	11.3 g/m³	" "
on-site vapor construction	15.9 g/m³	——

7/1/97 **Pre-meeting w/ DEP**

- timing of mining investigation to determine if flushing/grouting is required; ANSWER: @ 30-90 days

- timing for issuing SOB &/or presenting an outline - do we allow revisions on SOB based on comments received during comments if outline is presented - ANSWER: for now no outline needed - we will address our remedy concept in the body of our comment letter -

- they will have comments on whole CMS letter for tomorrow's meeting;

- will we have a joint letter or 2 separate letters; ANSWER: we will send out 2 sep. letters - DEP will indicate that they concur w/ our letter.

- finalize letter tomorrow;

- ~~Supplemental RFI~~ ☆ see next page

☆ where is the requirement for the Supp. RFI (in the C.O?) - Paul wants to approve

the supp. RFI (w/ disagreement to the conclusions); Answer: ☆ fax response to Supp. RFI to Len next week.

↳ Act 2 probibito - not addressing mine pool as a result of mine subsidence;

↳ DEP any add'l comments on mine fires

PADEP	EPA
Jodi Brogna	Paul G.
Len Zelinka	me
John Mellow	Joel H.
Joe DeNafrio (mining)	

☆ Fish & wildlife - fish tissue sampling - can we get them to do this for us during remediation

↳ Source of PCB contam?

- same mechanism for dispersion as Pb or was source limited to specific areas?

↳ Source of

↳ establish mining contacts at DEP who exactly will do what:

- review of CMS comments;
- public participation;
- review of SIKOS [redacted] documents;
- response of mining comments during public comment period;

↳ target date for getting the letter out;

Meeting w/ DEP
7/2/97

Joe Bragna: Bill + Tom - are we in agreement on technical issues. (EPA + PADEP) - We will brief Bill + Tom when we come to agreement on issues and then they will meet with the company.

Secure site so that we can defend our remedy - a remedy better than moving contaminated material.
Legal + administrative constraints to disclosing information on remedy. (premature disclosure (Paul)

Paul - discussion of CMS - where we stand w/ the document. Comment letter closes loop on admin. record -

Joe - Bill taken steps to establish relationships w/ regulated community: Bill wants to prepare community - Bill may want to meet w/ citizens prior to meeting w/ the company -. political sensitivity - we must decide how we will share this (remedy) w/ all parties involved -

- Paul: It is up to Bill & Tom if we should deviate from our normal process; we need an outline of where we go w/ this remedy.
Discussion w/ ~~Michael Ulupey~~ Bob Collins - w/ Paul mine subsidence is holding things up - he agreed to field studies (Gould) if necessary to leave waste in place.

DEP: Selling company to conduct field studies isn't the normal process for DEP -

Add'l work which is needed to make mining determination - DEP needs this work before making final determination (based on other sites in the area)

Can Landfill exist on-site or does something need to be done to keep a landfill;

↳ better understanding of subsurface holes to drilled can be used to fill or grout, if needed;

↳ can we make decision on remedy, limit of landfill / contingent part of remed

concern (Joe) - can we really determine that landfill can stay there

↳ Paul F: we need study - to tell us what actual collapse - study could be done in 2 weeks (workpla

↳ Mining group knows that we can't place landfill in areas of 5' & 8' subsidence;

↳ Paul: it is feasible to leave waste in place, however, the necessary work to stabilize the site might be beyond what Gould will do (\$, time, etc.) or what is technically feasible to achieve;

DEP comments

(#1) we will specifically ask Gould to modify the CMS to include this; this addresses Gannett Fleming's concerns.

↳ Act 2 technical guidance is being revised — so we may not be able to reference;

☆ DEP mining group will review EPA's comments on mine subsidence to make sure there are no inconsistencies w/ their opinion; specifically - GC-6;

[redacted]

↳ option: evaluate alternative which includes a smaller cap.

DEP comment #3:

↳ Ecological Risk - sediment remediation per Act 2; incorporate DEP's comment into letter

DEP comment #3:

↳ Ridgeview Estates summary - incorporate into CMS revised;

DEP comment #4:

↳ place entire comment in letter, as is.

DEP comment #5:

↳ ☆ show this comment to Jean how do we want to address mineral rights issue - should we just tell them to purchase mineral rights (Paul)

DEP rep would require a double-liner to incorporate other TCLP-waste under cap;

☆ By end of next week fax to Paul Fosco revised section or entire revised letter;

meeting w/ DEP
12/17/97

John Mellow's Comments:

<u>mine pool / groundwater</u>: is there enough data to support conclusion one way or the other that lead is leaching from the BCM fill area;

monitoring wells in perched ~~aide~~ zone 1 or 2 below BCM

3 days of suction to get a Pb sample;

<u>Detection Monitoring</u>:
Lysimeters [redacted] will be part of that monitoring

We have to determine what detection monitoring will be used for?

<u>~~40hr training course~~</u> - in March '98 for mining group; PA training vs. CA earlie

↳ pg. 2 - "<u>actual</u>" mine subsidence potential - (John) can we do this w/o knowing remedy / we don't know loading;

↳ 4-7' - a pre-remedy number / not considering loading;

(Joe) What are elements of mine study - What is strength or Foundation? Will we know a max. loading.

(John) last ¶ on pg. 2 AH. 2 - prevent any further release to groundwater

(John) pg. 3 - boring to Diamond vein -

(John) RQD data - (NTH) - cores from the RFI;

* letter to Gould to have them remove off-site Pb - att of fence line near River.

(John) suggestion: C+D did an eco. assessment / biotox. monitoring NOA, Fish + Wildlife

(John) PCB sampling - he
(SC-21)
EPA

(Joe) capping - regs. changed in 1/97

*what do we do w/ drillings f. mine study - containerize - dispose off-site as haz. waste.

1/26/98 discussion w/ Sue Shortz
717-489-6556

She was annoyed w/ Gould's response to EPA's letter. Though she was pleased w/ our letter & felt that it addressed all of her concerns. She felt Gould was delaying thing by requesting several extensions

1/12/98 Marjol Meeting w/ EPA + DEP

1-12-98 Marjol Meeting

Name	Agency	Phone
Len Zelinka	PADEP HSCA	717 826 5441
Allan Sanderson	" "	717 826-5434
Joseph D'Onofrio	" "	717 826 2478
Paul Fosko	" "	717 826-2360
Sibyl Hinnant	EPA	215-566-3417
Joel Hennessy	EPA	215-566-3390
Steve Jones	PADEP/BAMR	717-783-7737
[illegible]	PA DEP / BAMR	717-783-7923
John S Mellow	PA DEP	717-826-2064

- Overview of work done by PADEP Bureau of Mines
  - ↳ preliminary evaluation of site / literature search;
  - ↳ they evaluate risk posed / will subsidence occur or not?
  - ↳ follow-up drilling occurs;

↳ field data - get reevaluation of site then they report it to the school district;

↳ their authority to do subsidence evaluations is very broad;

↳ they also are often invited to assist w/ review of landfill designs;

↳ they provide a list of feasible options to minimize potential for subsidence;

↳ for landfills some recommendations include overexcavation?, forced roof collapses; & flushing of small areas.

↳ they can tell us:

- maximum vertical displacement;
- capping / sealing to prevent mine fires;
- over abandoned mines land-subsidence is on-going - it is a daily occurence.

↳ mine fires increase subsidence potential;

Diamond seam - has subsidence potential
veins below the Diamond don't have
the same impact on the surface -
veins below the Diamond were robbed
maybe flushed;

Cannot engineer a cap to be subsidence
proof. Other actions must be taken
to minimize subsidence to the
greatest extent possible.

* Give mining a map of EPA/DEP's
"proposed" cap area.

For investigation:

10 holes drilled
350' depth
] @ 100' of drilling
can take place
in a day

∴ @ 35 days of field work will
be required

* EPA (or representative) will need to be at site every
day. EPA must keep a log for
EPA/DEP representatives each day.
* Set up IAG with Marcos for the
corps
* SMB must be tested each day of drilling
* Gould could get a video of borehole drilled

Discussion w/ Jim Altaires
2/10/98

Jim said
Gould conducted a seam by seam evaluation in their mining study - that doesn't measure the impact from one seam to the next.

Jim said that Gould cannot stand by their cap design (or subsidence evaluation) without real field data

Question that will be answered by the field investigation: how much subsidence (max.) can really occur?
Jim developed a schematic which showed locations for boreholes - it included @ 6-7 boreholes around low & high hazardous waste piles. On @ 18 acres he approximated 14 boreholes. @ 7-10 boreholes using @ 1/2 the size of the conceptual design. Jim setup a grid pattern - the "zone" of influence for each borehole is @ 100-150'. if boreholes are close to the edge of the cap w/ 200-250' in between each borehole - this is O.K; Problem - large block of coal in eastern area of high haz. pile - transition from first mined area to a robbed or second mined area; need to have boreholes here - a transition area - these are areas of greatest concern

addtl subsidence occurs along Transitional axis - will get renewed subsidence. It gave example of a school where subsidence occurred in an area that wasn't even mined - beyond expected area of influence - used borehole camera - did borehole evaluation - PVC squeezed shut; This probably wouldn't happen at Marjol because it is the anthracite region - but we need confirmatory boreholes in robbed areas - on east end; With @ 14 boreholes - drill 1 thru 10 first - if data is sufficient last 4 can be deleted. We can agree w/ Gould on total (max.) amount of boreholes up front. Use mine maps to design work plan (Jim can do this); mine map shows that 1st mined area is under high hgt. pile / 2nd mined area everywhere else. * verify prior to drilling what they expect to encounter during drilling based on mining maps; can expect to a lot of subsidence in upper rock column; from site visit - surface features indicate a lot of activity ie. fissures; HQ type core or PQ2 or smaller core; flushing seam = 3 1/2" in diameter core; holes use camera

3/9

Conference Call - Mining Closures

m-

nn

attendees: Sibyl
Joel
Gen
John
Jim
Joe
Steve

Clk - when can we get going? John thinks soil should be removed & fenced.

Item #1 - PA mine O.K w/ this one;

trans

Diamond vein - target vein

area 1st + 3rd (robbed) mine

transitional area - is under stockpile - high hag. eastern portion

can drill around high hag. pile

borehole view. camera

↳ right - angle cameras can be 3-5 feet (limited light cameras);

↳ need camera w/ viewing capability 20-30 feet

↳ video log - only to @ the mine void.

↳ focus on mine void, mine level collapse

↳ don't need top to bottom video log

↳ can move schedule along faster

↳ can begin drilling w/in 30 days of having an approved work plan

↳ 12 holes - 1 rig - 25 work days / more rigs will shorten time

↳ @ 2 days per hole

Jim will take 40 man course at the end of march

analysis of drilling data -

mining, will give us an evalua

no subs. - a lot of subs.
max. vertical displacement
if high subsidence site
they will tell us what
must be done to remedy
it

4/16/98

Conf. Call w/ DEP:

Sibyl Hinnant } EPA
Joel Hennessy }

Jim Zelinka }
John Mellow } PADEP / Wilkes Barre
Joe D'Anafrio }

Tim Altares } PADEP / mining
Steve Jones }

Discussion of each item presented in Goulds letter dated 4/6/98

(#1) No to 1st question. column of rock several hundred feet high 50' - 100' above seam level - subsidence opening

This is often suggested - but mining wants to look at the "whole column of rock

(John) what do they mean by air hammer? is a percussion hammer - a down the hole hammer - [redacted]

these are forbidden by contractor specs.

(#2) if drilling 300' - drill stems wanders - may hit room or pillar

~~mine reserves right to drill additional holes for this reason~~

dimensions of pillar:

some are long & narrow (20' x 50') in some places.

set up on surface to what is believed to be a void

*another option: grid-like pattern w/ additional holes -

we understand that this happens

if only hitting pillars - drill additional holes to try to hit some of rooms

The area of interest - where will waste stay?

(Joel) in our letter we stated that area south of 5' seam should be investigated. above 5' seam - this is an area of pothole subsidence? Below 5' is trough subsidence

question: if edge was at southern edge of 5' limit would we need boreholes north of 5' seam

(Steve) yes. input into #3 ~~a subsidence event at mine level has an angle of draw. by the time it gets to surface it could impact edge~~

area where waste is left in place south of 5' seam.

cap. mining had 14 holes laid out - & it covered a larger area

Somewhere between 8 - 14 holes is probably needed

mining can do a borehole lay out for us

8 boreholes in Gould's map is @ conceptual cap area

Steve - boreholes on edge of 5' seam - assess area @ 100' each ∴

Tim: 5' - edge of seam is also the edge of the stripping

~~Joel~~ John: may be a map that shows the stripped area

Steve: we will need a couple holes in area of waste piles

Steve: holes can be positioned as not to drill thru high haz. piles; minimum of 10 holes

Joel "proposed 8 boreholes is acceptable however additional holes are needed - mining 2 addtl holes needed in area of piles" (Steve) To check out the 5'. Plan work around hi- & low haz piles

accurate boring logs + videos will satisfy mining (videos are not usually required ~~by~~ for school sites - always video subsidence projects conducted by mining)

Tim: Gould seems to want video the Diamond

~~Boring logs & videos of entire borehole not just Diamond~~

seam. Video should tape voids + opening not just plain rock

(Tim:) are borehole voids contiguous

use borehole logs to identify areas to tape

(Steve) OSM + mining have a camera; not sure what OSM will do -

(John) Lehigh Electric Project: USGS had a borehole camera
Randy Conger / Rick Watt

Tim: camera needs right angle viewing tool

Steve: there was a Pittsburgh firm w/ video camera charge was $1000 day + expenses

mining doesn't usually provide that service - doesn't want to loan equipment.

OSM - (Steve) will get us a name

Jim: they calculated

pillar strength + overburden capacities: info. from drilling for Gould will be to verify that Diamond seam is stable. Mining will use data to calculate subsidence potential.

Steve: mining wouldn't calc. subsidence the way Gould did. mining assumes event failure + then calculates maximum vertical displace at surface; literature assume eventual failure of seam

Joel: we will now get real numbers.

(Steve:) they took pillar dimensions + made calculations that the industry supports

if we find large open voids + crushed pillars Gould will say subsidence won't occur. if voids are failing we can toss their assumption - mining will calculate max. vertical displacement

we are doing this to verify calculations

mine maps: ~~show~~ maybe robbing has occurred since mine maps.

(John) yes to first question. second question not sure. Will this provide info. Should provide elevation.

Response: water level doesn't effect mine subsidence potential analysis.

Joel: could it make a diff. in long term; ie: if we determine we need to flush & grout if void is submerged will it make a difference.

Steve: it matters if we grout but not flush

Joel: measuring gw elevation isn't a big deal.

could effect how grouting would be perform if we go that route.

John: would water effect ability to see voids velocity water

Steve: this could happen
some water is clear + some
isn't - They have used
flocculant to remove turbidity

most pools - once drilling is
complete - may have to allow
for some settling time before
video

Schedule for Conf call w/ AGC

	APRIL	
Steve/ Tim	20th pm	Tr
	24	
	27	
	28	

Len/ 20th
24th

4/20/98
Marjol Conf. call
AGC Chris Keitman
*Bernie Beagle
Barbara Forslund
*Roy Blickwedel

ditty

* conducted previous drilling

PADEP Jim Zelinka

DEP (mining) Jim Altares
Steve Jones

EPA Sibyl Hinnant
Joel Hennessy

Requests 2 days

5' seam borings

↳ water sampling - don't want to introduce Pb into hole

want to look at 4' seam (Tim) general rock condition, thickness voids present above at or below Diamond seam

to determine if 1st mined area is up & stable

core from unconsolid overburden down to target depth

if voids are found - look (video) rooms; don't videotape

any ~~[illegible]~~ VOID over 1' in height should be videotaped

DEP: (mining)
exploratory drilling on subsidence sites - core drill to target seam - when voids are encountered ream hole to 4" I.D. plastic pipe, pipe goes down to elevation of interest / slide camera down & take a look at that area; ream down to bottom most void of interest 1st + 2nd (or top one) second

(AGC)
what about losing circulating fluid?
(DEP) this happens all the

time; what is problem w/ this?

not a problem w/ wire line - a problem w/ reaming hole

(mining) infrequent occurrence - a normal risk - can lose part of drill stem - this happens in all types of drilling operations

drill w/ high water volumes on a site w/ mines

losing casings into hole isn't a problem here

will be cased out

what type of drilling for reaming?

~~[illegible]~~
tri-cone bit + ream rock
drop plastic pipe
tricone drilling is rapid

(Gould)
↳ can they drill @ 100' / day

↳ (mining) depends on rock at different locations

↳ (Gould) no percussion drilling?

↳ (mining) production subsidence control projects - percussion drilling has been banned policy at Bureau for @ 15 years; where voids were hit the roof was punched down.

↳ (AGC) above 4' seam can they use percussion drilling

↳ (mining) No.

Gould went in 4' + cored + has video will this info. be incorporated into this investigation

5 existing cores - can th
will down?

we still want to see what
happening above the 4'
at all locations

use of Act 17 - how doe
R2D factor into Act 17
analysis - factors (F-
(that might change)

only use formula part of A
17 to give vertical displac
other parameters - go into
general overview of what
is happening in rock cdu

↳ there's more to this subside
evaluation than crunchin
numbers

↳ where will be done when
investigation is complete

↳ example: school district building a structure / intex formula came out low risk however if there is a trough failure - there is 3 - 3½' of vertical displacement / this will cause structural damage / experience shows that there is a likelihood of damage / mining is proposing a number of subgrade treatments - flushing &/or grouting / matte foundation /

↳ Act 17 - ensures that school districts build schools in stable areas

(AGC)
↳ #1 - recalc Act 17
#2 - use other data - use info. to develop site (& take necessary measures)

(PADEP)
↳ This is correct

~~[illegible]~~

↳ flaw in calculation - that pillars are in fact there - mining

series of words (w/ video) - they can ascertain orientation of pillars (height, depth + width)

typical experience - what is on mine maps isn't accurate

mining - has actually gone into the mines

was Diamond Robbed

14' - indicated as completely Robbed (retreat mined)

Diamond - 1st mined structural support was probably compromised

in retreat mining - some areas were coming down & some were not

(DEP)
↳ how badly was Diamond compromised;

(DEP)
↳ typically don't drill much beyond 350'

(DEP)
↳ drilling calculations were based on drilling @ haz. piles - there will be less drilling now about 250' will loose cover over the mines;

(AGC)
↳ still looking at @ 300 - 350' @ 40' of overburden

B.L. Myers was previous drilling - has drilled for PA Bureau in Dunsmore -

hasnt heard of them - Weston hasn't done work for BAMR in 20 years

↳ list of drillers - DEP can provide Gould w/ a list of drillers they will fax it to them

(mining)
↳ wire line at 40'/day - is very bad

OSHA 19/0/20
level C - for first drilling

get level of protection dropped to level D once into the

overburden

(AGC)
2 weeks to move 250' down
their estimates

(DEP)
# of right angle viewing capability -
bright light camera - can
see 25-30' + then can
zoom in (85 watt)

(DEP)
mine pool in this area
is fairly clear - can
see into water filled
openings

(DEP)
can settle down in a
1 day - flocculant
added can make it
much quicker

(DEP)
bring in camera crew after
drilling is done

(DEP)
↳ Westinghouse model # LVL1252

(AGC)
↳ if not being made - they can look for comparable models;

(AGC)
↳ does mining use its own camera?

(mining)
↳ yes since 1983 - mining doesnt know where OSM camera is now

(AGC)
↳ do private contractors have this camera?

↳ maybe one in Phila/NJ and who was doing some CPA video camera work

was it Earth data?

(mining) not sure.

(AGC) used Earth Data before.

(AGC) use of bentonite?

(MINING) no -- just use water - if you use slurry - you will just accumulate that - its much more expensive

AGC) mining doesn't seem to place of value into the subsidence calculation

looked failed structures - + came up w/ #s close index prediction

if roof rock above diamond is intact - pillar calculations are probably true

info could validate pillar calculations

before.

provides qualitative info

rock above roof in areas of pillars

you
ist
ck

any merit in collecting co of pillars - + doing strength test

ordinc

↳ wasteful / values are very erratic / may get very low strengths in some places + very high in others

literature - testing done by coal companies (large bloc samples) they got very differ #s than using 2" cylinde

amone
tions

Maybe come up w/ #s that you could want to see

What angle of draw has been seen?

depends on pitch of seam

vertical to 35°
worse case is 35°

water analyses:

↳ recommended 10 drainage
will 6 water samples be
enough -

proposing collect water samples
around the perimeter
Jim will check w/ John
but doesn't seem to
be a problem

will get back to me on Wednesday w/ a schedule for completing the work plan

?

another important issue → level of protection required → if level of protection is lowered will save $

respirators are required for drilling overburden

is this what was done in previous drilling?

Barbara thinks so. Respirator was for surface rock.

5/27/98
Discussion w/ Jim Altares

recommendation - board should provide a PA registered geologist to sign off on drill logs: PA Act of 1945 on Geologist Registration The part of this act dealing with geologist registration is being revised as of 6/1/98

*discuss w/ Jen - good core description needed - telewise words >1'

when permits are submitted to DEP they look for registered geologist - still has to have an equivalent registered geologist to review these permits

court hearing in front of environmental review board occurred recently - judge wouldn't accept testimony because geologist wasn't a professional registered geologist.

