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July 19, 1991

Mr. James Shafer  
Naval Facilities Engineering Command  
U.S. Naval Base - Northern Division  
Building 77L; Code 1421  
Philadelphia, PA 19112

Re: Naval Industrial Reserve Ordnance Plant  
Fridley, Minnesota  
Contract No. N62472-90-C-1024; Amendment No. 2  
RMT Project No. 2313.08

Dear Jim:

Enclosed, for your use, are 2 copies of the final notes from Technical Review Committee meeting #10, held at the Naval Industrial Reserve Ordnance Plant on June 27, 1991. Other copies of these notes have been distributed according to the attached Distribution List.

Sincerely,

A handwritten signature in cursive script that reads "Eric Gredell".

Eric Gredell, P.E.  
Project Manager

tfr

Enclosures

2313.08:PROJECTS/1870:shafer

JULY 19, 1991  
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MEETING NOTES  
TRC MEETING #10; JUNE 27, 1991

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Department of the Army North Central Division, Corps of Engineers Attn: Bob Warda/Clyde Giaquinto 536 South Clark Street Chicago, IL 60605-1592	2
Naval Facilities Engineering Command Attn: James Shafer - Code 1421 U.S. Naval Base - Northern Division Building 77 L Philadelphia, PA 19112	2
Defense Plant Representative Office FMC-Minneapolis Attn: NAVSEA Technical Representative Dick Hanson 4800 East River Road Minneapolis, MN 55421-5094	1
Naval Sea Systems Command Attn: Steven Hoffman CSEA 654-C Washington, DC 20362-5101	1
Minnesota Pollution Control Agency Site Response Section Division of Solid & Hazardous Waste Attn: Gary Eddy 520 Lafayette Road St. Paul, MN 55155	1
U.S. Environmental Protection Agency, Region V Remedial & Enforcement Response Branch OH/MN Section, Unit 1 (SHS-11) Attn: Tom Bloom 230 South Dearborn Street Chicago, IL 60604	1

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JULY 19, 1991  
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MEETING NOTES  
TRC MEETING #10; JUNE 27, 1991

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Minneapolis Water Works Attn: Mr. Adam Kramer 4300 Marshall Street NE Minneapolis, MN 55421	1
Defense Plant Representative Office FMC-Minneapolis Attn: Commander Daniel Hogan 4800 East River Road Minneapolis, MN 55421-5094	1

**Minutes of Meeting  
Technical Review Committee Meeting #10  
June 27, 1991**

**Naval Industrial Reserve Ordnance Plant  
Fridley, Minnesota**

Technical Review Committee meeting #10 was held at the Naval Industrial Reserve Ordnance Plant (NIROP) in Fridley, Minnesota, on June 27, 1991. A copy of the agenda distributed at the meeting and an attendance list are attached.

**A. Introductions**

1. Mel Buesseler opened the meeting shortly after 1:00 p.m.
2. Jim Shafer introduced two new attendees:
  - Linda Hicken, Project Manager, RMT, Inc.  
Ms. Hicken will be the RMT Project Manager handling work related to the soil operable unit; she will attend future TRC meetings. Eric Gredell will continue to be involved in the project as the RMT Project Manager handling work related to ground water remediation.
  - Dr. Thomas Georgian, Northern Division, Naval Facilities Engineering Command.  
Dr. Georgian, a chemist, has been assigned to support Navy activities related to environmental remediation at the NIROP. He will attend future TRC meetings.

**B. Activities Since Last TRC Meeting**

1. Jim Shafer mentioned that the final Federal Facility Agreement (FFA) was signed by the U.S. Navy, the Minnesota Pollution Control Agency (MPCA), and the United States Environmental Protection Agency (USEPA). The effective date of the FFA is March 28, 1991.
2. Clyde Giaquinto of the U.S. Army Corps of Engineers (USACE) St. Paul office reported that construction of in-plant piping for the ground water recovery system is about 90% complete. Some electrical work and miscellaneous piping work remains inside the plant, to be followed by final piping hookups. No drilling or well construction work occurred since the last TRC meeting, due to contracting difficulties between the USACE and its contractor.
3. Jim Shafer said that the Draft Remedial Action Monitoring Plan (RAMP) was issued to the MPCA and the USEPA in April 1991. Review comments have been received from the USEPA, but not from the MPCA. The RAMP, with the accompanying Quality Assurance Project Plan (QAPP), must be approved by the USEPA prior to startup of the ground water recovery system. RMT is preparing the Draft-Final RAMP and Draft QAPP.

