NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road, Albany, New York 12233

Michael D. Zagata
Commissioner

August 9, 1995

Members of the Technical Committee
Regional Feasibility Study - Groundwater
Grumman Aerospace - Bethpage Facility (Site # 130003A)
Naval Weapons Industrial Reserve Plant - Bethpage (Site # 130003B)
RUCO Polymer - Hooker Chemical (Site # 130004)

Dear Members of the Technical Committee:

Enclosed please find a copy of the minutes for the July 27, 1995 meeting of the Technical Committee for this project.

If you have any questions regarding this matter, please feel free to contact me at (518) 457-3395.

Very truly yours,

John D. Barnes, P.E.
Environmental Engineer 2
Bureau of Eastern Remedial Action
Div. of Hazardous Waste Remediation

Enclosure

Members of the Technical Committee:

Dr. Alan F. Weston (OCC)
Mr. Arthur Gibson (Grumman)
Mr. John Ohlmann (Grumman)
Mr. John Cofman (Grumman)
Mr. Andrew Barber (G&M)
Mr. Carlo San Giovanni (G&M)
Mr. James Colter (USN)
Mr. Abe Kern (USN)
Mr. David Brayack (HNUS)
Mr. Martin Simonson (USN)
Mr. Daniel Davis (LWD)
Mr. John Molloy (H2M)
Mr. Dale Carpenter (EPA)
Mr. Joseph DeFranco (NCHD)
Mr. Timothy Vickerson (NYSDOH)
Ms. Susan McCormick (NYSDEC)

REGIONAL FEASIBILITY STUDY - GROUNDWATER
GRUMMAN AEROSPACE-BETHPAGE FACILITY (#130003A)
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT - BETHPAGE (#130003B)
RUCO POLYMER - HOOKER CHEMICAL (#130004)

MINUTES OF THE JULY 27, 1995 MEETING OF THE TECHNICAL COMMITTEE

1. A copy of the attendance sheet is attached. The United States Environmental Protection Agency (EPA) is now a member of the Technical Committee.

   John Barnes of the New York State Department of Environmental Conservation (NYSDEC) explained the roles of the regulatory agencies involved in this study:

Lead Agency:	NYSDEC
Support Agencies:	EPA New York State Department of Health (NYSDOH) Nassau County Department of Health

   This was followed by a brief review of the meeting agenda (attached).

2. John Barnes outlined the revised groundwater Interim Remedial Measure (IRM) developed by Geraghty & Miller (G&M):

   Extraction Wells: GP-1, GP-11, GP-13, GP-16, and three on-site containment wells (see attached copy of Figure 4 from the July 20, 1995 letter from G&M to John Barnes). The three on-site containment wells are to be pumped at a combined flow rate of 2300 gallons per minute (gpm).

   Two additional outpost wells (GM-39 and GM-70) are to be installed upgradient of the Bethpage Water District's Plants 4, 5, and 6. The well locations and screen zones will be determined after additional modelling has been conducted.

   John Molloy (Holzmacher, McLendon & Murrell (H2M)) said that the IRM proposal was acceptable (conceptually) to the Bethpage Water District.

Deliverables:
1. **Conceptual Approval of IRM Proposal - NYSDEC - July 31, 1995**
2. **Letter work plan for well installation (extraction wells and outpost wells) - G&M - August 2, 1995**
3. **Design Schedule (Treatment System) - G&M - August 11, 1995**

3. The remedy selected by the EPA in their January 1994 Record of Decision (ROD) was reviewed:

   - Three on-site extraction wells to be installed along the southern property line of the RUCO site.
   - These wells to be installed to depths of approximately 140 feet below grade.

- Combined pumpage: 100 gpm.

In addition to the IRM referenced above (Topic #2), the NYSDEC suggested during the March 22, 1995 meeting that a second IRM be conducted which would be designed to intercept an apparent vinyl chloride plume in the area of Grumman production wells GP-6 and GP-14. A pump and treat system would be put in place at these wells under this IRM. Further, the NYSDEC suggested that this IRM be conducted by the Occidental Chemical Corporation (OCC). After that meeting, OCC inquired if this IRM and the remedy outlined in the aforementioned EPA ROD could be combined.