Im's? - SOP - decon. in between borehole drilling - why is this?

Proposed boreholes 3, 6, + 7 are very close to holes already drilled - this isn't the most strategic location of boreholes because you will only get data from the 4' down to the Diamond vein - may get more accurate (representative?) data in the middle of the panel - more chance of collapse in the center + for through formation

Boreholes 5, 6, 7, + 8 are close to barrier pillars - if these are ~~[illegible]~~ pillars that are intact this will yield areas of bridging - if we find 5' voids there - it could be due to bridging in middle of panel;

5 boreholes already drilled at site into the 4' seam - 3 of these have 3' voids + 1 hole has a 6' void + 1 was abandoned. This feels these are large voids maybe they weren't robbed but

were abandoned;

↳ If camera optics are good a lower wattage bulb may be used on the video camera;

↳ There is still some leway to move west of the hi-tray pile;

↳ rock-core - should be stored in boxes - where will they store core which has been logged so that it can be checked later?

↳ borehole #8 is against pillar in a transitional area;

↳ is Gould trying to get more pool sample at perimeter of conceptual cap area or BLM fill area? They may get more data if they move borehole 8 @ 100';

7/31/98 - USACE Contract
Scott Evans (Phila) 656 - 6784
Spoke to Chris Evans (Baltimore District) - primary geologist will be Tom Colozza;

Phila. Corps will contact me next with $ estimates.

They are ready for mine study by early August. 4 pages

7/30/98
Discussion w/ Tim Altares
Q (from EPA): How did SAME determine the depth (Diamond mine) required for investigating the site?

A: The Storrs Collier was 1ST mined & retreat mined its height? is 6.7 - 6.25';

The floor of the Diamond vein was compared to past survey notes:

↳ below the anthracite region: 70-90% of mining was the room & pillar method

long-wall mining - involved removal of 100% of coal in long panels;

Dunmore #3 - 750' rock overburden;

Diamond has greatest potential to impact the surface.

Bottom 3 veins - are lightly mined Dunmore veins; or columnized pillars were lined up - one on top of the other; these veins are thin - their collapse wouldn't significantly impact the surface; these veins were not robbed or the impact of these veins vein, robbed would show on the floor of the Diamond vein

The 14' vein is below the Diamond - the impact of its collapse alone would be minor;

BAMC did a cumulative or rolling calculation on the veins;

Jim believes the Diamond has been robbed.

7/16/98

BASE MAP is O.K - Labelled winter 1997 current conditions plan (should I change title to "BASE MAP") ✓

- except use pink for BCM (as outline) ✓
- make woodchip area ~~[illegible]~~ color-less ✓
- ~~low haz pile should be yellow~~ hi-haz (another color orange) ✓

Revised Remedy Coal Seam Map will be called ~~Coal Seam Map~~

~~eliminate this map~~

~~replace w/ Gould's mine subsidence~~

remove lines for 5' & 8' ft coal seams ✓

(redigitize)

Replace w/ lines used in Gould's mine subs. boring loc. ✓

add words "limit of 8' seam" & "limit of 5' seam" ✓

reduce size of symbols for cross-sections to 1/2 current size. ✓

make this large size ✓

do not digitize well locations ✓

- enlarge colorized cross sections
- change fuschia to buggle-gum pink
- label as battery casing material
- colors of 5' + 8' seams should be the same as 5' + 8' seam lines on the previous (+ any other [redacted]). map.

eliminate line (black) between 8' blue line + 5' vein (green line)

- this line should match top of brown line / keep hatch marks but lift up to be like rest of line

9/10/98

Mining Conference Call

BAMR - Jim Altares
COE - Jeff Powers, Tom Colozza
EPA - Joel, Aibyl

↳ all 5 holes - surface casings are in, some holes they drilled 25-30';

↳ MSB1 - coring; they are down 245' (now) they hit Diamond coal seam at 241' - hole WAS SOLID NO VOIDS - they were shattered & fractured They have 2 core boxes They went thru a pillar 6½' OF COAL (6-10' depth OF DIAMOND SEAM);

↳ @ mine pool elevation - hit water at 234' (226-234'

↳ * call Bernie or Chris R. to tell them that Jeff will be there Monday mid-morning

- MSB3 - will begin coring on Friday;

- pertinent info. for BAMR for COE to collect

*lithologic discription
* RQD
*depth of coal
* identify mine zone

*condition of coal
* surface elevation
*indicate where base of coal seam is
*% recovery

---

may have missed mine zone possibly at MSB-1 (TIM ALTARES)

WAYS TO DETECT MINE ZONE:

- note fractured zones + weathering zones will hit zones w/ clay (minor) may find a fragment of wood or coal;
especially soft rock / fast drilling should be documented;

- fractures - inclination of dip or high angle fracture
(Tim) dip angle isn't critical, indicate if it is a high angle fracture

↳ no fracture frequency recorded

↳ drilling problems thus far:

- rock fractured + weathered - blocked hole; had to extend casing into coal - coal is soft - clogged the drill bit;

↳ 10' core runs are being made

↳ * COE should give Jim or Steve a call on a daily basis - a phone call or email

* Tom can call Jim at end of each day

↳ Schlumberger will run video camera

↳ Tentatively mtg ~~at~~ on Thursday

- core is stored in shed on site (drum storage area)
- Jim: haven't had any water return at MSB #1
- recirculated water will go to ground + into basin (no trough) hasn't been a problem as of yet;
- will receive general info. from Jim each week -

(Jim's fax # 717-783 - 7442)

drill logs are 8½ x 14'

Eric has a cell phone

* talk to BAMR + Jen for meeting w/ Gould (tentative) Oct 5th/6th

Barbara
Chris
Jim
(maybe 1 more rep.)

* get Jim at site for first video log potentially mid-next week

* Tom - we need drill logs for MSB1 - can attach them to weekly reports which are faxed to EPA + BAMR

my notes: @ 6 weeks for completion of coring 11/2 (GOULD'S estimate is mid-Jan - mid-March)

Conf. call / Mining Work

AGC: Chris Leitman, Bernie Beagle
Gould: Jim Cronmiller

EPA: Sibyl Hennant
DEP: Len Zelinka

Miscellaneous Issues

- Decon water ("240 ppb") was obtained. can it be discharged?
- Eichelberger had problems w/ camera - were going to come back last Thurs want to get Earthdata to do video-taping; * are we O.K w/ EARTH DATA?
- * call Tim / they were on-site 10/1 (Tim & Steve)
- * will video on Wednesday -
- mtg: (AGC) can we postpone because the SHE model is still coming together - we (AGC) need to gather more data;

mtg agenda:

* share data w/ regulators + AGC's interpretation of the data;

* possibility of borehole addition or deletion - scope of investigation;

* mtg - after 10/19 thru early November;

Activities from last week:

- completed coring MSB-8 - 251' below ground surface 96-97' was four feet clam / diamond 230-232';

RQDs high until 30-40' above the diamond - may have entered a room (void)!

- started MSB4 - at 181' below ground surface - hit 4' but not diamond

↳ MSB 5 - installed overburden casing to depth of 65' ↳ reamed MSB 8 for video taping

↳ coring MSB 4 currently

6 of 12 boings have overburden casing

↳ 1, 3, 6 + 8 complete

↳ MSB 9 10 2 7 - 2 are located w/ the BCM

↳ 9 + 10 - need to revise drilling method - WP = dir rotary or hollow stem augers

↳ to minimize transfer of BCM drive and drill method = 12" diameter casing - can clean out BCM + containerize - would minimize BCM cuttings on ground

+ minimize air emissions -

* discuss w/ BAMC - change in method for drilling - to begin next Monday;

↳ high volume air monitors =
Sept. 1st 7th 13th 19th
will provide data in the weekly Dample

↳ October 26th (week of) for mine pool water sampling

Wed (10/14) MSB 1, 3, + 6 Earth Data will videotape

will Core MSB 5 tomorrow 10/6

will install overburden casings MSB 2 + MSB 7

mid-November/@thanksgiving - for completion of field WORK

10/98

Discussion w/ Len

Joel Hersh
Dir. of Bureau of Epidemiology

717 783-4677
familiar w/ Lackawanna Cty.

11/4/98

Joel Hersh returned my call on my answering machine

4:24 p.m. I returned his call was told to call back tomorrow in the a.m.

11/5/98

Joel Hersh director
Sr. Yogue

Richie Fetzer
OSC-EPA.

3 county — colorectal cancer going on
INC: LACKAWANNA cty
high incidence in this area

memo fr. Tom Stukas

can do a review of zip codes

Barbara + Alice will attend mtg.

mini-cancer incidence study }
chronic illnesses

can assign to appropriate area;

Dr. Jim Fox - ↳ env. health physician
(works for dr. logue)

↳ can answer medical questions

constituents' physician

Dr. Logue * check to see if Fox is available

* give Dr. Hersch info fr. mtg

cancer cluster protocol
will itemize the types of
cancer & names of people
with cancer.

can provide Susan w/ letter
or form

12/29/98

Meeting w/ DEP + EPA + COE
Marjol Mining Study

EPA : Joel Hennessy
Sibyl Hinnadt

DEP : Len Zelinka

BAMR : Jim Altares

COE : Jeff Powers

2 pages

Jim's presentation :

- he calculated max. subsidence for :
  - ↳ robbed seams,
  - ↳ unrobbed seams
- MSB-8 - hit a collapsed room;
- the 14' was included in the calculation/extrapolation of data;
- .067 - .495 - range of subsidence potential from 14';

* was surface elevation provided (how about historical elevations) ask Joel to check on this; * let Tim know

Max. potential = 2'
min. potential = .5'

4' vein = 0.117
Diamond (1st mined) = 1.332
Diamond (robbed) = 0.332
14' = 0.067
14' Max = 0.495

- site can't be flushed or grouted successfully - voids don't seem to be interconnected;
- would have to drill many boreholes down to grout or flush;
- if a school were built here - they would have a precautionary recommendation to;
  - matte reinforcement
  - architectural design for articulation
- carp drilling was done as required by BAMRG
- matte reinforcement
  ↳ grid into concrete to support surface structure;

Look at Comment letters
- p. 10 #12
- p. 11 # 23

1-20-14
Discussion w/ Jim Altares

- Act 17 letter sent to Wilkes-Barre office by BAMR;
- short memo stating rough @ of findings;
- letter sent to DEP Wilkes-Barre Jodi Brogna;
- gives exact #s of seams beneath the site + @ subsidence from 14' + all seams blow it 14 may have been flushed
- overall max. subsidence is 2'
- Chris R. had asked Jim @ Diamond seam; Chris not in he couldn't talk to him
- ~~[illegible]~~ > ~~[illegible]~~
  4' > resid. subsidence
- Diamond was robbed - low residual subs. 1st mined - worst case scenario
- 14' 0-14' of mining done / completely robbed / backstowed + collapsed resid. up to 5'

3/4/99
Mining Conf. Call

Deliberative Process

attendees: Len, John, Sibyl, Joel, Jim

Jim:

- report states that proposed on-site remedy should be more than sufficient;
- Subsidence issue:

* BAMR is just evaluating potential using Act 17 to generate a worse-case scenario;

* assumption - coal pillars are intact and that they could crush out ∴ Diamond vein would have a 1' of subsidence potential;

*

Mtg w/ HQ + ORC 9/27/99
HUGH DAVIS ; DAWN Messier ; Yvette ; Sibyl
In-Situ → would not trigger LDRs

Treatment Unit Requirements — if some waste must be treated ex-situ — would they need a treatment permit ;

---

270 - 272

Existing Non-regulated landfill
(see 1992 CAMU memo 8/31/92)

Nina Riveria 2025645521
to determine what type of unit

265.400
Subpart Q - }

265 treatment requirements would apply
site 1992 CAMU

265.300
applicability / treatment

Raymark / Ernie Waterman
unilateral (h) order - dealt w/ off-site

ANPR analysis } Advanced Notice of Proposed Rule
5/96

61 FR 19432
May 1, 1996

Discussion w/ ORC (Yvette + Diane)
Comment #2:
p. 3 40 CFR 264.119(b) 1 - Yvette IC language

Comment #1:
p. 3 air monitoring: EPA NAAQS for lead;

Comment #3 - off-site see Paul;

Comment #4 - on-site vs off-site

on-Site / Site / Facility:
260.10
all contiguous under control of the owner/operator;
off-Site = residential

resolved
SOB OK as

comment #5 – provide EPA document No & proper date / no need to include in AR;

comment #6 – PCB – waste oil ⇒ *double-check RFI what is suspected use of waste oil;

comment #7 – MCLG – reference source –
The ~~MCL~~ action level for lead as established by EPA pursuant to The Safe Drinking Water Act, 42 U.S.C. §§ 300f et seq.

comment #8 – why was 6th air monitor added;

comment #9 – are there NAAQS for PAHs & PCBs;

comment #10 – insert SMB requirements from p. 31.

Comment #11 - Should reduce the potential for lead releases to the sediments in the Lackawanna River,

Comment #12 - Which is the criteria used to measure impact on aquatic life.

Comment #13 - A future sediment monitoring determine that surface water is adversely impacted.

Comment no. 14 -

15ug/L – action level at tap for lead in SDWA - in public drinking water supply

na

11/22/9

marjol
Meeting w/ DEP
attendees

DEP: Alan Shelson Carl
Paul Tosco
Jen zelinka
John Mellow

EPA: Paul
me
Joel

• discussed TB Council mtg w/ Paul T.
pre-mtg;

• Mine issues =

MSB7 - no significant coal above 4'
strip mined area

• how does presence of other
coal impact 5' coal seam

• MWBSA = shows 5' coal seam
at 768' - also shows a void
space at 4' seam;

• exclusionary criteria = generally for MSW = 25' from combustable material to coal seam if >1' thickness of coal; coal seam; less than 1' not considered to be critical in terms of mine subsidence

MSB7 - coal may be outcropped
No coal determined to be present here

MWB5 - at 797'

ADDT'L COAL SEAMS in G.F.
top 4' COAL SEAM (2-2½')
top split 4' COAL SEAM (<1') = ∴ not of concern
Unnamed COAL SEAM

MSB10 - 50' from base of BCM to top of next coal seam
(23' of SILT / the rest is rock)

Cap size:
by limiting side slopes (seismic slope of 4:1 cap);

cap size: limited by acreage of the site - must be w/in 43.9 acres

cap design: would solidified material serve as a clay layer;

- S/S - permeability perf. std
- do we apply this technology or do we set perf. stds.

↳ what about overlapping drilling
we can clarify that in-situ S/S is as stated in the CMS Report - put in AR.

DEP - would remain co-signatories?

treatment std: for landfill
: 500 - 1000 ppm Pb std ⇒ consistent w/ Act 2

Cap failure / potential:

* groundhogs - biotic barrier

* 4:1 cap slope - prevents against seismic event

* during design they should consider seizmic stability & whether or not to use GCL

* GCL must remain dry - if it gets wet it is no good

* may want to use process low permeability layer instead of GCL

failure potential:

(1) * subsidence / settlement of BCM

(2) * localized mine subsidence events

(3) rate of infiltration

EPA de minimus < 1 gallon per acre per day

- to maintain this you need GCL + a low permeable soil layer

Discussion w/ Carl - PADEP 1/00

Application of GCL as part of cap cover system:

issue - determine if GCL is used over entire disposal area or a portion (a design issue) - if so, were slope angles reduced ∴ footprint of disposal area would be larger

safety factor of 1.5 (depends on slope angle)

Discussion w/ PADEP 2/22/00
attendees: Carl, Len, Adryl, Joel

Carl:
Gould (AGC) says in comment #32 that the cap is the best recommendation
Carl says this is a moot point because the Statement of Basis proposal includes a cap component:

Carl
Gould (AGC) says in comment no. 34 (pg. 34 2nd to the last IP; last sentence) - "EQA has never provided any alternative analysis"
Carl doesn't agree: SOB doesn't (isn't supposed to) include an independent engineering analysis;

Engineering Analysis

* DEP regs state that the applicant must demonstrate that mine subsidence [reference regulations] potential is abated;

* mine subsidence issue (p. 34 of AGC report) separate into 2 types of subsidence ① pothole; + ② trough.

trough subsidence potential - 2.5'
Gould says that cap design will
accomodate this amount of
subsidence;

* mine fire potential

Goals of stabilization (waste
treatment) will be clarified
in the ROD:

#1) Trough Subsidence

* will solidification prevent
2.5' of subsidence?

#2) Mine Fire: separate via interceptor
trench - any remaining coal: does strip mining of 5' create
interceptor area?; Gould says No.

#3) Principle Threat

#4) Cap/Landfill Stability

G.F. Report: Spatial Distribution of BCM... Uncertainty of 5' Coal seam seperation - where coal seam would outcrop on side slope;

G.F: Seperation Distance of mined-out coal seams;

Capping

Rate of infiltration p. 32) * Help model

Durable liner p. 33

Data inputs: gradient - considering larger disposal area = greater amount of potential exposure;

p. 36 shows engineering analysis indicates addtl...
↳ a stabilized waste component could be the addtl layer;
↳ a minimum of 3-4' due to frost heave(?);

Engineering analysis!
↳ could we do one ourselves to move things along?

* if footprint of disposal area had to be limited - ∴ side slopes (slope stability) analysis - they may need to add layers to improve friction in areas where the slope was too steep;

analyze volume to be place "fluff" factor;

if EPA provided an engineering analysis (stability analysis) we could potentially respond to AGC's comment;

Army Corps of Engineers - can they do one?

Slope Stability Analysis need the following:

↳ the contours of the 10-acre disposal area - restricted footprint;

↳ assumption: cap scheme

↳ 2 scenarios
① AGC limit
② GF limit

Limit of 5' Coal Seam

↳ may not be answered at this time - needs to be identified in the field;

↳ if cut-off trench is dug - this may resolve issue;

Interceptor Trench

↳ prevents mine fire potential + off-site mine fire from the north coming up to the waste;

Next Steps

* USACE -
  ↳ can they do a seismic analysis of cap? - earthquake profile; (Joel has a profile sheet for entire state of PA)
  ↳ slope stability analysis.

Stability of GCL on cap

* Gould may contend that GCL can't be placed on cap;

Goals of S/S

↳ limit infiltration;

↳ enhance foundation for plastic cap;

↳ biotic barrier - for burrowing animals (RADCP requires this in low-level nuclear waste facilities - only suggests it for hazardous waste sites)

2/23/00

Discussion w/ PADEP - mining issues

Attendees: DEP: Jen, John
EPA: Joel, Aibyl

GF Report - Analysis of Coal Stratigraphy

pg. 9 / 2.0 Specific Comments

2.1 - Location of the Limit of the Five Foot Coal Seam

↳ we can answer this - could use Carl's interceptor trench idea;

2.2 - Undocumented Mining

↳ not as supported in documents as we originally thought;

Questions To be Answered:

(1) Was Top 4' Split Coal Seam ever mined south of the limit of the 5' Coal Seam?

(2) Was the Top 4' Coal Seam ever mined South of the limit of the 5' coal seam?

Plate 1:

↳ John + Joel will review this to see if they agree w/ this correlation;

↳ John: Did his own correlation + feels that GF's red line is pretty accurate for the 5' coal seam (falls between the dotted red line + the solid red line);

↳ Joel: believes GFs representation of the 5' is pretty accurate however, we won't really know for sure until work begins at the site;

↳ Mining logs
cores at the site
photos
actual core

↳ we need to all go out + look at the core,

↳ John: doesn't think they were mined (4' + 4' SPLIT) - could verify ~~during~~ borings during implementation (remedial design)

↳ Joel - doesn't want to delay the determination until remedial design.

↳ John

MSI - 1st Time 4' + Top 4' split was discussed by Gould - They were seen during drilling;

↳ Joel -

Mabry report - defines 4' + top 4' split as being mined at the Oliphant Colliery but not at the Site;

↳ Joel:

in this report figures 11 + 12 represent;

↳ Joel / John:

• think enough data exists to be able to determine if these seams have been mined;

↳ Joel

• was quality of coal good enough for mining in the first place?;

↳ are there · rod drops? · voids?

↳ he doesn't [redacted] think that they were mined, however, we need to make a credible determination;

Joel

↳ are all the cores still there from all on-site drilling?

↳ all agencies should look at the core together;

↳ has all core of interest available & pulled out for public viewing.

Len

↳ concern for these seams is only for subsidence; what about mine fires?

Joel

↳ mine fires deal w/ isolation distance;

1 can we use MSI Report by AGC & USACE?