Since the March 22nd meeting, there have been several discussions involving the NYSDEC, EPA, OCC, and Grumman regarding this issue. On August 1, 1995, Grumman will collect samples from production wells GP-6, GP-8, and GP-14 using the existing pumps to withdraw the samples. OCC will collect split samples. OCC may wish to sample these wells using packers sometime in the near future.

Pat Garrity (OCC) stated that the purpose for installing MW-51 and MW-52 was to allow OCC to better define the groundwater contamination around the RUCO site. Frank Rovers (Conestoga-Rovers & Associates (CRA)) added that additional piezometric data was needed in order to get a better understanding of the groundwater flow around the RUCO site. Mr. Rovers showed two sets of particle track results form layer 6, one with an extraction well at the MW-50 location, and the other with GP-6 and GP-14 operating. He then showed a slide on which observed and simulated piezometric heads were contoured for layer 6. There were some discrepancies in the direction of groundwater flow in the western portion of the study area. Mr. Rovers did not know the source of the data used to develop the contours for the observed piezometric heads.

Pat Garrity stated that OCC is in agreement conceptually with the idea of pumping and treating water from wells GP-6 and GP14 as opposed to the remedy outlined in the 1/94 EPA ROD. However, additional data is required as described in the previous paragraph. Kevin Lynch (EPA) stated that this approach was acceptable to the EPA in concept.

Art Gibson stated that Grumman will give OCC access to install MW-51 and MW-52.

Deliverables:

1. **OCC to submit a schedule for sampling GP-6 and GP-14, and for the installation and sampling of MW-51 and MW-52. This work is to be completed by Christmas of this year.**

2. **The NYSDEC requests that the analytical data generated during the August 1, 1995 sampling event be made available to the State and EPA by both Grumman and OCC by September 8, 1995. (NOTE: This deliverable was not discussed during the meeting.)**

3. **Letter from Grumman to OCC (copies to NYSDEC and EPA) granting OCC access to Grumman property for the purposes of installing the MW-51 and MW-52 monitoring well clusters. This letter is to be issued by August 21, 1995. If there are problems issuing such a letter, the NYSDEC and EPA must be notified in writing by August 21, 1995. (NOTE: This deliverable was not discussed during the meeting.)**

4. John Barnes outlined a proposed scope of work for the Western Plume Boundary study which was developed by the NYSDEC, NYSDOH, and EPA (see attached copies of the overhead transparencies used during the meeting).

John Molloy discussed the situations at Plants 8 and 9 of the Hicksville Water District:

Plant 8 - A treatment system is in place at this plant. An additional spool piece to be added to this system next Spring.
Plant 9 - A treatment system is under design.

Analytical data from samples collected from these well fields are presented in Appendix C. This data was given to John Barnes by John Molloy prior to the meeting.)

The following scope of work was agreed to by all parties:

1. An inventory of existing wells in the western portion of the study area will be developed.
2. Well clusters along Pathways 1 and 5 are to be installed.
3. Testing of wells listed in the aforementioned inventory.
4. Groundwater levels in all wells in the study area to be measured at same time.

5. Pat Garrity stated that OCC is willing to fund 1/3 of the Western Plume Boundary Study. Jim Colter (Navy) stated that the Navy could not participate because they do not believe that they are responsible for the western plume. Art Gibson (Grumman) stated that Grumman has done all of the work to the south, and has committed to conducting IRM #1 and installing two new outpost wells. He continued by stating that OCC has not participated in the referenced on-site or off-site groundwater investigations to date. Mr. Gibson committed Grumman to implementing Tasks 1 and 3 above. In addition, Grumman will participate in Task 4.

Deliverables:

1. OCC to contact the NYSDEC no later than August 2, 1995 regarding the installation/sampling of the well clusters along Pathways 1 and 5. If OCC does not agree to install these wells, then a teleconference will be arranged to further discuss this matter. These well clusters are to be installed as expeditiously as possible. The NYSDEC hereby sets a target completion date of October 31, 1995.

2. G&M to develop an inventory of the existing wells located in the western portion of the study area. This inventory will be distributed to the committee members by August 11, 1995.

3. During the week of September 11, 1995, groundwater levels will be measured at all existing wells. OCC, Grumman, and the Navy will participate in this venture. (The NYSDEC will measure the water levels of the Navy's wells if the Navy does not have the funds to do this work). G&M will develop a map on which all of these wells are shown prior to the survey event.