1 BAMR can help us w/ techniques for mapping isopacs, etc. to be able to answer these questions

Tasks to work on now & WHO will do them

COE involvement — Sibyl
BAMR " " — " "
recheck mining maps — Jon

* send Tim necessary info — Sibyl

Joel

↳ are there other sources of info available that we haven't considered
BAMA may know;

John

↳ can check into mining maps - all OSM maps may be in the reports
Mabry, RFI, MSI;

↳ call him + see when he has done this;

Dave Philbin - OSM

↳ KNOWS these coals →
↳ very familiar w/ local mining in area of Mayo site, &
↳ Phone # 570-830-1400

↳ next call 3/2/00 9-11

Conf Call w/ DEP
3/2/00

ask AGC for:

(1) Mabry report - 3/8/93 prepared for AGC; General Descript. of mining Conditions in the RFI Appendix M: copy of mining maps referenced in this report on pgs 9-10 Top 4' + Top 4' Split;

(2) RFI boreholes videos;

(3) Site visit to look at core get date first;

3/9/00
Discussion w/ PADEP

Attendees:
PADEP: John, Len, Carl
EPA: Sibyl, Joel
BAMR: Steve, Jim

Plate 2: Surface ~~Mine~~ Map

* dashed lines on mining maps not reliable for 5' outcrop

pg. 9 2.0 Specific Comments
- Joel -
of report (#1) Location of the limit of the 5' Coal Seam

(#2) Undocumented Mining

sources of info → OSM - mining maps
- bore hole videos
- " " logs

Steve
- Tim reviewed Top 4' & Top 4' Split found discrepencies - GF selectively included some data and not others

Tim

- look at 4-5 boreholes
  MSB3 ↔ MWB5A area

- during subsidence review

  · TOP 4' + TOP 4' SPLIT
  * no indications of mine voids found either of these

  * didn't correlate them at that time because

  * in some cases - they haven't been mined
  Strong RQD

  * in some areas - RQDs are lower - coal is broken up

  * difficult to prove that there was no mining conducted there;

  * no evidence to show if coal was clean or dirty;

* circulation return - water was often lost below these 2 coal seams;

* no evidence of gob in these seams; no wood or mine debris;

* need series of closely spaced holes which are easily correlated its a difficult question;

* these seams may have been subject to mine subsidence already;

Joel

* will looking at core help to draw any conclusions?;

Jim

* doesn't think so - right out of core barrel more info can be obtained it was difficult to tell where the 4' was mined;

& it was better defined;

* overburden drilling went to far w/ air rotary drilling; ∴ this is where they located top 4' split in this 20' range;

* lithostratigraphic correlation done by GF;

Joel

* looking at core - will that help us determine more about coal quality;

Jim

* yes we can visually check coal but this doesn't rule out that there could have been a small area of mined-out coal;

Joel

Table 4 - GF used AGC & the COE's surface elevations - they mixed & matched to get the thickness of the coal;

Steve

* possibility vs. probability of mining in this area;

* most info. says mining was improbable;

* expensive + time consuming operation to make conclusive determination;

Jim

* will go out w/ us + look at the core

Steve

* don't make any alterations to existing logs;

* rock won't look the same now as it did when it was pulled from the ground;

Jim

* get GF's latest thicknesses & correlation & we go right to those zones;

* consensus on visual quality of coal - may have some thickness differences;

* no possibility of pothole subsidence from these 2 seams because no voids were present during drilling;

* if there is no mining mine fire potential disappears;

* if we can show that 4' & 4' split do not outcrop off-site where they could catch on fire;

Steve

* DEP & OSM have a good mine fire fighting program;

Contingencies
- ↳ could drill more holes;
- ↳ overexcavate;
- ↳ redistribute material;

Core to review:

(#1) all borings on Table 3 & 4;

Next Steps

3/23 or 3/27 - 3/29 } for Site Visit

3/16 9-9:30 Conf. CALL

Talked to Jim 3/13/00

borehole cores I have identified the ones he'd like to see:

MWB 4, 5, 8, 15 A - do we have these RFI Rock cores?

ii: in MWB-15A - there is a coal seam that is 0.5' thick below that coal seam there is a 10" rod drop this coal seam is a resistant marker bed above 4' coal seam - looking at floor of 4' coal seam if that fell within 10' + or -; therefore, there is a rod drop from subsidence;

MWB-8A - 3 marker beds any of these could be coal seams even small ones, which fell within GFS desired zone they call it the 4' top split;

Conf. Call: Waste Treatment + Capping (Call #1) p. 1

attendees:
{Len Zelinka
John Mellow
Carl Zebegner}

Baltimore District USACE = Chris Evans

Mike Stello = geotechnical (P) 410-962-43
Gloria MARCOSI env. engineer
(P)

USACE

STATISTICAL ANALYSIS (Chris)

- covers broad range
- finite element modeling

Carl

approach is to determine
* maximum allowable slope
→ top layer of clay soil + stabilization soil
→ geotextile / GEONET
→ LDDDPE Geosynthetic layer

Look at different scenarios for slope steepness + seismic analysis

↳ geosynthetic liner / frictional resistence

↳ cross-sections or types of material - sheer strength values

* Only frictional component would be between the stabilized material and the geosynthetic liner;

* samples could be analyzed - if we could get a stabilized sample
sibyl - if we can't get agreement to agree to provide a sample of could
* COE - we could get literature values / or we could use

* COE - clay is so variable ↔

COE - can do a parametric study - and maybe pick a probable slope value

COE:
What type of slope do we want?
DEP/CARL:
* we want a maximum of 20%;
* 4:1 slope; (some LANDFILLS PUSH THAT TO 3:1)

COE:
* STABILIZATION agents - ~~MAKE~~ increase coesion (will increase allowed slope)

* liner will control what slope you can leave it at;

Carl:
* Use of GCL under drainage swale under the cap (diversion channels from the cap) - areas of concentration of stormwater:

→

* liners permeability will control the entire design unless stabilized material;

* approaches the permeability of the liner;

COE:

* 10^{-6} clay (stabilized clay 10^{-7} @

* 10^{-12} liner

how much more of a decrease in permeability could

* stabilize top 5' feet for protectiveness in the event of breach in the cap;

* DEP - if we were to do the soil sampling how would we work it out logically;

Attendees: me, Carl, Len, Mike Stello

Discussion w/ DEP/COE 8/18/00

CARL:
58,000 MINE SPOILS
where is this from

me/mike:
Gould's estimates in Table 3-1.

mike:
we need room to place 188,000
but there is only room for
@ 150,000.

mike
This doesn't include stabilization
reagents, + cap;

CARL:
* hi haz pile 22,000
+ 16,000 must go +
2' final cover + stabiliz.
material

* IF they excavated a trench
@ the disposal area -
trench COULD BE FILLED
IN W/ residential soil
(21,000 cy)

me:
where would trench be?

CARL: * Closer to pile - 5' coal seam is closer to surface trench would intercept 5' coal seam ∴ mine fire couldn't be created w/ trench present; 25' isolation distance for seperating coal from combustible material;

* dig a trench then backfill w/ soil;

* removing continuity of coal seam

MIKE: 5' of stabilized zone I did

CARL: ELP cap w/ 2' of clay vs. plastic → need no extra room 2' of clay will extend cap 2½' on each side - would decrease area for [redacted] material to be placed from other area of the site

CARL: cap failures:

* failure of stabilized layer beneath cap or erosion as a result of problem w/ e+s controls;

[WEEK OF 8/21:]

LEN: IN ON Monday

CARL: OUT ON week

* CALL CARL TO discuss DEP's comments:

Conf Call w/ Ed Bates:

attendees: Ed, Len, Carl, Paul + me
John

Bench-Scale study - didn't consider current design OR Ed's comments

Leachability: TCLP was done during S/S bench-scale; however for final design default to SPLP (method 1312)

compressive strength - from bench-scale would be useful for final design

permeability - may be included in new test

material to be tested:

Soil is easier to S/S than BCM w/ some % of BCM
BCM must be chipped to 1/2"

50,000 BCM/soil
22,000
14,000

removal of upper 1' of existing soil layer - could occur however CMS cap leaves top soil undisturbed;

STEPS

material will run thru a power screen (2") - oversize will get sorted & handled accordingly

↓

BCM gets chipped & blended or laid down as a layer beneath stabilized cap

↓

5% Portland cement
1-2% phosphoric acid

SAPP { 1×10^{-6} permeability
500 ppb SPLP

Suggested Thickness:

↳ innovative design

- most sites entire mass is treated;
- not much previous precedent

↳ 5' minimum depth w/ performance stds

↳ above 5' layer = can smooth out top of 5' + place GCL or a sand bed =

↳ documentation of dust control mini-rams - real time

↓

fall back to hi-vols

↳ at sites where cap was modified (reduced from RCRA cap) all waste was treated;

↳ physical characteristics + lead content will be important;

↳ next steps - mt. w/ Gonzo Ed on the road for next 4 weeks - maybe mid-march (Paul - we can go to Cincinnati)

↳ send Ed a new copy of FORTC to his office

however - in order to assure permanence

Whitehouse Site - 42-4' ↔ 3-5'

↳ max width = 100-200'
↳ conventional RCRA cap
↳ slurry wall for gw contam.

Cap / Treated Layer - It should have strength on its own thickness is a factor in ensuring strength

physical characteristic -
cement post for a fence
more like hardened mud
than a sidewalk

C+D : bomag mixers
till in reagents
(doesn't give you any strength)

Marjol =
- most desirable is to have more soil + less casings in treated sub-cap;

(cont) Mtg w/ Hugh Kaufman 6/28/00

Send to Hugh + Ken
- copies of RCRA + CERCLA orders
- public hearing transcripts

Hugh will schedule public hearing in August (week of 8/7);

August 7 is the start date for residential soil sampling;

Mtg w/ Ed Schoener
tentatively July 19th or 20th

Hugh Kaufman
401 M St., SW
mailstop: 5101
mail code: SC 302

Potential mtg. w/ TBC

Discussion w/ Ed Batts
re: this comments

(1) Reagent addition =

Non-aqueous — [dry part of mix
cement + phosphate]

Vadose zone vs saturated zone
void space in soil
20% reagent = 20% volume

can be cheaper w/ 10%

Sapp
treatability test w/ chipped
casings + blending w/ soil
- they decided to segregate
casings because 1 PRP
wanted to smell casings

5% cement / 1.3% phosphate

Schylkill
crated 1/2" battery
chips blended w/ soil
placed in a pug mill

dry form of phosphate
Sapp- phosphoric acid

To Mayo: if we are focused on physical properties we could use cement + fly ash

Cement $10 / ton = 10% by weight
~~$ 10~~ c = ~~on~~
fly ash is cheaper

Treatment depth = Subcap design for white house site in Jacksonville. Fit 100 psi thin Sub-cap

@ 5' of Treatment
1×10^{-6} cm/sec + 100 psi

Over cement cap have 6" of sand to smooth area

GCL w/ FML attached bentonite layer
FML above bentonite above that install a drainage layer or grid

5 then soil

Cap Erosion = Erosion problems are not uncommon at municipal waste sites - due to precipitation inadequate ways to deal by erosion / state may have examples of cap failures;

Discussion w/ PDEP - 7/11 [DEP; John; Len; Carl; EPA; Sibyl, Joel] pg. 1

Cost from Distance

Arrival: Gould's Comment - [illegible]

5' Coal Seam;

- [illegible] State require that limit of [illegible] could be no closer than 25' to the limit of the 5' coal seam;

- depth of excavation trench to make any coal seam extending beneath the fill area non-continuous by excavating a trench

- B.B - Figure 7. > Analysis of Coal
  low haz. extends above 5' coal seam looks like @ 50-60' in order for trench to intercept coal seam

Discussion w/ Btmer 7/11 pg 2
[Carl, Len, Joel, me, John]

- limit of 5' is uncertain as to exact location - must define this more precisely during remedy design/implementation once we have line of 5' how close ~~can~~ (horizontally) can waste be to cap;

- Carl - we need to say that we need 25' isolation distance (25' buffer zone - once excavation occurs & we know limit of 5' or whatever coal w/in 25' of the waste is, not continuous - can't have continuous coal w/in 25' of the waste material;

- John - done like this at C&D used exclusionary criteria

- Joel - will PA ~~will~~ apply exclusionary criteria to this site

Discussion w/ PADEP [John, Jen, John, Joel] pg. 3

· Carl – if we don't apply this, we threaten reg;

· John – Gould's comment may apply to existing BCM landfill not to area of excavation

· Joel – is exclusion criteria applicable?

· Carl – yes, we agree that the reg. doesn't apply but it is relevant + appropriate;

Gould – if there were continuous coal seam under site then [illegible].

· CARL Dorney Rd landfill

NOT the same

Combustibility of coal
vs
Karst Formation

Joel – we must address this issue from a more [illegible]

Discussion w/ DCP (Joel, me, John, Len, Carl) pg. 4

Carl: CFD - w/in 1 mile of existing mine fire - ∴ this ~~[illegible]~~ application is on hold.

→ legal concern - we need to use ARAR's [long-term reliability + effectiveness]

→ Joel's recap for me (after the call).

- Coal > 1' in thickness is only relevant concern under this reg < 1' not an issue;
- we eliminated the Top ~~4~~ Split of The Top 4 Foot from concern because its < 1' in thickness

→ for primary fill area

Top 4 Foot - Between coal + BCM there is > 25' (Joel will double check this point);

FAX TRANSMISSION

To: MARJOL GROUP

Date: MARCH 3, 2000

Fax #:

Pages: 2

From: PAUL AND LUIS @ EPA

Subject: OUTLINE OF SAMPLING PLAN

COMMENTS:

LISA AYERS
JIM BARNICK
JUDY BROGNA
DOUG BLAZEY
BARB FORSLUND
JIM CRONMILLER
BOB COLLINGS
FRANK SWIT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

STATUS OF VERIFICATION SAMPLING FOR THROOP BOROUGH

Introduction

Throop Borough was subject to a massive Superfund cleanup from 1988 through 1992. Several properties that were part of the initial soil investigations had discrete sample results showing soil lead levels above 500 parts per million, the action level established by EPA. Most of these properties were not addressed by removal actions, since they lie outside the "zone of remediation" developed under the 1988 consent order. The result has been confusing for residents and Borough officials, who have questioned the extent and effectiveness of the residential cleanup based on these results.

This outline is intended to inform Throop Borough and Gould of the additional soil sampling that EPA will use to verify the adequacy of soil lead cleanups in the neighborhood surrounding the Marjol site. A full verification strategy and sampling protocol is under development and will be provided to Gould and the Borough for comment shortly.

Purpose

The EPA Marjol Team undertook a review of the data and techniques used to determine the extent of contamination attributable to Marjol. Our review supports the 1992 EPA Superfund decision that the extent of lead contamination due to airborne migration from Marjol operations has been identified. This area, known as "the Zone of Remediation" is represented by Drawing Number (Plate 20, AGC Dwg.No .92024-60). Further, our review suggests that the 500 ppm results for those properties outside the Zone of Remediation are not representative of property wide conditions. Thus, the purpose of the sampling strategy and protocol under development is to obtain representative data to properly characterize each property.

Key Points of the Verification Plan

The design of the sampling strategy and protocol uses current EPA guidance on soil sampling and techniques. Key points are summarized below.

1. The sampling plan will utilize **composite** sampling techniques to represent soil lead levels. This is different from most previous sampling that employed discrete or "grab" samples. Composite sampling is now EPA's preferred method for investigating inorganic contamination in soil.

Sibyl Hinnant
07/11/2000 10:32 AM

To: Paul Gotthold/R3/USEPA/US@EPA

cc: ZELINKA.LEONARD@DEP.STATE.PA.US

Subject: Kestone Propane

Paul:
This just in from Len at DEP. He talked to the owner of this business. He said that when he purchased the land, I believe 21 years ago, from Larry Fiegelman and Ed Warner it was open land. He leveled the property and constructed buildings on it. There is one open field also. Do we need more follow up or information from DEP? Just passing this on FYI.
Sibyl

Keystone Propane was brought up by the citizens of Throop as an off-site "area of concern".
We asked Jody Brogna to take a look.

~~call Len~~ Z.
Sent e-mail 7-12-00

2. The plan will include properties both inside and outside the Zone of Remediation. However, the plan will contain a limit on the distance from the site at which sampling will occur. This limit will be discussed with the Borough and Gould before the plan is finalized. EPA will consider citizens input (gathered by Borough Council, Gannett Fleming, or sent directly to EPA) in determining the final sampling locations.

3. The plan will evaluate individual properties. Property owner participation will be voluntary.

4. The sampling protocol will include separate sampling of a 30" strip around any painted structure to account for any lead contribution from lead-based paint.

5. EPA, PADEP, Gould, and Throop Borough will review and reach agreement on the sampling procedures. All parties will agree to use the protocol in future sampling done independently of this plan.

6. Gould will conduct sampling within the Zone of Remediation. EPA/PADEP will conduct sampling outside the Zone of Remediation.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

PLEASE DELIVER AT ONCE TO:

NAME Marjol Group

THIS PAGE IS FOLLOWED BY A 21 PAGE TRANSMISSION

TIME SENT 4:30 pm DATE SENT 4/17/2000

SENT BY: *Luis A. Pizarro*
Environmental Engineer
PA RCRA Operations Branch
3WC22
(215)814-3444

COMMENTS:

Attached, for your review and comment, is the draft Verification Study and Sampling plan. Please submit your initial comments to this office by May 5, 2000.

Addressees

Lisa Ayers
Jim Barnick
Jody Brogna
Doug Blazey
Barb Forslund
Jim Cronmiller
Bob Collings
Frank Swit

FOR RETURN FAX DIAL (215)814-3113
USE (215)814-3444 FOR VOICE CONFIRMATION

Customer Service Hotline: 1-800-438-2474

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

VERIFICATION STUDY
MARJOL BATTERY OFFSITE REMEDIATION
THROOP, PA

Prepared by:
Pennsylvania Operations Branch
Office of RCRA Programs
Waste and Chemicals Management Division

Customer Service Hotline: 1-800-438-2474

VERIFICATION STUDY
MARJOL BATTERY OFFSITE REMEDIATION
THROOP, PA

This is EPA's proposal to verify that properties in the vicinity of the Marjol Battery site remain safe.

A - Background - Establishing the Offsite Zone of Remediation

Under the 1988 Consent Order and Agreement [1], Gould assumed responsibility for the remediation of residential properties with soil lead concentration above 500 mg/kg attributable to the Marjol Battery site operations and consistent with site dispersion patterns[2]. In accordance with the Order, Gould completed the multi-phase Extent of Contamination study that covered nearly 200 acres and included over three thousand soil samples.

EPA and Gould used the results of the Extent of Contamination study to identify the area within which lead levels above 500 mg/kg were considered attributable to Marjol operations. Gould conducted soil removal and restoration on 103 properties within this area, where discrete soil samples yielded results above 500 mg/kg for lead. This area is often referred to as the "Extent of Contamination."

Beyond the Extent of Contamination area, EPA and Gould initially disagreed over whether Marjol was responsible for addressing soil lead levels above 500 mg/kg identified through sampling. EPA and Gould agreed that the remediation of any additional properties would be based on a statistical analysis to quantify Marjol contribution to the ambient soil lead levels. EPA and Gould assumed that Marjol contribution to soil lead levels was the result of air deposition. Soil lead concentration, therefore, was the sum of the background soil lead and the Marjol contribution. Based on dispersion modeling and the available soil lead data, a mathematical expression was derived to establish the Marjol contribution at any location in the vicinity of the site. Based on this analysis, EPA and Gould agreed on the remediation of 32 additional properties in the spring of 1992. A total of 135 properties was remediated.

Gould completed this work in 1992, under a workplan approved by the EPA CERCLA program. EPA held a public meeting and published a fact sheet explaining the results of the various investigations. The project was then transferred to the EPA Resource Conservation and

---

[1] On April 6, 1988 the Environmental Protection Agency (EPA) and Gould Inc. entered into a Consent Order and Agreement (Docket III-88-26-DC) to perform emergency removal actions under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

[2] The 500 mg/kg action level was based on EPA and Center for Disease Control (CDC) guidance at the time.

Recovery Act (RCRA) program for the selection of a final remedy for the Gould property itself and various undeveloped parcels adjacent to the site.

B- Current Conditions Offsite

Since the 1992 remediation, EPA has determined that there is no current threat to human health and the environment at the residential properties in the vicinity of the Marjol Battery site. However, as a result of the extensive sampling Gould and EPA conducted to establish the Extent of Contamination and the Zone of Remediation areas, there are a number of discrete samples from locations beyond the Zone of Remediation with soil lead levels above 500 mg/kg. Additionally, independent sampling by property owners, the Borough Council and Gould, has identified a number of locations, both within and outside the Zone of Remediation with sample results above 500 mg/kg.

C- Verification Study Goals

EPA is committed to verify that the remediation activities in the residential properties completed in 1992, resulted in the successful removal of lead contamination attributable to the Marjol site operations, and resulted in conditions that do not pose health concerns. EPA is also committed to re-examine those properties beyond the Zone of Remediation originally sampled during the 1988-1992 remediation period where discrete results of soil lead levels greater than 500 mg/kg have been observed.

D- Verification Study Basis

This study will be implemented in accordance with the following principles:

1. EPA expects prior agreement with Gould and Borough officials before any verification sampling begins.

2. EPA's position is that the available data supports the determination of the Zone of Remediation (Plate 20, AGC Dwg.No .92024-60) as the extent of the impact of Marjol Battery site requiring remediation under the 1988 order.

3. All sampling will be conducted in accordance with the sampling plan in Attachment A to ensure the consistency and reproducibility of data generated by all parties. EPA will not consider any data generated by any person or group that was not generated using the protocol established in Attachment A.