4. The wells to be tested (inventory in item #1 above) will be sampled for VOCs at the same time that the groundwater level survey is conducted. This work to be done by Grumman.

6. Tim Vickerson (NYSDOH) and Frank Rovers had questions regarding the groundwater model

developed by Geraghty & Miller. CRA will send a representative to meet with Doug Smolensky (G&M) to discuss the conceptualization of the computer model.

7. Work on the Feasibility Study will be tabled until after the next meeting of the Technical Committee.

NEXT MEETING: Late-October 1995. Date and location to be announced in mid- to late-September.

Topics to be Discussed:

1. Investigations along Pathways 2, 3, and 4.
   - Scope of Work
   - Project Funding

2. Status of the investigations along Pathways 1 and 5.

3. Results of the western well inventory, sampling and groundwater level measurement work.

4. Results of the sampling of Grumman production wells 6, 8, and 14.

5. Status of the MW-51 and MW-52 installation program.

6. IRM #1 Design.

7. IRM #2.
   - Status
   - Schedule

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REGIONAL FEASIBILITY STUDY - GROUNDWATER
Bethpage - Hicksville - Levittown

Meeting: July 27, 1995
New York, NY

ATTENDEES

	Name	Representing	Phone Number
1	Kevin Lynch	USEPA	[redacted]
2	Dale J. Carpenter	EPA	
3	Frank Rovers	OXY	
4	Patrick Garrity	OCC	
5	Timothy Mulvihill	NCDH	
6	Jack Dunleavy	NAVY	
7	John Ohlmann	Grumman	
8	Susan Biancketti	H2M	
9	Andy Barber	Geraghty & Miller	
10	John Cofman	Grumman	
11	Carlo San Giovanni	Geraghty & Mille	
12	Doug Smolensky	H2M	
13	Jim Colter	Dept. of Navy	
14	Gail Boyce	CF Brown (NUS	
15	Brett O'Dell	Geraghty & Miller	
16	John Molloy	H2M	
	Sue McCormick	NYSDEC	

ART GIBSON GRUMMAN

John Barnes NYSDEC

[redacted]

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REGIONAL FEASIBILITY STUDY - GROUNDWATER
BETHPAGE/HICKSVILLE/LEVITTOWN AREA

TECHNICAL COMMITTEE MEETING
JULY 27, 1995
EPA REGION II OFFICE, NEW YORK CITY

AGENDA

1 - Introductory Remarks - NYSDEC and USEPA

- New Members of the Technical Committee
- Roles of the Regulatory Agencies

2 - Groundwater IRM Number 1 - NYSDEC

- Protection of the Bethpage Water District's Plants 4-6
- Modifications from April 1995 Proposal

3 - Groundwater IRM Number 2 - NYSDEC and USEPA

- Pump and Treat at GP-6 and GP-14
- Modify January 1994 Record of Decision (RUCO Polymer)?

4 - Western Plume Boundary Study - NYSDEC and USEPA

- Goals
- Pathways to be Investigated
- Location and Number of Wells per Cluster
- Well Installation
- Analytes of Concern

- Open Discussion, Topic #4

5 - Implementation of the Western Plume Boundary Study - NYSDEC and USEPA

- Project Funding
- Completion Date

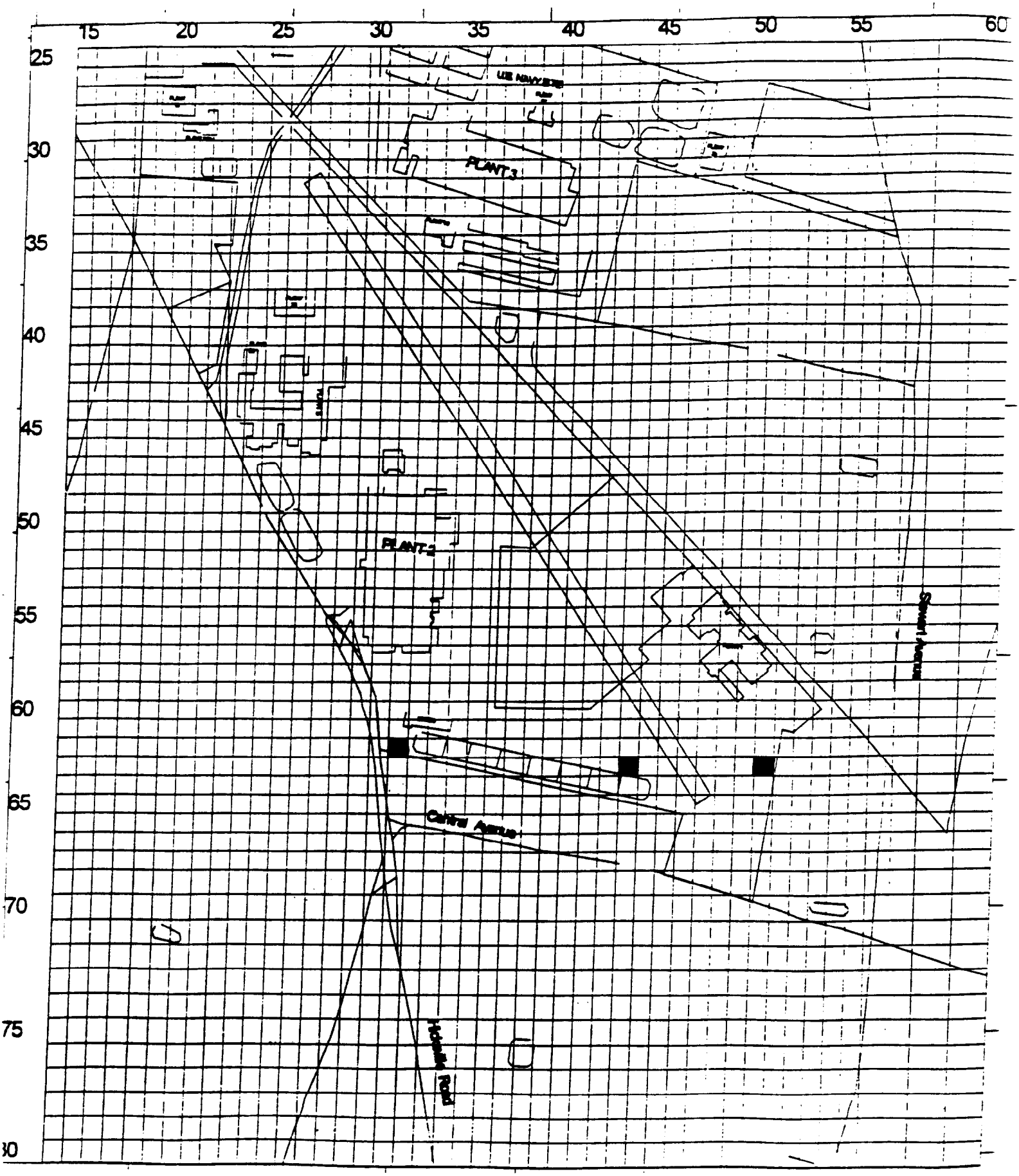
6 - Computer Modelling

- groundwater level (all wells at same time)
- data requirements
- questions regarding the computer model