4. Consistent with current guidance (References 3 & 4) EPA will compare composite sampling results against a screening level of 400 mg/kg. EPA uses 400 mg/kg as a screen based on default assumptions to the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK model), which is designed to predict a distribution of blood lead concentrations for a hypothetical group of children based on the children's lead exposure. This model considers all possible sources of lead to which a child could be exposed, including food, water, air, interior house dust, and soil. EPA now uses this model to assess lead contamination to determine if remedial action is necessary at a sampled property. It is important to note that this approach is different from the action levels developed under the CERCLA removal program in 1988. The use of the IEUBK model is now the standard EPA approach to assess lead.

5. EPA has determined that beyond the Extent of Contamination area, the source for high lead levels in the immediate area surrounding a residential structure is likely to be lead paint from structures built before 1955. Under this verification study, a soil sample will be collected from the area defined as the " drip zone"[3] to evaluate the impact of lead paint in the soil. If the drip zone, of a structure built on or before 1955, is the only area in the property that exceeds the screening level, the property owner will be referred to a lead paint abatement program and will not be subject to further investigation in relation to this study. The drop zone will only be further evaluated or remediated when a contiguous area in the same property require further evaluation or remediation.

E- Proposed Actions for Properties Within the Zone of Remediation

As part of this study, **Gould** is responsible for further characterizing any residential properties within the zone of remediation for which EPA has any data indicating soil lead above 500 mg/kg at properties where no removal or only partial removal occurred.

Gould will also sample all properties where partial or limited remediation was performed. These will included all properties within the Zone of Remediation where 33% or less of the exposed area soil was removed and replaced. Gould will not be responsible, as part of this study, to sample those properties within the Zone of Remediation which were totally excavated and remediated or properties where no remediation was required.

[3] The "drip zone" is defined as the area comprised by the first 30 inches from a structure in the property.

F- Proposed Actions for Properties Outside the Zone of Remediation

EPA will conduct verification sampling at residential properties outside the Zone of Remediation for which EPA has at least one soil sample with a lead concentration above 500 mg/kg, and the property generally located within 1000 feet of the Zone of Remediation line. The object of this EPA sampling will be to determine if current soil lead at these properties represents a health concern to the residents at those properties.

An analysis of the attributable Marjol contribution to mean soil lead levels using the mathematical expression from the Statistical Evaluation study EPA concluded that beyond 1000 feet from the Zone of Remediation, Marjol contribution to the mean soil lead levels would not result in levels above 400 mg/kg.

G- Interpretation of the Verification Study Results

After a re-examination of all available data, EPA remains convinced that airborne lead from Marjol operations did not contribute to soil levels to cause a health concern beyond the current Zone of Remediation. However, is well documented that residential background levels above 400 mg/kg are routinely found in areas where lead paint was common. Therefore, EPA will use the following guidelines to interpret soil results:

1. Any sample area, within or outside the Zone of Remediation, with composited samples results at or below 400 mg/kg is considered to pose no health concern and not subject to further investigation.

2. For sampled areas in properties within the Zone of Remediation, a composited result above 400 mg/kg will be interpreted as an area not successfully remediated and EPA expects Gould to comply with the order and perform soil removal and remediation in accordance with the order.

3. For sampled areas in properties beyond the Zone of Remediation EPA, areas with results above 400 mg/kg, EPA will conduct further investigations to determine the source of lead and to evaluate the health implications of the lead levels in the soil.

References

Report on Extent of Contamination Study, Marjol Battery Plant, Throop Borough, Pennsylvania NTH Consultants, Ltd, May 1, 1989.

Evaluation of Anomalous Soil Lead Data, NTH Consultants, Ltd, August 4, 1989

Investigation of the Occurrence of Lead in Soil Samples, Hazen Research Inc.,February 27, 1991

Statistical Evaluation and Source Attribution of Soil Lead Data, Advanced GeoServices Corp. February 19, 1993

Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities OSWER Directive 9355.4-12, July 14, 1994 (EPA/540/F-94/043)

Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, OSWER Directive #9200.4-27, August 1998 (EPA/540/F-98/30))

Soil Samples- Throop Borough Gannett Fleming Inc., April 29, 1999.

Attachment A
Draft Residential Sampling and Analysis Plan
for Site Characterization/Remediation

RESIDENTIAL SAMPLING AND ANALYSIS PLAN FOR SITE CHARACTERIZATION/REMEDIATION

MARJOL BATTERY SITE
BOROUGH OF THROOP, PENNSYLVANIA

EPA CONTRACT NO. 68-W-99-020

Prepared for

U.S. Environmental Protection Agency - Region 3
1650 Arch Street
Philadelphia, PA 19103

Work Assignment No.	:	R03009
EPA Region	:	3
Date Prepared	:	April 12, 2000
Contract No.	:	68-W-99-020
Tetra Tech No.	:	G1114.0R03.009.02SP
Prepared by	:	Tetra Tech EM Inc.
Tetra Tech Project Manager	:	Mark Chamberlain
Telephone No.	:	(216) 656-8723
EPA Work Assignment Manager	:	Luis Pizarro
Telephone No.	:	(215) 314-3444

Title and Approval Page

Residential Sampling and Analysis Plan
for Site Characterization/Remediation

Marjol Battery Site
Borough of Throop, Pennsylvania

Prepared by: J. Mark Chamberlain
Tetra Tech EM Inc.

Address: 1800 JFK Boulevard, 6th Floor
Philadelphia, PA 19103

Telephone No.: (215) 656-8723

Date: April 12, 2000

Approvals:

Name: Eugene P. Wingert
Title: Tetra Tech EM Inc.
Assistant Regional Program Manager

Signature: _____ Date: _____

Name: Luis Pizarro
Title: U.S. Environmental Protection Agency
Work Assignment Manager

Signature: _____ Date: _____

Name: David Friedman
Title: U.S. Environmental Protection Agency
RCRA Quality Assurance Coordinator

Signature: _____ Date: _____

CONTENTS

Section		Page
INTRODUCTION		1
A1	SITE INFORMATION AND BACKGROUND	2
A2	PROJECT DESCRIPTION	2
A3	PROJECT TIME LINE	3
A4	MEASUREMENT QUALITY INDICATORS	4
B1	SAMPLING DESIGN	5
B2	SAMPLE COLLECTION AND FIELD MEASUREMENT PROCEDURES	7
B3	ANALYTICAL METHODS REQUIREMENTS	8
C1	RECONCILIATION WITH USER REQUIREMENTS	8
KEY PERSONNEL		10
REFERENCES		11

Attachment

1 PROPOSED SAMPLING LOCATION MAP (To Be Included in Final Sampling Plan)

2 EXAMPLE FIGURES OF HOW TYPICAL PROPERTIES WILL BE GRIDDED AND SAMPLED (To Be Included in Final Sampling Plan)

TABLES

Table		Page
1	PROJECT TIME LINE	3
2	QUANTITIES AND TYPES OF SOIL AND QC SAMPLES	6
3	ANALYTICAL PARAMETERS AND METHODS, REQUIRED SAMPLE VOLUMES AND CONTAINERS, PRESERVATIVES, AND HOLDING TIMES	6
4	POTENTIAL LOCATIONS FOR SOIL SAMPLE COLLECTION (To Be Included in Final Sampling Plan)	6

INTRODUCTION

Tetra Tech EM Inc. (Tetra Tech) prepared this sampling and analysis plan (SAP) for the field sampling tasks described in the Work Plan for Characterization/Remediation of the Marjol Battery Site in the Borough of Throop, Pennsylvania (Tetra Tech 2000b). Tetra Tech is conducting this work under Work Assignment (WA) No. R03009 of the Resource Conservation and Recovery Act (RCRA) Enforcement, Permitting, and Assistance (REPA) contract with the United States Environmental Protection Agency (EPA) Region 3. In accordance with the work plan, Tetra Tech will collect up to 200 soil samples from residential properties in the vicinity of the Marjol Battery site. Samples will be submitted to Tetra Tech's REPA team subcontract laboratory, Quanterra Inc. (Quanterra), in West Sacramento, California, for analysis.

This SAP was prepared in accordance with the requirements outlined in the Introduction to Tetra Tech's Region 3 Quality Assurance Project Plan (QAPP) for the REPA contract (Tetra Tech 2000a). Tetra Tech will adhere as closely as possible to the procedures described in the Region 3 REPA QAPP and this SAP during soil sample collection and analysis. Tetra Tech will document any deviations from the QAPP and this SAP in a field logbook and will discuss the deviations with the EPA work assignment manager.

This SAP follows the format specified in the "U.S. EPA—Region III Site-Specific Sampling and Analysis Plan Template" (EPA 1999). Section A1 of the SAP briefly describes the Marjol Battery site and surrounding area as well as the site history. Section A2 describes the work that Tetra Tech will perform, including the media to be sampled and proposed action levels. A project time line is presented in Section A3, and measurement quality indicators are discussed in Section A4. Section B1 presents the sampling design and Section B2 describes sampling methods that will be used. Analytical method requirements are discussed in Section B3. Section C1 discusses the steps that Tetra Tech will take to make sure that data collected under this SAP are usable for their intended purpose. Finally, a list of key personnel and a reference section are included at the end of the text.

A1 SITE INFORMATION AND BACKGROUND

Gould, Inc. (Gould), purchased the Marjol Battery site in 1980 and closed the facility in 1982. In April 1988, the EPA's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program reached a Consent Order and Agreement with Gould. The agreement required Gould to perform emergency removal actions to address elevated lead levels (above 500 milligrams per kilogram [mg/kg]) in residential soils within the Borough of Throop, Pennsylvania. Gould performed the removal action in 1988 and 1989 at 103 properties which had been directly affected by the Marjol Battery site operations. The removal action included both partial and total removal of topsoil from these properties.

Additional soil sampling and statistical studies were performed in 1989, 1990, and 1991 in order to reach agreement between EPA and Gould on additional properties that would require soil removal as a result of the Marjol site operations. In the fall of 1991 and the spring of 1992, EPA and Gould agreed to remove soil with lead concentrations above 500 mg/kg from 32 additional properties. Gould completed the soil removal as well as interior housecleaning of these properties in 1992.

At the present time, there are laboratory results of discrete soil samples with lead concentrations above 500 mg/kg from several properties where only partial or no soil removal was performed.

A2 PROJECT DESCRIPTION

The primary objective for this project is to collect soil samples at residential properties in the vicinity of the Marjol Battery site. Results will be evaluated to identify areas where soil lead concentrations are above the 500 mg/kg action level identified in the April 1988 Consent Order and Agreement. The laboratory data generated from the soil sampling activities will enable the EPA to evaluate the thoroughness of previous remediation activities and decide if further remediation activities are warranted. The area to be investigated is located in the Borough of Throop, Pennsylvania and consists of approximately 50 residential properties (to be identified by EPA) where partial or no soil removal was performed.

A3 PROJECT TIME LINE

The anticipated project schedule is presented in Table 1. Field activities at the Marjol Battery site are scheduled to begin in May 2000 and are expected to continue through June 2000. Tetra Tech will collect soil samples during this period. Specific dates for soil sample collection will depend on the progress of field activities. Tetra Tech estimates that soil sample collection will occur over a 5-week period. This estimate is based on a soil sample collection rate of thirty to forty samples per week.

TABLE 1

PROJECT TIME LINE

Activities	Dates	
	Activity Start Date	Activity End Date
Submit Draft Sampling Plan	March 8, 2000	March 27, 2000
Submit Final Sampling Plan	(After receipt of comments from the EPA and the Borough of Throop)	
Conduct Site Reconnaissance	April 2000	
Begin Sampling Activities	Early May 2000	Late June 2000
Prepare Weekly Reports	Early May 2000	Late June 2000
Prepare Property Reports	Early June 2000	Late July 2000
Prepare Comprehensive Report	July 2000	August 2000

Tetra Tech anticipates receiving the soil sample analytical data for each sampling event from Quanterra within 30 days of sample shipment. Tetra Tech will provide EPA with copies of the analytical results as they are received. Tetra Tech will prepare and submit three types of reports during the sampling activities:

- **Field Activities Report:** The field activities reports will be submitted to EPA on a weekly basis while field activities are being performed. These reports will contain a description of the field activities conducted, properties samples, significant events, and expected delivery date of analytical results.

- **Residential Properties Report:** The residential properties reports will be submitted for each individual property documenting the sampling activities and the analytical results of the samples collected.

- **Comprehensive Sampling and Analytical Report:** The comprehensive sampling and analytical report will be submitted following the completion of sampling activities and will provide a comprehensive description of the sampling and analytical analysis performed.

A4 MEASUREMENT QUALITY INDICATORS

Tetra Tech will collect field duplicate samples, matrix spike and matrix spike duplicate (MS/MSD) samples, and equipment rinsate blank samples for quality control (QC) analysis. As shown in Table 2, each type of QC sample will be collected at a frequency of at least once for each group of 20 or fewer investigative samples.

Tetra Tech will use equipment rinsate blank samples to verify the effectiveness of equipment decontamination procedures and to evaluate potential ambient field contamination. Field duplicate sample results will be used to provide information on the heterogeneity of soil lead concentrations. MS/MSD sample results will be used to evaluate analytical precision and accuracy. Quanterra's control limits for precision and accuracy for soil lead analyses are included in Appendix B of Tetra Tech's Region 3 REPA QAPP and are as follows:

- Precision—75 to 125 relative percent difference for MS/MSD sample pairs, calculated using Equation 2-1 in Tetra Tech's Region 3 REPA QAPP

- Accuracy—80 to 120 percent recovery of spiked concentration, calculated using Equation 2-3 in Tetra Tech's Region 3 REPA QAPP

Quanterra's reporting limit for soil lead analyses is also included in Appendix B of Tetra Tech's Region 3 REPA QAPP. The reporting limit is 10 mg/kg, well below the 500 mg/kg action level for this project.

To assess the completeness of the data generated, Tetra Tech will calculate percent completeness using Equation 2-6 in the Region 3 REPA QAPP. The percent completeness goal for this project is 90 percent.

B1 SAMPLING DESIGN

Tetra Tech will perform surface soil sampling activities at up to 50 residential properties in Throop, Pennsylvania, during a 5-week period beginning in May 2000. Tetra Tech will collect up to a total of 200 soil samples (approximately 160 investigative soil samples and 40 QC samples). Table 2 lists the quantities and types of soil samples and QC samples that Tetra Tech will collect. Table 3 lists the analytical methods, sample volumes and containers, preservation requirements, and holding time requirements for the samples.

Figure 1 shows the proposed soil sampling locations at the 50 residential properties. (This figure will be included as an attachment to the final SAP when this information is provided by EPA). Potential sampling locations and addresses are listed in Table 4 (this table will be included in the final SAP). This list may be refined as property access is granted or denied.

In general, Tetra Tech will divide each property into the following three areas: the front yard, the back yard, and the "drip zone" (the perimeter defined by 30 inches from the exterior walls of the residential structure). Tetra Tech will sample each area using a 5-point composite sampling method: the area will be divided into quadrants and an aliquot of soil will be collected from the center of the area and the center of each of the four quadrants and composited together in a stainless steel bowl. In general, the drip zone samples may be a 4-point or a 5-point sample depending on the geometry of each residence.

TABLE 2

QUANTITIES AND TYPES OF SOIL AND QC SAMPLES

Matrix	Parameter	Number of Soil Samples	Number of MS/MSD Samples[a]	Number of Equipment/ Rinsate Blank Samples[b]	Number of Field Duplicate Samples[b]	Total Number of Samples
Soil	Lead	160	20	10	10	200

Notes:

a One MS/MSD sample will be collected for each 20 or fewer investigative samples; this frequency complies with the minimum frequency specified in Tetra Tech's Region 3 REPA QAPP. The total of 20 listed in the table includes 10 MS samples and 10 MSD samples.

b Field duplicate and equipment/rinsate blank samples will be collected at the same frequency as the above-mentioned MS/MSD samples.

TABLE 3

ANALYTICAL PARAMETERS AND METHODS, REQUIRED SAMPLE VOLUMES AND CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

Matrix	Parameter	Analytical Method[a]	Sample Volume and Container	Preservative[b]	Holding Time
Soil	Lead	6010B	One 8-ounce glass jar with Teflon-lined cap[d]	Store at 4 °C	180 days

Notes:

a Method listed is from SW-846 (EPA 1996).

b No chemical preservatives are required.

TABLE 4

POTENTIAL LOCATIONS FOR SOIL SAMPLE COLLECTION

(To be included in final SAP).

B2 SAMPLE COLLECTION AND FIELD MEASUREMENT PROCEDURES

Tetra Tech will collect surface soil samples (from 0 to 2 inches below grade) using a decontaminated, stainless-steel trowel or scoop and stainless-steel bowls. The soil samples will be collected from five locations in each area of concern (front yard, back yard, and drip zone). The five soil samples from each area will be placed in the stainless-steel bowl, thoroughly mixed and composited together, and then placed in sample containers.

In collecting soil samples, Tetra Tech will follow SOP Nos. 001 (Site Reconnaissance and Characterization), 002 (General Equipment Decontamination), 005 (Soil Sampling), 019 (Packing and Shipping Samples), and 024 (Recoding of Notes in Field Logbooks). These SOPs are included in Appendix A of Tetra Tech's Region 3 REPA QAPP (Tetra Tech 2000a).

Tetra Tech's specific procedures for gridding the areas of concern within each residential property and collecting soil samples are described below.

Front Yard/Back Yard

- Measure the width (w) and depth (d) of the yard/garden, from the property lines. The front and back yard will each be gridded separately.
- Collect the center sample from coordinate (0.5w, 0.5d).
- The coordinates for the other points will be (0.2w, 0.2d), (0.2w, 0.8d), (0.8w, 0.2d), and (0.8w, 0.8d), unless problems or special cases are observed.
- To avoid trees, rocks, sidewalks, or similar obstructions, a sample point may be moved (up to 0.15w, 0.15d). At most, one point per composite may be omitted if sampling points need to be moved more than once or large areas of the property are covered with an impervious material.
- If a garden or yard is very long and narrow (for example, d > 3), Tetra Tech will assume the area is linear and collect samples from (0.3w, 0.1d), (0.5w, 0.3d), (0.7w, 0.5d), (0.5w, 0.7d), and (0.3w, 0.9d).

Drip Zone

- The composite sample collected from the drip line will consist of samples collected from each side of the residence. In general, the drip zone sample may be a 4-point or 5-point depending on the geometry of the house and the property.

Side Yard

- In general, samples will not be collected from side yards. However, samples may be collected after evaluating the size and orientation of the side yard relative to the Marjol site.

- If samples are collected from a side yard, the samples will be collected following the same procedures described above for the front and back yard.

Tetra Tech will mark and label each individual sampling point on the field base map. Distances to the sampling locations will be measured from fixed property features (such as the corner of a residence, driveways, or concrete pad) and recorded in the field logbook.

This system, with some minor changes based on unusual field conditions, should be appropriate for most properties that will be sampled. One potential problem would be a linear yard right under the eaves, and those suspect samples could be flagged in the field notes. Except for that situation, this standard pattern should give reasonable, representative composite samples.

Tetra Tech will also evaluate the location of the property and position of the residence relative to the former Marjol Battery site. Depending on the layout of the property and residence relative to the Marjol site and local typographic features, the sampling locations may be adjusted following EPA concurrence. Attachment 2 (to be included in the final SAP) presents example figures of how typical properties would be gridded and sampled.

B3 ANALYTICAL METHODS REQUIREMENTS

Lead is the only target analyte of concern for this project. Quanterra will analyze all soil samples collected using SW-846 Method 6010B. Quanterra's laboratory standard operating procedure for this method is included in Appendix B to Tetra Tech's Region 3 REPA QAPP.

C1 RECONCILIATION WITH USER REQUIREMENTS

If requested by EPA, Tetra Tech will validate analytical results after they are received from Quanterra. As noted in Section 4.2 of the Region 3 REPA QAPP, Tetra Tech will follow EPA Region 3 data

validation guidelines. Tetra Tech will then submit a data validation report to EPA within 30 days after receiving the final data package from the laboratory.

Tetra Tech will adhere as closely as possible to the REPA generic QAPP and this SAP during soil sample collection and analysis. Tetra Tech will document any deviations from the REPA generic QAPP and this SAP in a field logbook and will discuss any deviations with the EPA corrective action project manager. In addition, Tetra Tech will discuss any deviations in the data validation report summarizing soil sample analytical results. Tetra Tech will submit the data validation report at the completion of the sampling and analysis project.

Tetra Tech will also prepare and submit three types of reports during this projects, as described in Section A3 of this SAP. Tetra Tech will note in these reports any significant deviation from the SAP as well as the potential impact on the results.

KEY PERSONNEL

The organizations participating directly in the project include EPA, Tetra Tech, the Borough of Throop, Gould Inc., and Quanterra. Addresses and telephone numbers for key project personnel serving as contacts for these organizations are listed below.

EPA Work Assignment Manager

Luis Pizarro
U.S. Environmental Protection Agency, Region 3
1650 Arch Street
Philadelphia, PA 19106
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Fax: (215) 814-3113

Tetra Tech REPA QA Manager

Lucy Guzman
Tetra Tech
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Wilmington, MA 01887
Telephone: (978) 658-7899
Fax: (978) 658-7870

Quanterra Project Manager

Beth Kelly
Quanterra Inc.
(STL - Sacramento)
880 Riverside Parkway
West Sacramento, CA 95605
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Fax: (916) 372-1059

Borough of Throop

Frank Swit
Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011
Telephone: (717) 763-7211, Ext. 2432
Fax: (717) 763-8150

Tetra Tech Project Manager

Mark Chamberlain
Tetra Tech EM Inc.
1800 JFK Blvd., 6th Floor
Philadelphia, PA 19103
Telephone: (215) 656-8723
Fax: (215) 972-0484

Gould, Inc.

Barbara Forslund
Advanced Geoservices Corporation
Chadds Ford Business Complex
Routes 202 and 1
Brandywine One - Suite 202
Chadds Ford, PA 19317
Telephone: (610) 558-3300
Fax: (610) 558-2620

Borough of Throop

James Barnick
Throop Borough Council
436 Sanderson Street
Throop, PA 18512-1224
Telephone: (570) 489-8311
Fax: (570) 383-7122

REFERENCES

U.S. Environmental Protection Agency (EPA). 1996. *Test Methods for Evaluating Solid Waste, Volumes IA through IC, SW-846, Third Edition,* Update III. Office of Solid Waste and Emergency Response. Washington, DC. December.

EPA. 1999. *U.S. EPA - Region III Site-Specific Sampling and Analysis Plan Template, Draft Interim Final.* Office of Analytical Services and Quality Assurance. Fort Meade, MD. August.

Tetra Tech. 2000a. Quality Assurance Project Plan: Resource Conservation and Recovery Act (RCRA) Enforcement, Permitting, and Assistance Contract (Region 3). Revision 1. January 31.

Tetra Tech. 2000b. *Marjol Battery Site Work Plan.* March 17.

Paul Gotthold
07/12/2000 04:01 PM

To: Luis Pizarro/R3/USEPA/US@EPA

cc:
Subject: RE: Keystone Propane

for the off-site administrative record.
----- Forwarded by Paul Gotthold/R3/USEPA/US on 07/12/2000 04:01 PM -----

Zelinka.Leonard@dep.state.pa.us
07/12/2000 12:48 PM

To: Paul Gotthold/R3/USEPA/US

cc:
Subject: RE: Keystone Propane

Attached is my report to Jody. If you need more info, let me know.

-----Original Message-----
From: Gotthold.Paul@epamail.epa.gov
[mailto:Gotthold.Paul@epamail.epa.gov]
Sent: Wednesday, July 12, 2000 9:36 AM
To: zelinka.leonard@dep.state.pa.us
Cc: Hinnant.Sibyl@epamail.epa.gov; Pizarro.Luis@epamail.epa.gov
Subject: Keystone Propane

Len-- Sib said you talked to the owners of the property. Did they have any problems or remember anything that would lead us to suspect that Fiegelman dumped anything there? Did you talk to them on the phone or swing by? Do you
have an address?

Thanks, Paul
215-814-3410

<>
<>
<>"Watch "Echoes Through Penn's Woods" on public TV -- www.dep.state.pa.us (directLINK "Echoes")

Date: Tue, 11 Jul 2000 12:56:25 -0400
From: "Zelinka, Leonard" <Zelinka.Leonard@dep.state.pa.us>
Subject: Keystone Propane Property
To: "Brogna, Joseph" <Brogna.Joseph@dep.state.pa.us>
Cc: "Fosko, Paul" <Fosko.Paul@dep.state.pa.us>, "Snelson, Alan" <Snelson.Alan@dep.state.pa.us>
Message-id: <4FF3EA184B4FD3119B550008C70D6F171D0746@erneexchs01.pader.gov>
MIME-version: 1.0
X-Mailer: Internet Mail Service (5.5.2651.58)
Content-type: text/plain; charset="iso-8859-1"

I investigated the Keystone Propane Property on 7/10/00, located at 1201 Marshwood Road, Throop, PA 18512, Throop Borough, Lackawanna Co., which was originally owned by Larry Fegelman, the original owner of Marjol Battery and Equipment Co. The current owner, John Grabowski, 570-489-4548, of the 11 acre parcel which is Keystone Propane, said that no battery casings were buried on the property and they have occupied the site for the last 20+ years. The site is industrial and developed for use as a trailer parking lot and propane supply facility. The land was scrub oak and coal strippings when the current owner, John Grabowski purchased it and subsequently leveled it for his use. We cannot definitely say that no waste was buried on the site without borings. The site is bounded by Marshwood Road in the front, Keystone landfill in the rear, and undeveloped land on the sides. I spoke to Sybil regarding this on 7/11/00 and she emailed Paul Gotthold. If you need anything else done on this, let me know.

FAX TRANSMISSION

US EPA

To: Len Zelinka

Fax #: 570-820-4907

From: Sibyl Hinnant

Subject: attached volume estimates as discussed in call on 10/19/0

Date: ~~September~~ October 19, 2000

Pages: 6 , including this cover sheet.

COMMENTS:

Len / Carl -

Please take a look and share your thoughts with me on a reasonable height for the cap.

Thanks,
Sibyl

Celebrating 25 Years of Environmental Progress

BALTIMORE DISTRICT, CORPS OF ENGINEERS
ENGINEERING DIVISION
GEOTECHNICAL AND WATER RESOURCES BRANCH
GEOLOGY AND INVESTIGATION SECTION
CENAB-EN-GG

TELECOPIER TRANSMISSION COVER SHEET

DATE: 19 October 2000

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: Sibyl Hinnant

LOCATION: USEPA Region III, Philadelphia, PA

TELECOPIER NO: (215) 814-3113

TELEPHONE NO: (215) 814-3417

TRANSMISSION FROM:

NAME: Christopher Evans

TELEPHONE NO: (410) 962-4431

TELECOPIER NO: (410) 962-7731

COMMENTS:

Sibyl, Here is the volume estimate memo by Mike Stello.

PAGE 1 OF 7 (INCLUDING THIS COVER SHEET)

IF THERE HAS BEEN ANY DIFFICULTY IN RECEIVING THIS TRANSMISSION, OR IF YOU DID NOT RECEIVE THE ENTIRE TRANSMISSION, PLEASE CALL THE SENDER AS SOON AS POSSIBLE.

CENAB-EN-GF

September 22, 2000

Marjol Battery Site, Throop, Pa.
Quantity Estimate- 7.7-acre site (Primary Fill Area)

1. Background. The Baltimore District Corps of Engineers has been tasked by USEPA Region III to provide an estimate of the amount of additional material that can reasonably be placed on the 7.7-acre primary fill area of the Marjol Battery Site, Throop, Pa. This office has estimated the potential additional volume that can be placed assuming 4H:1V side slopes with the top elevation varying from elevation 810 to 855. Using topographic maps of the site, the volumes were estimated based on cross-sectional areas multiplied by average lengths.

2. Available Quantities. The estimated volumetric quantities were calculated for the primary area of the site. It is estimated that this area can accept a maximum of an additional 150,000 cubic yards of material and still retain the side slope of 4H:1V and without placing materials outside the 7.7-acre area.

3. Required Quantities. Based on the Corrective Measures Study Report by Advanced GeoServices Corporation prepared for Gould Electronics, March 15, 1995, the total quantity of contaminated materials is 372,000 cubic yards. An estimated 184,000 cubic yards of this material is already placed within the primary fill area. This means that approximately 188,000 cubic yards of additional material must be excavated and moved. Therefore, the 7.7-acre site cannot store all of the contaminated materials.

4. Cap & Stabilization Layer Quantities. A 5-foot stabilization layer and a 3-foot cap placed within the primary fill area will take up a volume of approximately 100,000 cubic yards. Of this volume, approximately 50,000 cubic yards of material must be imported from off-site. This will reduce the available additional storage in the primary fill area from 150,000 cubic yards to 100,000 cubic yards, requiring 88,000 cubic yards of contaminated materials to be hauled off-site.

5. Point of Contact. If you have any questions concerning this report, please contact Mike Stello at 410-962-4314.

Michael W. Stello

Michael W. Stello, PE

Margol

CONTAMINATED MATERIALS

SUMMARY: (from Corrective Measures Study Report, Advanced GeoScience, Mar. 15, 1995, Table 3-1)

AREA	cubic yds.
High Hazard Stockpile	22,000
Low Hazard Stockpile	12,000
Affected Soils	79,000
Residential Topsoil	25,000
Mine Spoils	58,000
Battery Casing Materials	176,000
TOTAL	372,000

MATERIALS IN PRIMARY FILL AREA - ESTIMATED (see calc sheets)

Battery Casing Materials - 163,000

Residential Topsoil - 21,000

TOTAL - 184,000 cu yds

Additional MATERIAL Needing Storage in Primary Fill Area - 372,000 - 184,000 = 188,000 cu yds

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

Marjol - | Computed by MWS | checked by BDG

PRIMARY FILL AREA QUANTITIES - EXISTING

7.7 acre primary fill area

0.8 acre western 5' strip pit

0.5 acre 8' strip pit

9.0 acres

> Battery Casing Materials (Table 2-2 Report)

% Prim Fill = $\frac{7.7}{9.0}$ = 85 %

Residental Topsoil in above areas - 25,000 yds³

0.85 - 25,000 yds³ = 21,250 yds in Prim fill area.

Say 21,000

BATTERY CASING MAT'LS IN STRIP PITS

0.8 acres × $\frac{43,560}{27}$ × 5' = 6,453 cuyds

0.5 acres × $\frac{43,560}{27}$ × 8' = 6,453 cuyds

12,906 cuyds - say 13,000 yds³

TOTAL Battery Casings IN Primary Fill = 176,000 - 13,000 = 163,000 cuyds

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

Margol

Available Storage Quantities - Primary Fill Area - 7.7-acre site

Assumptions: - 4H:1V side slopes
- Top elevation varies - 810 to 855
- property limits & inside/outside edge of asphalt road

Available Storage (see calc sheets)

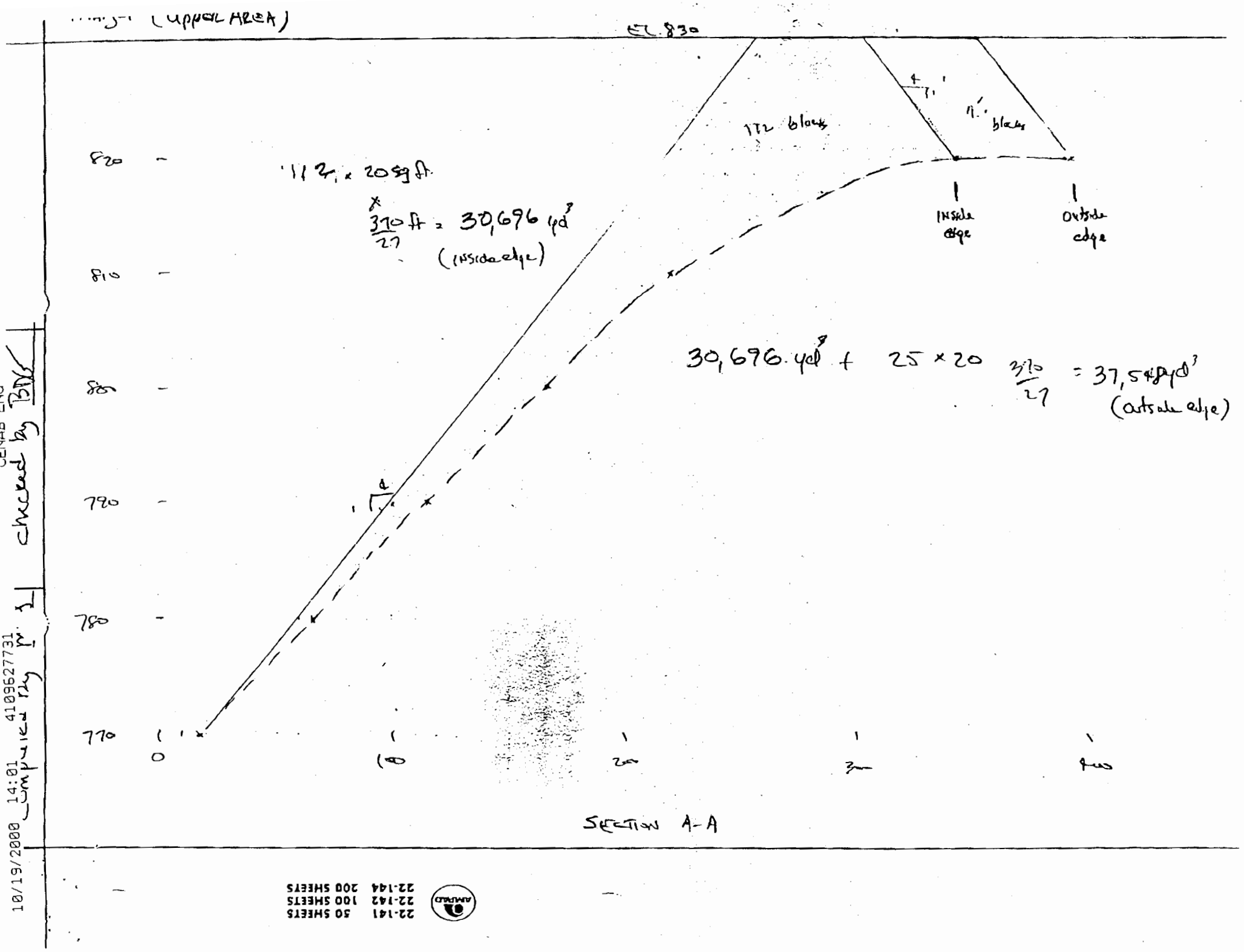
Primary Fill Area (Sections A, B, C)

Inside Edge - 30,696 + 34,444 + 26,133 = 91,273 yd^3

Outside Edge - 37,548 + 82,222 + 29,511 = 149,281 yd^3

say 90,000 to 150,000 yds^3

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD


(UPPER AREA)
EL. 830
112 blocks
blocks
Inside edge
Outside edge
112 x 20 sq ft
370/27 ft = 30,696 yd³
(inside edge)
30,696 yd³ + 25 x 20 370/27 = 37,548 yd³
(outside edge)
820
810
800
790
780
770
0
100
200
300
400
SECTION A-A
Checked by BDS
Computed by
CENAB ENG
10/19/2000 14:01 4109627731
22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

Computed by WWD | Checked by TJR

Volume Estimates - 7.7 Acre site
4H:1 side slopes

① 5-foot stabilized layer - 20% cement (assumed); other 80% from contaminated mat'ls

$$5\,ft \times 7.7\,Acres \times \frac{43{,}560\,ft^2}{Acre} \times \frac{yd}{27\,ft^3} = 62{,}113\,yds$$

$$62{,}113 \times 0.2 = 12{,}423\,cu\,yds$$ (from off site mat'ls)

② 3-foot cap (from off-site mat'ls)

$$3\,ft \times 7.7\,acres \times \frac{43{,}560\,ft^2}{Acre} \times \frac{1\,yd}{27\,ft^3} = 37{,}268\,yds^3$$

③ Total off-site materials

12,423 yds + 37,268 yds = 49,691 yds
- say 50,000 yds

④ Total Additional Storage Available

150,000 yds - 50,000 yds
= 100,000 yds

⑤ Contaminated Mat'ls Removed from Site

188,000 yds - 100,000 yds = 88,000 yds.

AMPAD 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS

Pennsylvania Department of Environmental Protection

2 Public Square
Wilkes-Barre, PA 18711-0790

October 5, 2000

Northeast Regional Office

570-826-2511
Fax 570-820-4907

Ms. Sibyl Hinnant
Remedial Project Manager
U.S. EPA - Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RECEIVED
OCT 1 5 2000

RE: Marjol Battery Site
Final Decision and Response to Comments
Throop Borough, Lackawanna County

Dear Ms. Hinnant:

The Department has reviewed the draft Final Decision and Response to Comments (FDRTC) for the Marjol Battery Site. The original document was received via email on September 20, 2000.

The following are comments on the FDRTC:

Section 3. MODIFICATIOS TO EPA'S PROPOSED REMEDY, Item (1): The first sentence: "...will be treated on-site and transported to an off-Site disposal facility." Suggest that this elucidate that the waste will be treated to non-hazardous levels.

Section 4. SELECTED REMEDY, Bullet Item four: For discussion purposes, it would seem that if any of the recent residential samples have exceeded 500 parts per million lead, these should also be excavated and disposed off-site.

Section 4. SELECTED REMEDY, last Bullet Item: If the confirmation sampling does indicate any properties with lead levels above 500 parts per million, this should also be taken off-site.

Section 6, EPA response to TB Comment 2: Suggest not using the term "slightly" regarding the modification of the treatment component. The Statement of Basis had indicated stabilization/solidification of all waste material under the cap. The modification is for the upper five feet of waste below the cap. While this is more practical it might not be considered a "slight" modification.

Section 6, EPA Response to TB Comment 3: The last sentence should add "for newly permitted facilities."

Section 6, EPA response to Citizen letter, third comment from Section A: minor typographical error. Change "gain" to "again".

Section 6, Gould Comment 1(a): EPA response lists Statement of Michael C. Veysey as 1. This should be 6.

Section 6, Gould Comment 1B(a), EPA response: This states that: "The TCLP standard would not be the appropriate standard to measure the performance of the S/S process." Although, the stabilization/solidification of the uppermost layer is only a minor part of the buried waste, the TCLP limitation of 5.0 mg/L still insures that this layer is not characteristic hazardous waste, and/or may be one analytical measure that sufficient S/S agent has been added. This may be clarified in the EPA response to Gould Comment 20(a) using compressive strength as the performance standard, but still utilizing the leaching (possibly the TCLP) as an accepted method for monitoring the treated waste. Possibly this comment should reference 20(a).

Section 6, Gould Comment 5(a), EPA response: The remedy selection criteria references USEPA proposed Subpart S, and other Agency documents. However, the original order that specifies the criteria is not referenced. This might be considered for additional rationale.

Section 6, Gould Comment 9(c): Although there has been no detection of a release to the groundwater, the potential exists. The detection groundwater monitoring system to be detailed during the Remedial Design will need to elaborate of specific tasks.

Section 6, Gould Comment 11(b), EPA Response: The USEPA response is adequate. However, it might add that off-site disposal requirements would be dependent on the disposal facility, which would be regulated by the appropriate State agency limits on various parameters. The exceedances for TCLP will still require that the off-site transport meet the requirements of the Pennsylvania Hazardous waste regulations. Waste that is sufficiently demonstrated to be classified as non-hazardous will still require that off-site transport meet the Pennsylvania Residual Waste regulations. Therefore, the TCLP tests would still likely be a significant factor for transport and disposal of the waste.

Section 6, Gould Comment 11(b): USEPA provided an adequate response. Additionally, waste that may leach below the RCRA characteristic levels may still be well above health risk total levels. Also, some residual waste disposal facilities (for comparison purposes) have regulatory limits on TCLP levels that are below the RCRA characteristic level.

Section 6, Gould Comment 14(b): The last sentence should be deleted and the following should be added: "The information from the mine subsidence investigation report will be utilized in the design phase of the on-site remedy. For example the FDRTC has incorporated a five feet layer of stabilized/solidified material beneath the cap for enhanced stability. This stabilized layer will minimize the potential for cap subsidence. In addition the stabilized layer will also serve as a biotic barrier beneath the synthetic cap system to prevent vector intrusion into the waste."

Section 6, Gould Comment 14(c): The EPA response to comment 14 (c) should identify both trough and pothole subsidence potentials. The third sentence should read: "EPA has determined that pothole subsidence impact can be managed by removing all overlying waste that is situated north of the five foot coal seam limit. The reconfigured cap limits due to the relocation/removal of overlying waste above mined coal seam limits will eliminate any potential for pothole subsidence from the five or eight foot coal seams. The potential for two feet of trough subsidence from the four foot coal seam that underlies the entire site is an acceptable amount of settlement and this will not affect the performance of the cap system."

Section 6, Gould Comment 14(e), EPA Response: First sentence should read: "An adequate isolation distance will be required to protect the cap system against the risk of potential mine subsidence and potential mine fire damage to the cap subbase support." Minor typographical error: Change "copal" to "coal".

Section 6, Gould Comment 14(f): There are possibly no mines that exist at the Dorney Road site, only Karst features associated with limestone.

Section 6, Gould Comment 14(g): The EPA response last sentence should be changed to: "However, treatment to a depth of five feet is also being required to increase the long-term effectiveness of the remedy. This additional stability beneath the cap will prevent any erosion of waste beneath the cap, as well as enhancing the performance of the subbase of the cap system. This stabilized layer will also prevent uneven or differential settlement that may occur over time as a result of waste consolidation within the disposal area.

Section 6, Gould Comment 14(h): The EPA response last sentence should be changed to: "The EPA's proposed remedy minimizes short term risks by limiting waste excavation, and by requiring dust control measures and air monitoring during the construction of the remedy."

Section 6, Gould Comment 15(b) and 15 (c): The statement "Fire monitoring and detection systems or a grout cutoff wall are unnecessary in EPA's remedy" should state that "Regarding the Five Foot and Eight Foot coal seams, fire monitoring detection systems or a grout cutoff wall are unnecessary since all wastes will be removed from areas over these seams." The last two sentences of 15(c) should be changed to: "PADEP and EPA agree that removal of waste material above the five and eight foot coal seams is the most direct way to deal with uncertainty surrounding a mine fire near the Marjol Site. Eliminating the threat that a mine fire could impact the disposal area provides better long-term reliability and effectiveness than a monitoring approach."