7 - Feasibility Study Report - NYSDEC

8 - Meeting Summary - NYSDEC

- Deliverables
- Schedules
- Closing Remarks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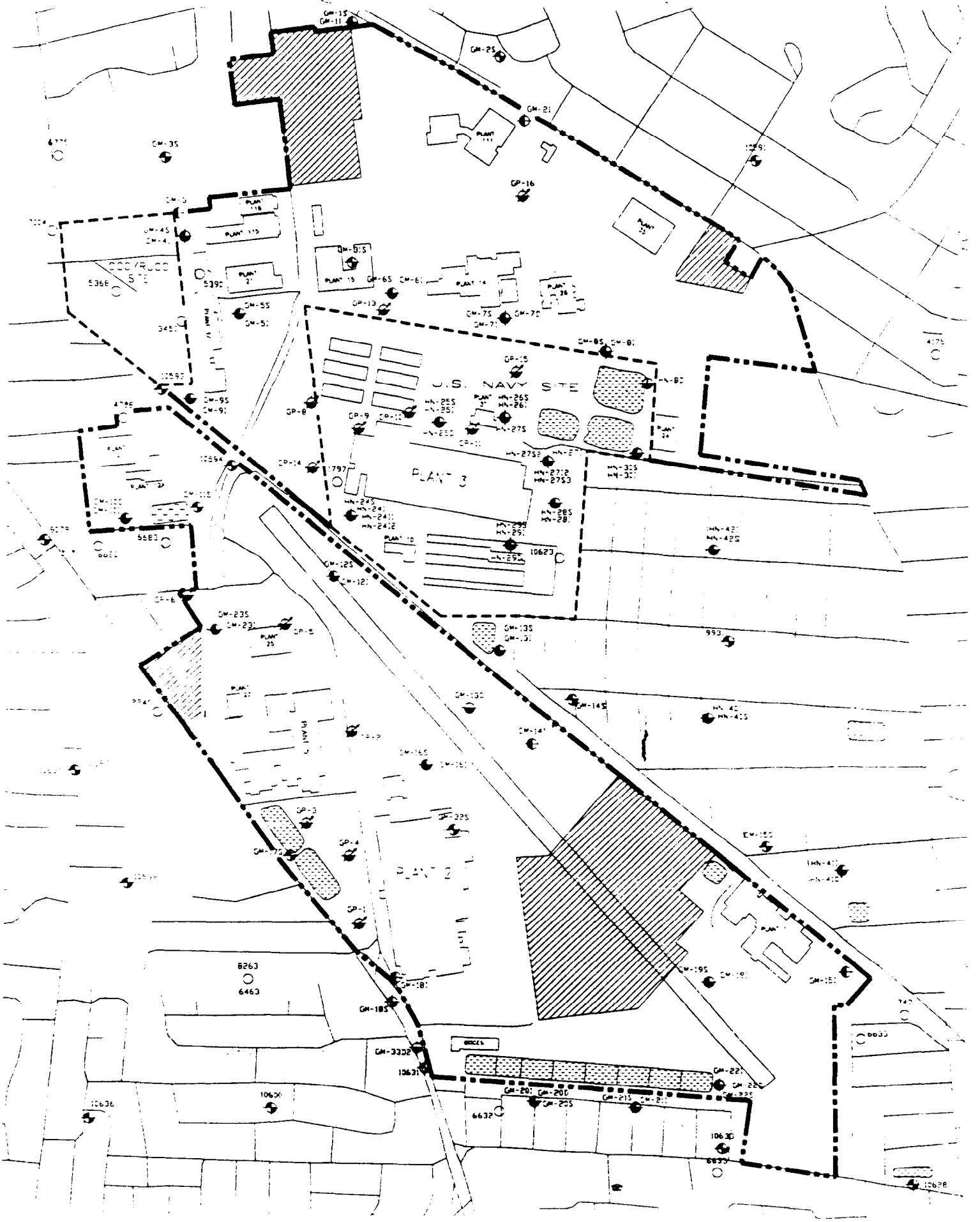
PLANT 3
PLANT 2
Central Avenue
Hobart Rd.
Sewell Ave.