Section 6, Gould Comment 15(c) EPA Response: The purpose of the isolation distance might also include the propagation of spontaneous combustion in the waste from reaching the coal. Although this is unlikely to happen from casings, this may also one additional regulatory rationale for this isolation distance.

Section 6, Gould Comment 22, EPA Response: The typical sediment cleanup level may reflect the residential soil level. However, the appropriate protective levels for aquatic organisms could possibly be site specific, and dependant on the watershed and contaminants of concern. Occasionally, the CERCLA Biological and Technical Assistance Group (BTAG) may consider significantly lower levels for sediment. If the RCRA equivalent of the BTAG will be involved, it is suggested that they be brought into the process prior to the Remedial Design phase.

Section 6, AGC Comment 23, EPA Response: In addition, in-situ surface stabilization (and some on-site ex-situ stabilization) was successfully utilized at the C & D Recycling Superfund Site (Joseph McDowell, RPM). The stabilization agent was Enviroblend 70/30 which is comprised of 70% Enviromag (magnesium oxide) and 30% Envirophos (primarily calcium phosphate). This site was a total removal with an on-site and off-site remediation

lead level of 500 parts per million. The details are provided in the Draft Remedial Action Completion Report (August 18, 2000). Sediment and soil were effectively stabilized to meet residual waste requirements at three landfills.

If there are any questions concerning this letter, please feel free to contact me at the above number.

Sincerely,

Leonard Zelinka

Leonard Zelinka
Environmental Protection Specialist
Environmental Cleanup Program

Pennsylvania Department of Environmental Protection

2 Public Square
Wilkes-Barre, PA 18711-0790
February 18, 1999

Northeast Regional Office

570-826-2511
Fax 570-820-4907

Ms. Sibyl Hinnant
Remedial Project Manager
U.S. EPA - Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Marjol Battery Site
Grove Street Slope and Smith Samples
Throop Borough, Lackawanna County

Dear Ms. Hinnant:

The Department has reviewed the sample results form the Grove Street and Smith sample areas, dated November 23, 1998. As you are aware, some of the results showed areas over the cleanup goal for residential areas of 500ppm. The contamination appears to be shallow since results at greater depths are substantially lower. A limited removal should be conducted in the areas found to be above the cleanup level.

If there are any questions concerning this letter, please feel free to contact me at the above number.

Sincerely,

Leonard Zelinka
Environmental Protection Specialist
Environmental Cleanup Program

Pennsylvania Department of Environmental Protection
2 Public Square
Wilkes-Barre, PA 18711-0790
August 15, 2000

RECEIVED
PA DEP
SEP
EPA REGION III

Northeast Regional Office

570-826-2511
Fax 570-820-4907

Ms. Sibyl Hinnant (3HW62)
U.S. EPA - Region III
1650 ARCH ST
Philadelphia, PA 19103-2029

Re: Marjol Battery S.O.B.
Throop Borough, Lackawanna County

Dear Ms. Hinnant:

The following comments are responses from the Department to the technical comments regarding Marjol. The comments are primarily related to the EPA's proposed on-site capping remedy. This response includes answers to the comments that were raised by the local municipality Officials (Throop Borough), and the site Owner (Gould Inc.). The site contains lead contamination from past lead recycling activities at the Marjol Facility. The historical facts concerning contamination at the site predates the Department's regulations governing new permitted facilities.

The on-site remedy proposed in the SOB was developed after conducting a detailed analysis of the potential risks associated with the probable dust emissions of a total removal remedy, verses a less disruptive on-site remedy with long term monitoring. Each scenario focused on ways to remove the threat to human health and the environment, while ensuring no additional releases contaminate the surrounding environment. The relative threat to the environment was the governing criteria in the analysis and selection of closure alternatives. Although the existing waste does not pose a significant threat from a leaching to groundwater standpoint, the waste can be readily disbursed as an airborne dust emission during excavation activities.

The most critical design features associated with the Marjol site are the existing subsurface conditions. Mine subsidence potential and mine fire potential are two possibilities relating to long term effectiveness and safety of an on-site remedy. Subsurface stability is also a fundamental design criterion in the Department's waste disposal regulations. Although there is several subsurface coal bearing locations in the immediate area of the existing Marjol containment area, the fact that the waste is preexisting does not relieve the containment design from the requirement of a stable subsurface. Any on-site remedy must be capable of demonstrating short term and long term containment performance. The on-site containment design must therefore address the potential for differential settlement of not only the waste cap, but also all containment appurtenances, including perimeter drainage features and anchor trenches.

Subsurface suitability is also a relevant concern for every disposal area footprint that overlies coal deposits. In the Marjol analysis, this required an evaluation of current geologic conditions with respect to the ability of the subsurface to provide adequate long-term stability. The settlement analysis considers the types and relative percentages of disposed materials which in this case includes existing lead and battery acid contaminated soil and commingled battery casing material (BCM) waste. The analysis calculates worse case settlements of in-place waste constituents, and the worse case potential differential settlement that may occur as a result of a total collapse of all subsurface voids. This analysis considers information on the exact depths and thickness disposal materials and subsurface strata, and calculates the magnitudes of each individual potential settlement as it contributes to overall settlement (i.e., more specifically differential or uneven settlement). The worse case differential settlement is the most critical design information for evaluating subsurface integrity, and specifically whether or not a disposal area can be constructed in a given area. The Department will not permit a disposal area to be constructed in an area that will cause a release of contamination into the environment, or an increase in the potential for causing public health or environmental degradation.

The capping remedy outlined in the SOB has been determined to be the least environmentally threatening of all considered closure alternatives. This remedy includes the removal of the excavated high haz. pile and consolidation of the remaining lead contaminated soil beneath a RCRA composite low permeability cap. However, this remedy must factor-in the existing subsurface conditions, and resulting construction impacts to the remedy must be able to be incorporated into the design phase of the low-permeable cap. The on-site remedy is considered "conditionally acceptable", provided all subsurface impacts to the design of the low permeability cap can demonstrate safe and effective long-term containment. The final design of the cap must include additional factors of safety to ensure that the long-term performance of this remedy is in accordance with the relevant and appropriate waste containment design criteria contained in the Department's regulations.

The following technical comments are primarily related to site suitability issues concerning the Marjol disposal area. The existing waste is proposed to be reconfigured and capped in accordance with the remedy described in the EPA's October 15,1999 Statement Of Basis (SOB). The SOB identifies lead contaminated waste locations as follows: the waste pile covered with a vegetated soil cover; the high haz. soil pile covered with a black synthetic geomembrane (i.e., area with temporary cover surrounded by jersey barriers); and, other contaminated areas denoted on the site plan drawings, including the areas identified as the North Woods Area. . Therefore, the following responses are answers and explanations to the Throop (Jan 18,2000/Blazey) comment No. 3, and the Gould (Jan 18,2000/Veysey-Collings) comments Nos.14 and 15:

Response to #3 (Borough's Comments):

The relevance of the Pa DEP residual waste regulations per 25 Pa. Code Section 288.261(a) and (b), and the municipal waste regulations per 25 Pa. Code Section's) 273.202, 273.291, and 273.259 were questioned as to whether they are applicable at the Marjol site. Although the cited 25Pa Code sections are not specific hazardous waste regulations, it is arguable that the substance of the regulatory prohibitions regarding isolation distances between coal and combustible waste can be considered Relative and Appropriate. Since the waste pile has been generated on-site prior to the implementation of the Department's municipal waste, residual waste and hazardous waste regulations, the management of the waste is not subject to the permitting language contained in the regulatory citations. However, the "intent" of the isolation distances and the associated environmental protection relevance of the regulatory distances should be considered in the Marjol remedy as follows:

The twenty-five feet exclusionary criteria between combustible waste and coal deposits is intended to ensure there is no potential for underlying coal to effect the waste or vise versa. This situation is relevant for example if an underground mine fire were to burn beneath, or adjacent to, the site. This situation is possible in northeastern Pennsylvania due to the extensive coal deposits in this region. The concern is significant because such fire would be capable of propagating along the extent of a typically continuous coal seam over time. A mine fire within proximity of a waste pile is able to ignite the combustible fractions of the waste if the heat generated by the mine fire was significant enough to contact anywhere along the base of the disposal area. Because of the difficulty in determining critical combustibility distances for differing types of no homogeneous wastes within any given disposal area, the Department has included twenty-five feet as a safe isolation distance. Therefore, this minimum waste-to-coal isolation distance is considered necessary to ensure adequate separation between continuous combustible coal deposits and any combustible waste materials. The Department also maintains additional conservatism by assuming that all uncertain waste is considered combustible unless the placement of the waste can be clearly documented to the contrary.

The last related issue presented in the Marjol discussions is the relevance of the Department's prohibition of waste cover materials that contain greater than twelve percent combustibility content. Similarly, this regulation is another disposal area permitting exclusionary criteria for ensuring a waste-to-coal isolation distance of twenty-five feet. This prohibiting of combustible earthen materials for landfill cover material is designed to minimize the potential for a landfill waste fire from being able to propagate along combustible cover material thereby contacting an adjacent layer of waste. This safety factor in the Department's regulations is designed to prevent a landfill fire, which in a typical municipal waste landfill is a difficult fire to control. Again, this regulation has been included in the Department's waste regulations due to the abundant availability of waste coal piles/culm banks within the Commonwealth that are particularly attractive to landfill operators due to their high availability and low costs (i.e., compared to other cover soils).

Response to #14 and #15 (Gould's Comments pages 57-60):

The Department's waste management regulations regarding protection of facilities from past and future mining activities and mine subsidence is a relevant factor for all facilities underlain my coal deposits. This regulatory language is particularly relevant to most facilities within northeastern Pennsylvania due to the abundance of underlying anthracite coal bearing areas. Many surrounding areas have undergone extensive deep mining of several different overlying coal seams. This situation raises more uncertainty from a mine map subsidence analysis standpoint due to differing coal company survey elevation points and coordinates. This inconsistent documentation and sometime inaccurate conditions makes lining-up overlapping mine maps very difficult (e.g.; different coal company north arrows point in different directions due to different compass headings as well as human error). This fact has required the Department to demand a thorough subsurface analysis of all undermined areas prior to approving any activities that have the potential to impact human health or the environment. In addition, a subsurface analysis typically involves a thorough examination of existing mine maps in conjunction with an analysis of several strategically placed - targeted core borings and drill loggings (e.g., both reviewing the available past loggings as well as locating new drillings). The analysis of drill data most often requires additional drillings and/or core borings until the Department's geologists are satisfied that the conditions of the subsurface are adequately characterized.

The Marjol subsurface analysis was conducted similarly for the purpose of determining the probability of long-term surface stability, by analyzing the actual subsurface conditions. This evaluation was necessary due to the past mining activities in the area of the current waste disposal footprint. The mine map analysis and supplementary drilling program was conducted to determine the suitability of the waste disposal area from both a stability/mine subsidence standpoint, and from a waste distance-to-coal standpoint. The Five Foot coal seam is known to extend beneath the site, therefore additional drilling was conducted to verify and supplement the information that was previously identified on mine maps of that area.

Based on the information that has been evaluated thus far, the potential for mine subsidence damage to the cap was determined to be negligible. Mine subsidence at the surface due to past mining mine voids will not affect the performance of the disposal area cap or cause a release of contamination into the environment. The potential for future subsidence damage to the cap from any underground mine fire propagating beneath the site was also determined to be minimal. However, because mine fires are known to be capable of burning slowly and for several decades, this situation has the potential to impact the long-term stability of the cap. The remedy must therefore address the potential coal related impacts underlying the proposed limits of the waste containment site. Long term stability and cap performance issues must be able to be demonstrated before the Department can consider an on-site remedy. Therefore, although the potential for mine fire induced cap failure is remote, it will remain a possibility and it must be able to be addressed with adequate factors of safety in the ultimate design of the low permeability cap.

The performance standards associated with the Department's waste management regulatory twenty-five feet isolation distance are also considered relevant. The final design of the on-site remedy should also address cap performance from the standpoint of a potential mine fire being able to effect the long-term stability of the containment system. The isolation distance is not as significant a factor from a waste to coal fire potential as it is from a coal seam structural loss of subsurface support. This scenario can occur if underlying coal were to burn towards the limits of the synthetic cap system causing subsidence of the cap. The Department has recently reviewed and rejected an application for a new municipal waste landfill that was proposing to exist approximately one mile beyond the limits of a burning mine fire. This application included a proposal to create an isolation buffer between the waste and coal to remedy the potential for mine fire impact to the facility. The long-term uncertainty associated with this plan resulted in it being rejected by the Department. Again, this situation is a bit different than that of the Marjol site, but the similarity is the inherent need to address all potential long-term effects on the integrity of a disposal facility throughout the life and post closure period.

The Marjol site remains unique in that waste existed prior to implementation of the Department's regulations, however the potential for mine-related damage to the facility must be addressed as part of the remedy. The current underlying mine voids does not pose a significant subsidence concern, but coal seam continuity and combustibility does raise concern. The concern for addressing the impact of mine related damage to the facility in this particular case is associated with the known continuity of coal seams and the possibility for a mine fire to propagate along this continuity. The inherent coal seam combustibility threat should also consider the fact that coal can continue burning in an oxygen deficient environment, therefore any abatement plan that addresses coal seam continuity with simple monitoring and a post event fire extinguishing contingency plan is not considered acceptable. The technical solution to potential mine-related threats must be included as part of the actual remedial design and not as a mine fire contingency plan. The Department has also denied waste disposal permit applications that were unable to demonstrate assurances against the potential effects of mine subsidence damage to the facility. This includes the denial of three different permit applications that were located above areas with uncertain subsurface foundations. The performance criteria to keep in mind is long term stability, and assurance against the potential for contamination release that must be able to be demonstrated in the final remedial design.

In summary, the Department agrees that long-term disposal area performance is capable of being maintained at the Marjol site consistent with the EPA's in-place capping remedy. This concurrence is based in part on the fact that similar coal isolation concerns have been successfully alleviated at other permitted waste disposal facilities. In-place remedies including physically rendering a coal seam discontinuous have also been successfully performed at other disposal sites within the Commonwealth. This is commonly performed by excavating and removing a section of continuous coal along the limits of the seam(s) before they outcrop beneath the disposal area. The excavated area is then backfilled with a compacted noncombustible earthen plug. The Marjol remedial design must therefore include conditions that address waste-to-coal isolation concerns. This conditional approval should require the submittal and prior approval of a "Coal Seam Mitigation Plan" by Gould, which identifies the removal of potential threats of mine subsidence, and mine fire effects on the limits of the

capped disposal area. The final remedial design submittal should therefore include information that specifies the method(s) that are proposed to construct the disposal area such that subsurface coals within twenty-five feet of waste are rendered non-continuous.

We are looking forward to discussing these comments with you. If you have any questions regarding these comments please feel free to call me at the above numbers. Thank you for the opportunity to review and comment on this document.

Sincerely,

Leonard Zelinka
Environmental Protection Specialist
Environmental Cleanup Program

FAX TRANSMISSION

Fax:

To: Len Zelinka
Fax #: 570-820-4907
From: Sibyl Hinnant
Subject: Marjol Battery Site

Date: 4/19/99
Pages: 6, including this cover sheet.

COMMENTS:

Len-
attached is CBI's communication strategy and the meeting minutes for the bi-weekly conference call held on 4/16.
Talk to you soon.
Sibyl

Conference Call with Throop Borough Council Members - April 16, 1999

Participants: Maria Parisi Vickers, Paul Gotthold, Sibyl Hinnant, Joan Schafer (EPA)
Jim Barnick, Mr. Lukowski, and Joe Barone (Council)

Agenda Topics:

- Mine Subsidence Results Presentation
- Communications Plan
- Draft letter to residents re sampling and cleanup done between '88-'92
- Fencing around designated areas
- Mr. Zak's letter
- 20 Independent Samples of town's common areas
- ATSDR Health Consultation

❑ Mine Subsidence Study Presentation

- Sibyl told the group that Steve Jones, the mining expert, is out of the country and will not return until April 22; she feels his knowledge and familiarity with this site is needed at the presentation; she will contact him upon his return and try to schedule the presentation for the last week in April or the first week in May; Maria feels he is "worth waiting for" since he is internationally known for his expertise

- Mr. Lukowski raised a concern re Steve's comfort level in discussing mine fires; Sibyl will ask Steve to be prepared to respond to mine fire issues and if he is not comfortable with the subject, she will ask him who he would suggest as an alternative authority on the subject; Mr. Lukowski also raised the issue of the fire department's ability to respond to mine fires on-site - Gould has submitted a strategy to get contractor support (addressed in Gould's Emergency Response Plan); Paul will contact Gould and discuss the issue and schedule a time for a meeting or public discussion on the subject

❑ Communications Plan

- Maria asked the Council if they have any problems with the Communications Plan which demonstrates EPA's commitment to make Marjol a priority site; the Council agreed the bi-weekly conference calls are a good idea and the time and day are convenient to most of them.

❑ Draft Letter to the Residents

- Jim has not had sufficient time to review the letter but committed to do so by the next conference call.

❑ Fencing Around the Designated Areas

- Jim talked to Jim Cronmiller from Gould - they are scheduling a day next week to do a walk-thru to identify the locations the Borough believes should be fenced; Sibyl asked if she could also go on the walk-thru; Jim promised to inform Sibyl of the date and time once Gould confirms it.

❑ Mr. Zak's Letter:

- Maria asked the group if they were aware of any other residents who have similar concerns; the Council members were not aware of any other residents who have come forward with a similar situation; Maria told the group we are still reviewing the letter and we will be responding to Mr. Zak in the near future.

❑ **Independent Sampling**

- Jim informed the participants that sampling on common areas was completed the day before by the Borough Contractor; Sibyl asked him if he could identify the exact locations; Jim will share those locations with her next week (at the walk-thru, if possible).

❑ **Health Consultation**

- Jim raised concerns with the Health Consultation - if it's not what the people want, he will elevate the issue; he needs to know the name of the chief executive for ATSDR; Paul will provide him with the information - name and address; Maria reminded the group that EPA does not have jurisdiction over ATSDR but we can offer to bring the Council and ATSDR together at the table and facilitate a discussion; Paul will invite ATSDR to participate in the next conference call; the Council may also invite a member from the Lackawanna Medical Society.

❑ **Additional Issues:**

- Mr. Lukowski asked about the EJ Report; Paul informed everyone that his group is reviewing the sites identified in the report and he should be able to provide them with information at the next conference call.

❑ **Next Conference Call:**

- Scheduled for April 30 at 11:00 a.m.
- Agenda Topics include the following:
  - Scheduling of Mine Subsidence Results Presentation
  - Draft Letter to Residents
  - EJ Report Update
  - A Discussion with ATSDR re Health Consultation

❑ **Action Items:**

- Sibyl will contact Steve Jones re his availability to present the mine results and his comfort level in discussing mine fires;
- Paul will contact Gould re their strategy in the event of a fire on-site and schedule a date for discussion;
- Jim will review the draft letter by next conference call;
- Jim will notify Sibyl of the date, time, and meeting location for the walk-thru with Gould;
- Sibyl and Paul will continue to review Mr. Zak's concern;
- Jim will share with Sibyl the exact locations of the independent sampling of common areas by next week;
- Paul will provide Jim with the name and address of the top executive in ATSDR;
- Paul will invite ATSDR to participate in the conference call;
- Paul will collect the info from his group re the sites mentioned in the EJ Report and be prepared to discuss at the next conference call.

March 1999
Communications Plan for Throop Community

Actions	Responsibility	Target Dates/Completed Dates
Internal:		
Regularly scheduled "update" meetings between Paul and Sibyl *to include other team members as needed (Joan, Joel, Ruth, Yvette, Cindy Yu, Maria and DEP)	Sibyl	Every other week (Choose a time and day)
E-mail message from Paul to Maria (cc to Sibyl & Joan) summarizing the bi-weekly meeting	Paul	Routinely, after every meeting
Maria will keep John informed of significant actions (either thru a copy of Paul's e-mail messages or face-to-face at staff meetings	Maria	On-Going
When information needs to be conveyed to the community, Sibyl will meet with Joan and Paul to discuss the appropriate communication vehicle	Sibyl initiates the action; Paul and Joan will coordinate the communication delivery	On-Going
When a communication is prepared for distribution to the community, Joan will contact Cindy Yu and keep her informed; Cindy will then inform the 3 Congressional offices of expected communications	Joan	On-Going

When Congressionals or controls are received by Sibyl, they should be discussed with Paul at the bi-weekly meeting; Cindy Yu should be kept informed of decisions/actions (thru Joan); responses will still go thru Cindy, but written responses to the Mayor or Borough will also be cc'ed directly to the 3 Congressional offices	Paul, Sibyl, Joan cc to Maria & Joan to notify them of the existence of the Congressionals or letters	On-Going
External:		
Bi-weekly phone calls or conference calls should be scheduled routinely between Maria and Jim Barnick and any other public officials who wish to be included; this effort will keep them informed about current status	Maria	Scheduled following the bi-weekly meeting between Paul and Sibyl (a specific day of the week and time should be chosen) If issues/concerns develop from the conversation, Maria will send an e-mail to Paul, Sibyl, & Joan or schedule a meeting to discuss
Invitations to Borough Council Meetings should be accepted whenever possible	Sibyl	On-Going
Periodic newsletters or fact sheets will be issued to the community when necessary	Sibyl, Joan, Paul	On-Going

An up-to-date mailing list needs to be established for those residents who wish to receive EPA information by direct mail	Maria, Paul, Sibyl, Joan	Coordinate with Throop Borough Council
Public meetings will be scheduled as needed during the project plan evaluation (Maria & John will attend when possible)	Sibyl, Paul, Joan	As necessary
Specific Actions		
Announcement of Health Consultation: - a letter sent to the Borough President and the Mayor - a newsletter to the community announcing the health consult and a summary of the November health forum	 Paul, Sibyl Paul, Sibyl, Joan	 completed prior to completion of Health Consult by PADOH
Letters sent to residents (400+) who had sampling done by Gould. Re: the cleanup process	Sibyl, Yvette, Joan	In progress
Mine Study results: communicated to community at the Borough Council Meeting	Sibyl	4/8/99 Additional meetings, as needed
Health Consultation results will be provided to community	Tom Stukas, Sibyl, DOH, Joan	Target late Summer '99
CMS Approval Needs to be communicated	Sibyl, Paul	6/99 - 7/99 (Gould must submit by 6/99)

Environmental Justice Issue	Sibyl, Paul, EPA Environmental Justice Office	5/99
3 Public Meetings to Discuss Remedy Description: ❑ Explain the remedy decision ❑ Opportunity for comments and discussion ❑ Formal Hearing	Sibyl, Paul, Joan, Maria	(Target date for remedy selection is 9/15/99)

3HW62

Storage Tank Section

Environmental Cleanup Program
Department of Environmental Protection

Fax Cover Sheet

Date: 7-14-95

Total pages
(including cover sheet): 2

To: Cheryl Atkinson
Phone: X-3217
Fax:

From: Len Zelinski
Phone: (717) 826-5475
Fax: (717) 820-4907

Message:
Agenda

Marjol Battery Site EPA/DEP Meeting Agenda
July 18, 1995

1. EPA/DEP CMS Comments
2. EPA/DEP Position on Final Remedy
3. Gannet/Fleming CMS Comments(Citizen's Comments)
4. EPA Position on CAMU/Capping Options
5. DEP's Role Based on the RCRA Order
6. Schedule/ Next Activity

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Marjol Battery Site

FROM: Sibyl Hinnant, EPA

TO: Hugh Kaufman, EPA

2000

Based on our meeting on June 28th, I have attached the following documents to provide you with some background information on EPA's activities at the Marjol Site and with the surrounding community of Throop, PA:

-the April 1988 CERCLA Consent Agreement and Order which initiated EPA's formal involvement by directing Gould Inc, the site owner, to conduct a cleanup of residential properties and to begin stabilizing on-site contaminants;

- the May 1990 RCRA Onsite Remedial Study Consent Order; and

- the January 11, 1999 Public Hearing transcript following the issuance of the EPA's proposed remedy in the Statement of Basis dated October 15, 1999 (I provided you with a copy of this document in Phila.);

I have meeting minutes and transcripts from other public meetings and sessions with Throop Borough Council. If any of these would be helpful to you I can have them forwarded to you under separate cover. If you need any additional information, please contact me at (215) 814-3417.

Attachments

cc: Ken Kryszczun, EPA (w/ attachments)

FAX

PA DEP
Abandoned Mine Reclamation
P.O. Box 8476
Harrisburg, PA 17105-8476

Date 4/19/00

Number of pages including cover sheet 18

To: Sibyl Hinnant

From: Tim Altares

Phone

Fax Phone

CC:

Phone (717) 783-7923

Fax Phone (717) 783-7442

REMARKS:

☐ Urgent ☒ For your review ☐ Reply ASAP. ☐ Please comment

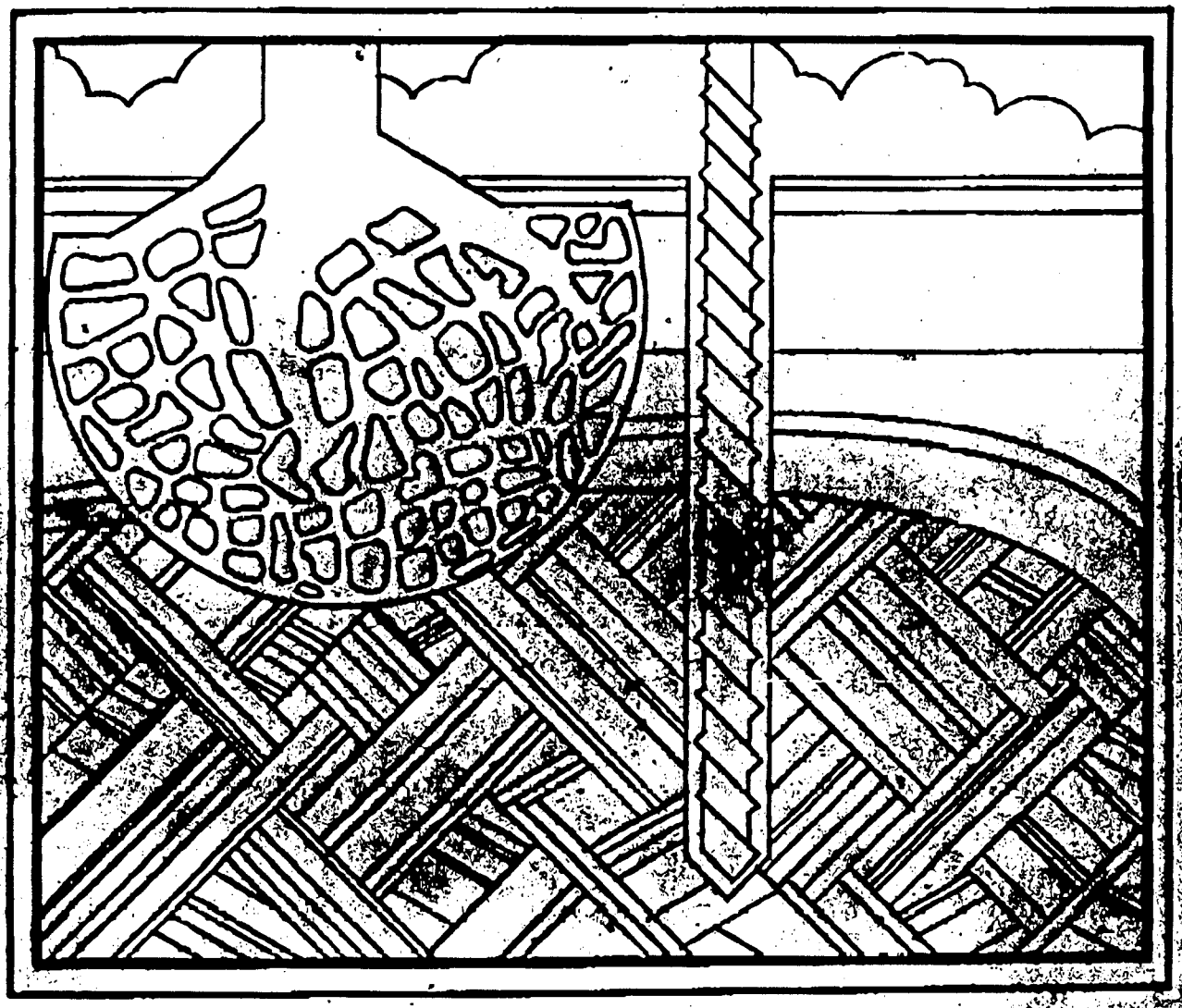
SUBSURFACE INVESTIGATIONS

FOR PROPOSED JUNIOR-SENIOR HIGH SCHOOL

MID-VALLEY SCHOOL DISTRICT

BOROUGH OF THROOP, LACKAWANNA COUNTY, PA.

D.E.R SERIES



JUNE 4, 1973

NOTARTOMASO-LONGO ASSOCIATES

E J PETERS & V S RIGGI
ARCHITECTS & ENGINEERS
SCRANTON & DUNMORE, PENNSYLVANIA

SPECIFICATIONS
FOR
SUBSURFACE EXPLORATORY PROGRAM
PROPOSED JUNIOR-SENIOR HIGH SCHOOL
MID-VALLEY SCHOOL DISTRICT
THROOP, LACKAWANNA COUNTY, PENNSYLVANIA
D. E. R. SERIES

NOTARTOMASO & LONGO ASSOCIATES
AND E.J. PETERS & V.S. RIGGI
ARCHITECTS & ENGINEERS
512 BLAKELY STREET
DUNMORE, PENNSYLVANIA

JUNE 4, 1973

INDEX

Notice of Bidding	NB-1
Form of Proposal	FP-1 to FP-3
Scope of Work	SW-1
Technical Specifications	1 to 9
Mining Report	1 to 10
Cross Section	

Report of Mining Engineer
Feasibility of Site Considering
Mining and Surface Conditions

Mid-Valley School District
Olyphant, Pennsylvania. 18447

June 7, 1971

Civil & Mining Engineer
Registered P.E. Penna. #1017

The Pennsylvania Appraisal Company

Organized 1921

NORTHEASTERN NATIONAL BANK BUILDING
SCRANTON, PENNSYLVANIA - 18503

June 7, 1971

Mid-Valley School District
Olyphant,
Pennsylvania, 18447
Attention: Mr. Frank Runco, Business Manager

Report of Mining Engineer
Feasibility of Site Considering
Mining and Surface Conditions

Dear Sirs:

In accordance with your letter of instructions dated April 28, 1971, I have made a study of the underground and surface mine conditions at the proposed site of a new Junior-Senior High School on land to be acquired by Mid-Valley School District from Raymond Colliery Company located south and southwest of Eddy Creek Culm Bank between Franko and Catherino Streets and the Lackawanna River in Throop Borough.

The site is a gentle knoll or plateau, about 91 acres in area, with vein outcrops and strippings of the upper beds around the margin and side slopes of the knoll, the "A" Bed Stripping which was back filled near the center and higher part of the knoll and all kinds of culm and ash banks and surface conditions around and on the surface of the land.

The top of the knoll is about 90 to 110 feet above Dunmore Street to the south and southeast and about 180 to 240 feet above the bed of the Lackawanna River to the northwest.

The surface and the mines were formerly part of the Hudson Coal Company Olyphant Division (Eddy Creek Colliery - Olyphant Colliery).

The accompanying Cross Sections 19-20, 21-22 and 23-24 show the surface of the knoll and the relative positions of the 12 mined veins with relation to the surface and to each other. The profile of the surface (scale 1 inch = 100 feet) is probably as it was prior to "A" Bed stripping and any major subsidence due to robbing in upper beds from 1930 to the present.

First mining in the upper beds was done by the Delaware & Hudson Canal Company probabaly over 100 years ago with possibly the latest mining the "A" Bed stripping in April 1968.

Second and third mining, referred to as removal or robbing of pillars was a long and repeated process, re-entry being made in some of the veins several times, so that where the accompanying mine maps show cross hatched areas, we can safely assume that all of the coal that could be mined (without endangering the miners) was mined.

In addition to the 3 cross sections showing the vertical position of the coal measures, I include herewith as part of this report to 1" = 400' scale prints of the mine maps of each of 15 coal beds showing the areas mined and in pillars and cross hatched for robbed areas in each vein and the approximate site boundaries marked on the prints in red. These prints were made from tracings loaned to me by Raymond Colliery Company. I also include a print to 1" = 100' scale of the Olyphant No. 1 Bed with the site boundaries and the cross section lines marked on in red. Used with the cross sections, the dates of mining and robbing of pillars and the vein heights listed hereafter in this report, these prints present a complete picture of the mines and mine condition.

It should be noted that the Upper 4 Foot Bed, the Bottom 14 Foot Bed, the New County Bed, the Bottom New County Bed in parts of the site area, and the No. 1 Dunmore Bed and the No. 2 Dunmore Bed in the whole tract were either non-existant or so thin as to be un-mined and un-mineable. Where there was any mining under this site at all, I included a print, but the No. 1 Dunmore Bed and the No. 2 Dunmore Bed were not mined, so I did not include a print of these veins. Also the Rider Bed was either non-existant or was so thin as to be un-mineable under the entire site.

In general at this site, the coal beds form a gentle basin under the Knoll (See Cross-section 23-24), with the coal beds deepest under the approximate center of the Knoll, and rising to outcrop at or near the margin of the Knoll. The rock cover over the No. 1 Bed is 50 to 90 feet greater at the center of the Knoll than at the margin of the Knoll.

However, the gentle contours of the basin are disturbed by a roll or anticline (See Cross-section 21-22) which caused a gentle wave in the No. 1 Bed, a more pronouced roll in the No. 2 Bed a jump fault in the Diamond Bed, and disappearance of the coal seam in the 4 Foot and Upper 4 Foot Beds. This anticline was the cause of the abandonment by the mining operator of patches of coal pillars. I mention this condition because uneven subsidence may occur on the surface where the roll or fault line intersects the upper level of the rock strata. I considered the possibility and concluded that the danger of un-even subsidence had passed with the past overall subsidence of the area.

I have examined the surface and each of the known coal beds and hereafter breifly describe the thickness and rock cover of the bed, the approximate date of mining and pillar robbing, the condition of the mine opening with respect to voids, pillars and condition, and my opinion regarding the possible danger of surface subsidence due to that mining and possible damage to surface structures due to that mining.

Water in the Mines

The water level in the Olyphant Colliery-Eddy Creek Mine Pool was Elevation +704.3. Allowing for some flucuation and variation in base, the mine workings are filled to approximately this elevation now. This means that all of the Diamond Bed and all of the Beds below the Diamond are flooded with water all of the time, and that some workings in the 4 Foot Bed, the Upper 4 Foot Bed and the No. 2 Bed partly and to varying levels are water filled. The Diamond Bed workings and workings below the Diamond Bed are less likely to collapse because of the stabilization effect of the still water reducing the pressure tending to break the pillar faces, and it also means that the workings above the Diamond, including the No. 2 Bed are subject to some erosion and spalling because of oxidation and changes of pressure on pillar coal and gob. I have considered the possible deteriation of pillars and other support due to changes of the water level in these workings. I am of the opinion that these workings have been robbed to a large extent, that they have by this time collapsed and squeezed so that very few voids are left, and that action of the water will not make them cave and subside more than they already have.

Surface and "A" Bed Stripping

Of the 91 acres, plus or minus, of this site, approximately 20 acres of land, comprising the highest part of the Knoll was strip mined to depths from 0 to 40 feet, more or less, to recover the "A" Bed, in May 1967 to April 1968, and the resulting pit was back-filled by back casting with a drag line and bull-dozing with various equipment.

The "A" Bed was average 2.6 feet high. I have no reason to expect that the back filling was done with any special care or compaction. If the back filling was done in 1968 (3 years ago), and the average depth of back fill was 30 feet, it is not likely that the fill has settled sufficiently so that a school building could be constructed upon it without special foundations or special compaction. Usually it takes 10 to 20 years for random back fill to compact naturally.

If this back fill were excavated to a reasonable depth so that column and wall footings could be placed in trenches on the floor of the "A" Bed, this area of "A" Bed Stripping could be used for a Junior-Senior High School Building. The excavated earth could be used for leveling surrounding campus, playing fields and play areas.

If such a grading project is too expensive, there are large areas of natural, unspoiled ground on all four sides of the "A" Bed stripping pit. The most attractive of those is a sloping parcel of land between the northwesterly edge of the "A" Bed Stripping and the bluff over the Lackawanna River. This land is about 600 feet by 1400-1500 feet and slopes about 5% to the top of the bluff.

Surface and "A" Bed (continued

There are two more possible school building sites each about 400 feet by 1600-1900 feet, one South of the "A" Bed Stripping towards Catherine Street, and the other North of the "A" Bed Stripping towards the Eddy Creek culm bank off Bush Street.

Either of these undisturbed sites is feasible.

The back-filled "A" Bed stripping area could be used safely for playing fields, campus and play areas, and for minor structures which would not be seriously affected by settlement due to lack of compaction of the back fill.

The Pennsylvania Department of Environmental Affairs (formerly Pennsylvania Department of Mines and Mineral Industries) by contract is extinguishing the burning Eddy Creek Culm and Refuse Bank to the north of this site. In setting up a time table for excavation and construction for the Junior-Senior High School, consideration should be given, first to the date when the bank fire will be completely out and second to the the school building floor elevation and the grade of the surrounding campus with relation to the finished grade of the leveled off bank.

The northerly corner of this site, between the top of the bluff and the Lackawanna River, is occupied by a rock and breaker refuse bank, an extension of the Eddy Creek Bank, but not on fire, which was piled against the bluff. See 1" = 400' Surface Map and Cross-sections. The school building should not be located on this rock and refuse bank, and because of the steepness of the bluff along the river, with the No. 1 Bed outcropping in the side of the bluff near the river, and the No. 2 Bed doing the same 55 or 60 feet lower, I recommend that no building be located nearer than 150 feet from the top of the bluff.

The southerly corner of this land has been strip mined in the No. 1 Bed, and I recommend that no building be located nearer than 200 feet from the top of the stripping cut.

The westerly corner of this tract has been strip mined between the top of the bluff and the river and the recommendation above that no building be located nearer than 150 feet from the top of the bluff would prevent the building from being too close to this pit.

Within these limits, the size (square feet of building area), the shape, type, number of stories, and required bearing capacity of the soil can be decided upon, and the most economical and best location and floor elevation can be determined. Any of the four possible building locations will require a good deal of leveling and grading. The final decision on the location and floor elevation should be made from adequate topographic maps and extensive test borings.

Surface and "A" Bed continued

With the new sewage treatment plant under construction down river, and collecting sewers along the river and in Dunmore Street, the disposal of sanitary sewage offers no great problem.

Storm water would drain naturally towards the river or toward Lday Creek in existing channels and culverts.

Access roads from Throop via Dunmore Street and Franko Street are convenient and presumeably adequate. From Clyphnat area, I believe a good connecting road from South Valley Avenue to Bush Street could be built without great expense.

Existing connections with the Dickson City area are poor. One solution for access to the site from Dickson City would be a new bridge across the Lackawanna River and a road from Main Street.

There might be a question about Pennsylvania Gas and Water Co. having an adequate supply of natural gas at the present time. I am sure that this company would supply water in sufficient quantity and pressure.

The Pennsylvania Power and Light Co. could and would provide electric power as needed.

No. 1 Bed 8' @ Maxpol

The first mining in the No. 1 Bed (also called Clyphant No. 1 Bed) was done a long long time ago, possibly over 100 years ago. Except for a small area of our tract near Catherine Street and Franko Street the pillars were robbed, probably between 1930 and 1946. Some coal near the margins of the Knoll were strip mined in 1943-1942.

The No. 1 Bed outcrops in the bluff above the Lackawanna River about 60 feet down from the top of the bluff, partly under the rock and refuse bank, and in the southerly corner near Franko Street.

In the basin area under the high part of the Knoll, the No. 1 Bed is about 130 feet below the floor of the "A" Bed, 170 feet plus or minus below the surface.

The robbing of pillars was so complete and so thorough that the roof collapsed many years ago, filling the mine voids and breaking the rock strata to the surface.

Except along the bluff and near the stripping cuts near the corners of the tract, there is no danger of subsidence because of mining in the No. 1 Bed.

No. 2 Bed 5 Foot C Marjol

The No. 2 Bed (also known as Clyphant No. 2 Bed) was first mined 1900-1910, and the pillars were partly robbed 1948-1952.

The No. 2 Bed lies about 52 feet below the No. 1 Bed in the basin area under the Knoll, and is 6.0 feet high, more or less. The alternate patches of pillars and robbed areas are very irregular in location, shape and size. Several pillars are marked "abandoned" on the cross-sections and on the 1" = 100' maps. Where pillars were not robbed, the pillar area is about 50% of the total area.

The No. 2 Bed outcrops in the bluff about 200 feet south of the Lackawanna River, partly under the rock and refuse bank.

The patches of pillars under the Knoll, could have some voids surrounding them. The first mining was completed 60 or 70 years ago. The pillars on all sides of the "abandoned" pillars were robbed. The vein is 200-240 feet down from the surface under the Knoll. The pillar areas in the No. 2 Bed have given me some concern, but after examining the maps, I have come to the conclusion that the reason the pillars were not robbed was because the areas had already collapsed, the pillars crumbled, and the rock roof fallen down into the chambers, and therefore, in my opinion, there is no danger of cave or subsidence due to the mining in the No. 2 Bed within our area.

Upper 4 Foot Bed Top Split Top Four Foot C Marjol

The Upper 4 Foot Vein was mined and partly robbed in the easterly corner of this tract approximately triangular area 480 feet by 1100 feet from 1927 through 1934.

The Upper 4 Foot Bed was only 20-25 feet below the No. 2 Bed and 20 feet above the No. 4 Bed.

The Upper 4 Foot Bed was about 3 feet high where mined and much less or non-existant elsewhere. Small areas of pillars were not robbed in between robbed areas and some solid areas. The pillars were about 50% of the superficial area, but the robbing was so extensive that the size of the pillars remaining would not have prevented the caving and squeezing and filling of most of the voids.