FIG-4

DRAFT


U.S. NAVY SITE
PLANT 3
PLANT 2

WESTERN PLUME BOUNDARY STUDY

GOALS

- PROTECTION OF PUBLIC SUPPLY WELLS

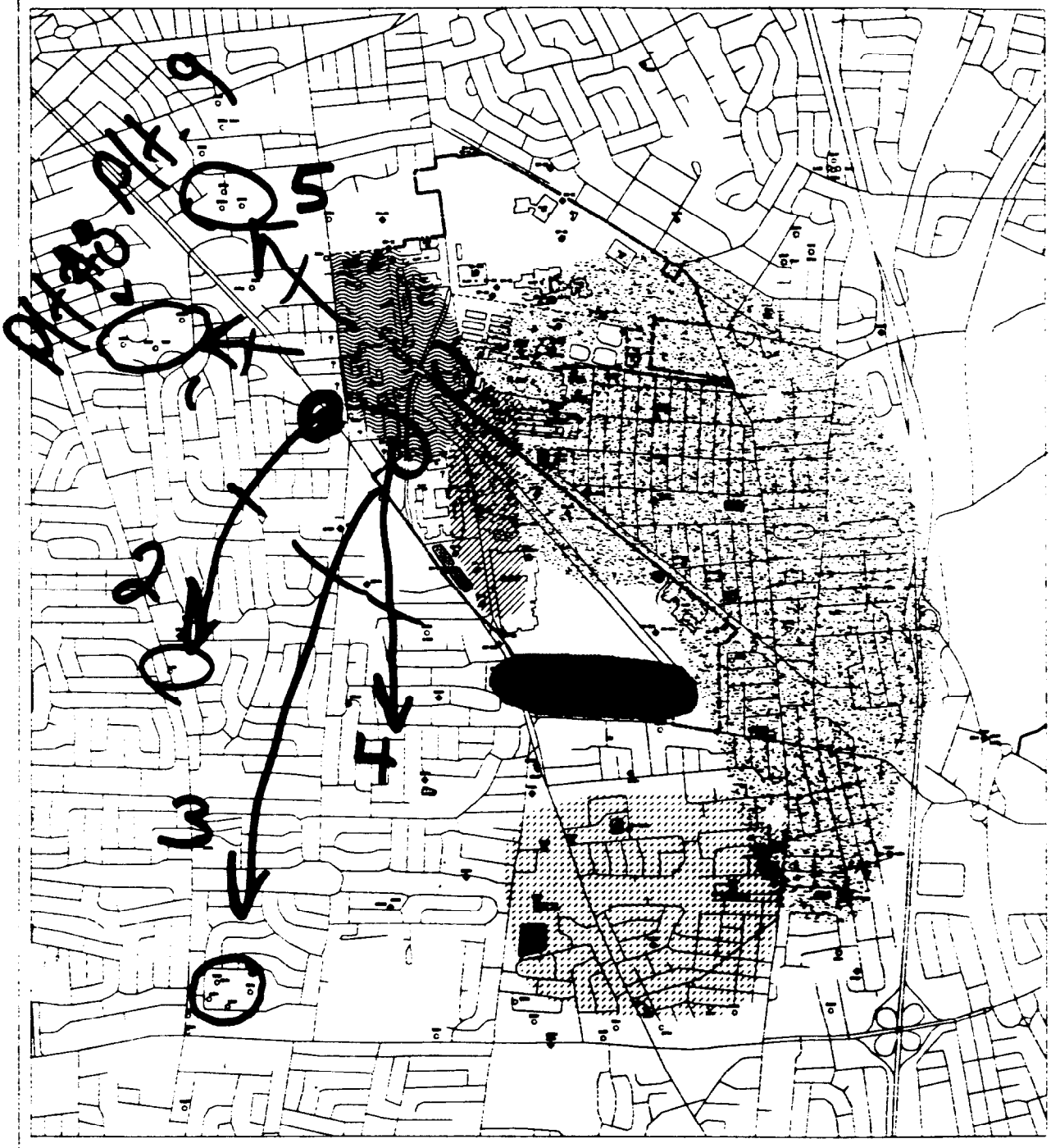
  1 - HICKSVILLE WATER DISTRICT
  2 - LEVITTOWN WATER DISTRICT

- REFINE GROUNDWATER COMPUTER MODEL

- GATHER DATA NEEDED TO EVALUATE APPROPRIATE REMEDIES

PATHWAYS TO BE INVESTIGATED

- HICKSVILLE WATER DISTRICT WELLS # 6192 ET. AL.
- LEVITTOWN WATER DISTRICT WELL # 4451
- LEVITTOWN WATER DISTRICT WELLS # 3194 ET. AL.
- USGS WELLS # 10597, 10598, 10630
- HICKSVILLE WATER DISTRICT WELLS # 8778 ET. AL.



EXPLANATION

GERAGHTY & MILLER, INC.

GENERALIZED AREAS OF IMPACT

FIGURE 5-2

PROJECT SCOPE

- ROUND 1 - NEARLY COMPLETE

  - MW-50 AND MW-53

- ROUND 2

  - MW-56 - 3-WELL CLUSTER, PATH #1
  - MW-57 - 3-WELL CLUSTER, PATH #2
  - MW-58 - 3-WELL CLUSTER, PATH #3
  - MW-59 - 4-WELL CLUSTER, PATH #4
  - MW-60 - 2-WELL CLUSTER, PATH #5

- ROUND 3

  - ADDITIONAL WELL CLUSTERS MAY BE REQUIRED
  - LOCATION, NUMBER OF WELLS/CLUSTER, ETC. TO BE DETERMINED AT A LATER DATE

METHODOLOGIES

- MUD-ROTARY OR EQUIVALENT ACCEPTABLE
- HYDROPUNCH AT 20-FOOT INTERVALS FROM 100 TO 500 FEET BELOW GRADE
- HYDROPUNCH ANALYSES: VOCs
- MAXIMUM SCREEN LENGTH: 20 FEET
- DEDICATED PUMPS OPTIONAL
- ANALYTES (PERMANENT WELLS): VOCs (SVOC TICs MAY BE REQUIRED IN SOME CASES)

H2M LABS, INC.