There is no danger of cave or subsidence due to the mining in the Upper 4 Foot Bed in this tract.

4 Foot Bed Top Four Foot C Marjol

The 4 Foot Bed is about 276 feet below the surface, 20 feet below the Upper 4 Foot Bed and 35 to 50 feet below the No. 2 Bed. The vein height varies from 2.0 to 5.0 feet, and has a fire clay roof. Only the easterly half of this vein in this tract has been mined on the south and north sides of the anticline. The mining and robbing dates are between 1930 and 1941.

4 Foot Bed continued

There is a large unmined area to the northwest toward the river and an unmined corridor diagonally toward the east corner of the tract which I assume overlies the anticline. Most of the mined area underlying the Knoll where mined has been robbed. Only a very small area of pillars was left unrobbed on both sides of the anticline.

There is no danger of surface subsidence or cave because of mining in this vein, because it has already caved, squeezed and colapsed.

Diamond Bed Four Foot @ Marjol

The Diamond Bed was 58 to 70 feet more ore less below the 4 Foot Bed, and 355 feet below the surface. VARIOUS VEIN heights are given, from 3.0 feet to 9.0 feet, but the probable average vein height is 6.51 feet.

The Diamond was thoroughly and almost completely robbed between 1921 and 1944. Two very small patches of pillars along the anticline and a larger patch of pillars are all that remain.

The pillar area near the river is between 70 and 100 feet below the bed of the river.

The Diamond Vein is completely caved and squeezed and there is no danger of surface subsidence or cave due to mining in this vein.

Rock Bed Diamond @ Marjol

The Rock Bed is 94 to 116 feet below the Diamond Bed, about 455 feet below the surface. The vein height is 9.0 feet, more or less, the less being 5.0 feet and 8.5 feet and the more being 10.0 feet.

The Rock Bed is thoroughly and completely robbed under this site except for two pillar areas, one, very small, in the line of the anticline, and one, near and under the river. The pillars under the river are 200-210 feet below the river bed.

The Rock Vein robbing was between 1939 and 1946 and 1948 and the robbing of pillars caused the roof to cave and break, and the rock strata over the vein caved and squeezed down into the vein workings. For this reason there will not be any danger of surface subsidence or cave due to Rock Vein mining under this site.

14 Foot Bed

The Rider Bed was not mined under this site.

The 14 Foot Bed was 68 to 90 feet below the Rock Bed, 553 feet, more or less below the surface. Most of the area under this site is in pillars and the mining is very old, possibly before 1875. Some pillar robbing was done within 100 to 400 feet of the southeasterly boundary of the tract. Most of this robbing was done between 1946 and 1960. Later between 1957 and 1969 re-entry roads were driven through caved ground into the pillar areas, but the mining was abandoned in 1969, possibly because of rising water and high costs of mining. The 14 Foot Bed varied in height from 3.0 feet to 11 feet, with the most reasonable average of this site being about 7.8 feet.

Where the pillars are robbed, we can be sure the workings in this vein are caved and squeezed down tight. Where the maps show pillars, we can be almost sure that, because of the age of the mining, the depth from the surface and the height of the openings when they were mined, and the indications of abandonment of exploratory gangways, that the pillar areas are also caved and squeezed. Therefore, it is my opinion that there is no danger of surface subsidence or cave due to mining in the 14 Foot Bed.

Bottom Split 14 Foot Bed

Only a small area approximately 100 feet by 1000 feet along the southeasterly boundary of this tract was mined, and now remains in pillars. Where it was mine the Bottom 14 Foot was only 12.0 to 22.0 feet below the 14 Foot Bed and about 520 feet down from the surface. The vein height is between 3.0 and 4.0 feet. No mining dates were given on my map of this vein, but I assume the mining proceeded or was concurrent with the robbing of the 14 Foot Bed above in 1946 or 1947. There could be some openings in this vein but the area is so small and along the boundary line, and the mining is so deep compared with the height of the vein, I am of the opinion that any colapse of this vein will not affect any building on the surface.

New County Bed

Except for one pair of gangway-airway openings, the New County Bed is un-mined solid under this tract.

Bottom New County Bed.

The Bottom New County Bed is all un-mined solid under this tract except for a fringe of chambers and headings projecting into this tract about 100 feet along the southeasterly boundary line. The vein height is 2.5 to 6.0 feet, and where mined the vein is 614 feet down from the surface, 87 feet below the Bottom 14 Foot and 111 feet down below the 14 Foot Bed. This mining can be safely ignored.

Clark Bed

With the exception of a 200 Foot wide barrier pillar along the southwesterly boundary, the Clark Vein was first mined under the entire tract. Where the Bottom New County Bed was mined, the Clark Vein is 20 to 25 feet below that Bed, 100 to 180 feet below the 14 Foot Bed and 600 to 720 feet down from the surface. The pillars were not robbed and the proportion of pillar area to mined area is good. Also, 100 foot wide safety pillars were left every 9th chamber in addition to the barrier pillar along the southwest boundary.

The mining was done, according to my record in 1927-1929 under this site except for a few places working in the vicinity of the river along the northwesterly boundary in 1951-1952-1959 which are northwest of any possible building site.

Clark Bed vein heights vary from 3.75 feet to 11.0 feet. Most of the chamber heights are listed as 6.0 feet but I make the average vein height about 9 feet.

From the size of the pillars, I expect that there are open mined voids in this vein, but in my opinion, these voids will not affect the surface. The pillars are big enough to support the main rock strata over the vein. The roof rock has or will gradually break down into the chambers, arching between pillars, and swelling, so that the surface is safe from subsidence or cave due to this mining.

No. 1 Dunmore Bed

The No. 1 Dunmore Bed was not mined here.

No 2 Dunmore Bed

The No. 2 Dunmore Bed was not mined here.

No. 3 Dunmore Bed

The No. 3 Dunmore Bed was first mined and is in pillars except for one 60 feet by 260 feet chamber near the southerly corner of the tract, and the usual wide barrier pillar along the southwesterly boundary. The No. 3 Dunmore Vein is is 170 feet to 210 feet below the Clark Bed and is 2.5 feet to 4 feet in vein height. It is 782 feet to 915 feet down from the surface. Big pillars, big safety pillars and wide barrier pillar would support the main rock strata, and I expect that there are open mine voids in this vein. The mining dates on the maps are 1945 through 1958. In my opinion there has been and there will continue to be a gradual filling of the voids in this vein, but that the process will not affect the surface, which is safe from subsidence or cave due to mining in this vein.

No. 4 Dunmore Bed

The No. 4 Dunmore Bed was first mined, not robbed, under this site, with very large pillars, safety pillars, and barrier pillars. The No. 4 Dunmore Bed was 20 to 22 feet below the No. 5 Dunmore Bed and 893 to 936 feet below the surface.

The vein height was 4.0 to 5.0 feet with a high spot or two of 7.4 feet. The mining was done between 1937 and 1952.

I expect that there are mine voids standing open in this vein which is near or below sea level under this site.

The pillars are big enough to support the main rock strata so that no cave or subsidence will carry up to the surface.

Any breaking of the roof immediately over the mine openings will be dissipated by the swelling of the broken rock and the arching action of the strata in this bed and the bed above, and not affect the surface.

Therefore I am of the opinion that there is no danger of subsidence or cave due to the mining in the No. 4 Dunmore Bed.

Conclusions and Recommendations

In my opinion, with the exception of the remote possibilities of the water being removed from the mines or a major earthquake in this area, this site is feasible and safe as far as the mines are concerned for your proposed new Mid-Valley School District Junior-Senior High School.

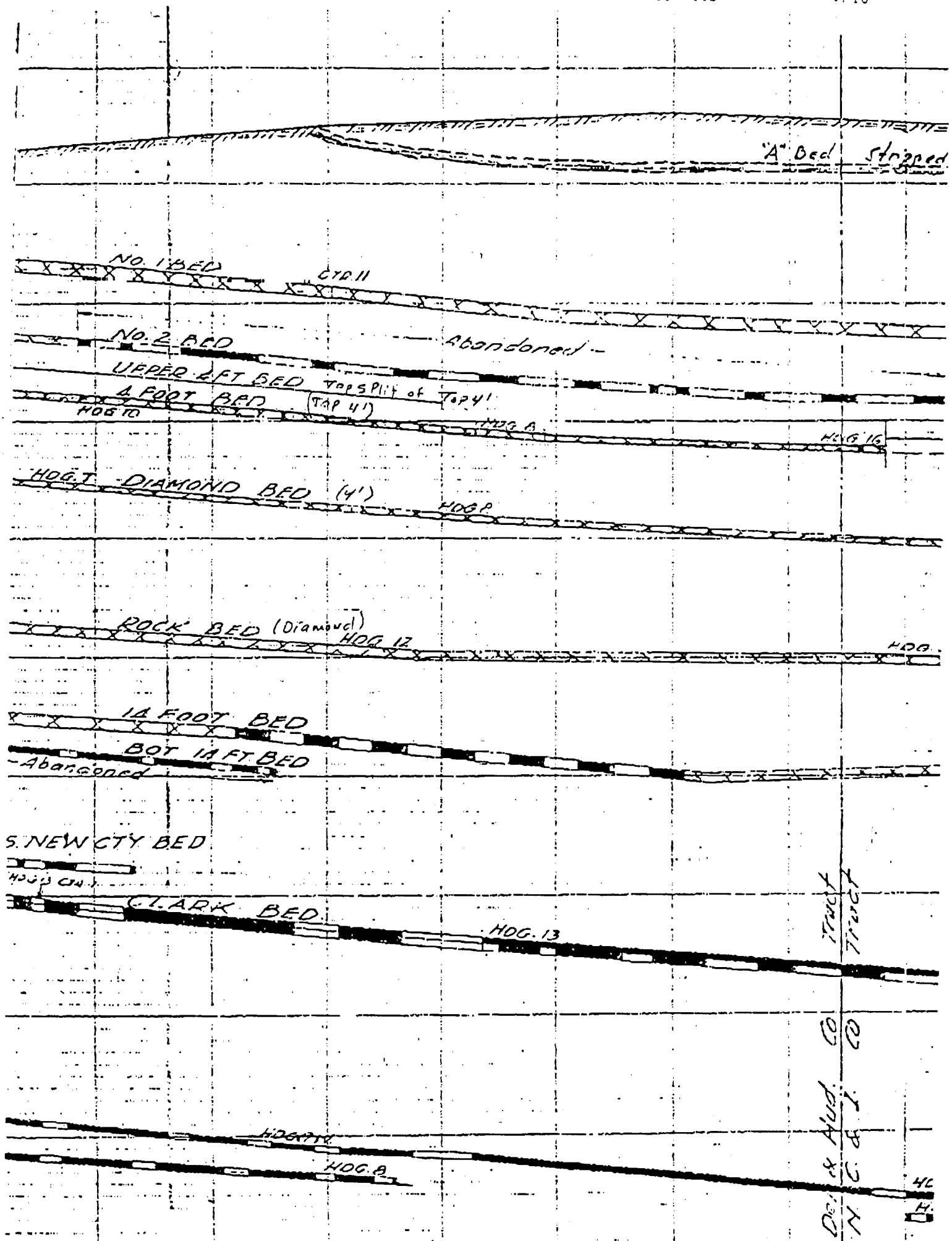
I recommend that when tentative location of the proposed building or buildings has been determined, that test borings prove that soil under major structures has bearing strength to support the structures.

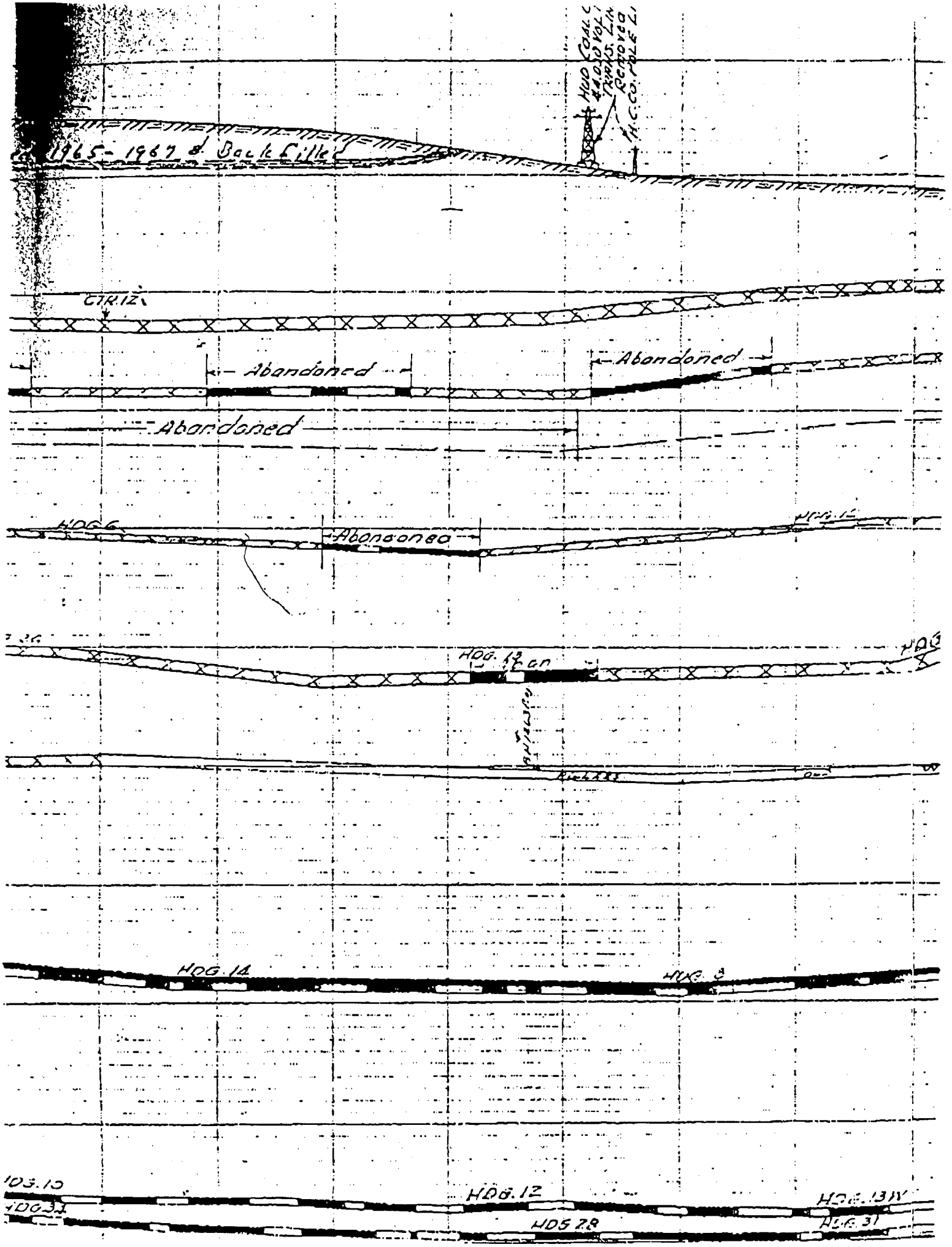
As a precaution, I recommend that test borings drilled as far as the Diamond Bed floor prove that there is no underground mine fire under this site.

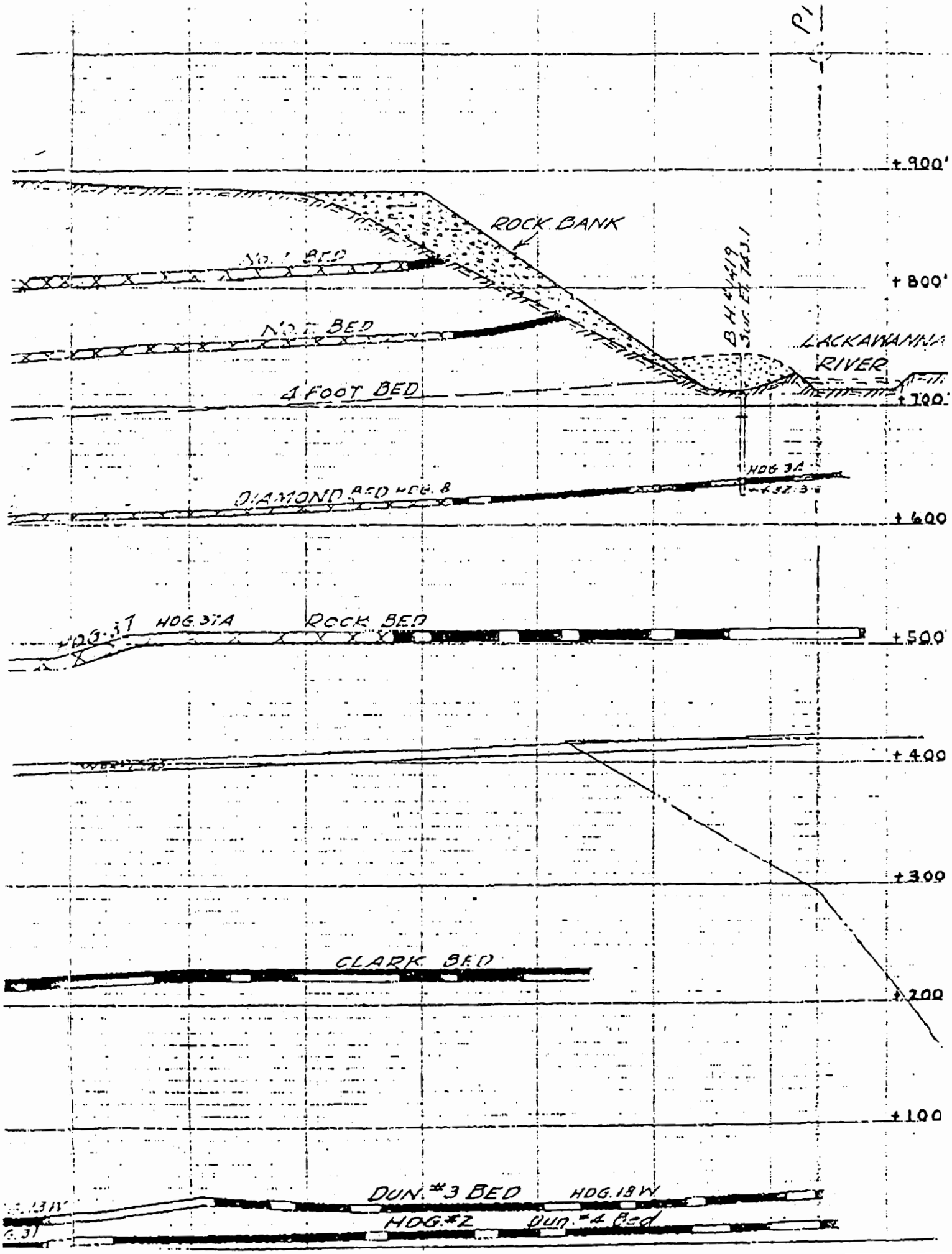
Respectfully submitted,

Robert W. Bell

Robert W. Bell
Civil and Mining Engineer
Reg. P.E. Penna. #10177


"A" Bed Stripped
NO. 1 BED
CTR. 11
NO. 2 BED
Abandoned
UPPER 2 FT BED
Top Split of Top 4'
4 FOOT BED
(TOP 4')
HOG 10
HOG 8
HOG 16
HOG. 7
DIAMOND BED (4')
HOG 9
ROCK BED (Diamond)
HOG 12
HOG.
14 FOOT BED
BOT 14 FT BED
Abandoned
S. NEW CTY BED
CLARK BED
HOG. 13
Tract
Tract
Co
Co
Del. & Hud.
N. C. & I.
HOG. 8


1965-1967 & Back Filled
CTR.12
Abandoned
Abandoned
Abandoned
HDG.6
Abandoned
HDG.13
HDG.14
HDG.12
HDG.13W
HDG.31


P1
+900'
ROCK BANK
No. 1 BED
+800'
No. 2 BED
B.H. 41419
Sur. El. 743.1
LACKAWANNA
RIVER
4 FOOT BED
+700'
HDG 3A
DIAMOND BED HDG. 8
+600
HDG. 37
HDG. 37A
ROCK BED
+500'
+400
+300
CLARK BED
+200
+100
DUN. #3 BED
HDG. 18 W
HDG. #2
Dun. #4 Bed

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Department of Environmental Resources
Environmental Cleanup Program
2 Public Square Commons
Wilkes-Barre, Pennsylvania 18711
(717) 826-2549 or (717) 826-5441

April 17, 1995

Ms. Cheryl Atkinson
Mail Code: (3HW64)
U.S. EPA - Region III
841 Chestnut Building
Philadelphia, PA 19107

RE: Marjol Battery Site
Throop Boro., Lackawanna Co.
Baseline Risk Assessment
Responses to Comments

Dear Ms. Atkinson:

The above referenced submission, dated March 31, 1995 has been reviewed by the Department. The Department has no further comments or recommendations for the Baseline Risk Assessment.

If you have any questions concerning this document, please do not hesitate to call me at the numbers above. Thank you for the opportunity to review and comment on this report.

Sincerely,

Leonard Zelinka
Regional Project Officer