HICKSVILLE WATER DISTRICT																				
WELL # 9-1																				
	1990		**1991**			**1992**				**1993**				**1994**				**1995**		
DATE COLLECTED =>	8/1	12/28	6/26	9/23	12/18	3/13	6/30	9/23	12/18	3/24	6/17	9/15	12/3	2/7	6/20	9/26	12/9	3/22	6/26	
1,1,1-TRICHLOROETHANE (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND	ND	ND	ND	ND	ND	
1,1-DICHLOROETHANE (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	
WELL # 9-2																				
	1990		**1991**			**1992**				**1993**				**1994**				**1995**		
DATE COLLECTED =>	8/1	12/28	6/26	7/26	9/23	12/18	3/13	4/23	9/23	12/18	3/24	6/17	9/15	12/3	2/7	6/20	9/26	12/8	3/22	6/26
1,1,1-TRICHLOROETHANE (ug/l)	ND	ND	1.1	0.5	1.2	ND	0.9	0.8	ND	ND	0.6	0.8	ND	0.7	0.6	0.6	0.7	ND	ND	ND
1,1-DICHLOROETHANE (ug/l)	ND	ND	1.4	0.7	1.5	0.5	1.0	0.8	ND	ND	1.5	0.9	0.6	0.9	0.9	0.7	1.1	0.7	ND	0.6
DICHLORODIFLUOROMETHANE (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND	0.9	ND	ND	ND	ND	ND
WELL # 9-3																				
	1990		**1991**			**1992**				**1993**				**1994**				**1995**		
DATE COLLECTED =>	8/1	12/28	6/26	9/23	12/18	3/13	4/23	9/23	12/18	3/24	6/17	9/15	12/3	2/7	6/20	9/26	12/9	3/22	6/26	
TRICHLOROETHENE (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	0.9	0.6	0.6	ND	0.7	ND	ND	

NA - PARAMETER NOT ANALYZED ON THIS DATE
ND - NOT DETECTED @ 0.5 UG/L

H2M LABS, INC.

	1991			1992					1993										1994										1995					
DATE COLLECTED =>	8/28	9/30	12/19	3/26	5/5	10/29	11/24	12/16	3/23	3/29	4/28	5/27	6/17	6/30	7/28	8/25	9/20	11/30	3/11	4/27	5/27	6/27	7/28	8/26	9/28	10/28	11/29	12/28	1/26	2/23	3/27	4/26	5/24	6/26
TETRACHLOROETHENE (ug/l)	*20	*11	*14	*26	*8.7	*32	*16	*19	*27	*30	*31	*34	*26	*30	*40	*33	*26	*30	*40	*70	*73	*54	*65	*52	*65	*69	*61	*66	*120	*84	*63	*26	*100	*98
TRICHLOROETHENE (ug/l)	1.0	ND	ND	1.0	ND	1.1	0.5	ND	0.8	0.7	1.1	1.0	1.0	0.5	1.2	0.9	0.6	0.7	1.3	1.8	1.8	1.2	1.2	ND	2.4	1.7	1.9	2.7	2.8	2.5	0.8	ND	1.9	2.3

	1991			1992					1993										1994										1995					
DATE COLLECTED =>	8/28	10/3	12/12	3/26	5/5	8/27	9/23	12/16	3/23	3/29	4/28	5/27	6/17	6/30	7/28	8/25	9/20	11/30	3/11	4/27	5/27	6/27	7/28	8/26	9/28	10/28	11/29	12/28	1/26	2/23	3/27	4/26	5/24	6/26
TETRACHLOROETHENE (ug/l)	1.1	2.5	ND	1.1	0.5	*14	*15	1.8	*7.7	*9.6	*11	*13	*10	*11	*15	*16	*13	*19	*23	*16	*21	*14	*19	*15	*19	*19	*23	*26	*28	*27	*22	*14	*32	*25
TRICHLOROETHENE (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA - PARAMETER NOT ANALYZED ON THIS DATE
ND - NOT DETECTED @ 0.5 UG/L
* RESULT EXCEEDS NEW YORK STATE/USEPA LIMIT