4. The Draft-Final Technical Memorandum, presenting the results of the soil investigation and first round of ground water sampling performed in the fall of 1990, was issued in April 1991.
5. Tom Bloom said that the Final Community Relations Plan has been approved by the USEPA.

**C. Actions Scheduled for Next Quarter**

1. The USACE will be constructing modifications to the ground water recovery system, as approved by the USEPA and MPCA on June 14, 1991.
  - a. Nine monitoring wells were included in the original construction plans. Three of the monitoring wells were to be constructed in the vicinity of each of the 3 new ground water pumpout wells. Approved modifications now include other locations for the new monitoring wells.
  - b. New monitoring wells planned for construction near new pumpout well AT-5 will be relocated to better define the extent of the contaminant plume at the southwest side of the plant. The additional information regarding ground water quality in this area will be used to select the optimum revised location for pumpout well AT-5. Well AT-5 has been removed from the current construction contract.
  - c. Six new monitoring wells will be constructed in the Anoka County Park, downgradient of the NIROP. These wells will be used primarily as part of the monitoring well network to be sampled after system startup, to help define hydraulic capture effectiveness.
  - d. Pumpout wells AT-1 and AT-3 were found to be "bad" during attempts by the USACE to re-develop the wells. Both of these wells will be replaced.
  - e. Soil sample headspace testing will be performed on samples collected from installation of the new recovery and monitoring wells.
2. Clyde Giaquinto distributed an updated construction schedule (copy attached). The schedule shows that re-mobilization to the site by the USACE's drilling contractor will begin on July 8, 1991. Startup of the completed ground water recovery system is now scheduled to begin in December 1991.
3. The construction schedule will be updated bi-weekly by the USACE throughout the construction period. The USACE will send copies of each updated schedule by overnight mail service to the U.S. Navy, the MPCA, the USEPA, and Black & Veatch.
4. The USEPA will have a representative from their oversight contractor on-site throughout the remaining construction period.
5. A contract for preparation of the Phase II design (for the ground water treatment facilities) is expected to be awarded to RMT by the Navy by the end of the current fiscal year (September 30, 1991). The design services are included in the plan to transition all environmental services contracting from the USACE to the Navy.
6. Ground water produced from development of all new recovery and monitoring wells will be discharged to the sanitary sewer after pretreatment using a portable air stripping unit. The USACE is obtaining a permit from the Metropolitan Waste Control

Commission (MWCC) for this temporary discharge. Ground water quality from the influent and effluent of the pretreatment unit will be checked periodically to determine treatment effectiveness and to confirm that discharge limitations of the MWCC are being met.

7. Monitoring of ground water quality during the initial shakedown period following startup of the recovery system will be performed by RMT, under contract with the USACE. These monitoring services were originally to be performed by the USACE's construction contractor.
8. FMC recently informed the USACE that the existing concrete decontamination pad in the north 40 may not be available for use by the USACE's drilling contractor for decontamination of drilling equipment and vehicles. Equipment is currently stored on the pad, and FMC intends to use the pad within the next few months for stockpiling sand or contaminated soil from an underground tank removal project under FMC's direction. Clyde Giaquinto said that if the decontamination pad is unavailable for use by the USACE, the overall construction schedule would be extended by 7 to 10 days. In addition, the USACE's drilling contractor would have to drive potentially contaminated equipment and vehicles to the driller's shop in Elk River for decontamination, a round trip of 46 miles.

After considerable discussion, it was agreed that all decontamination of drilling equipment will be done at the NIROP. Darlene Weber will check whether an alternate location can be found for stockpiling materials from the tank removal project, so that the decontamination pad can be made available for use by the USACE; she will notify Jim Shafer as soon as possible with this information. The USACE will also investigate alternative locations and methods for decontamination of drilling equipment at the NIROP. It was agreed that all decontamination water will be collected and containerized; the USACE will investigate alternative methods for handling and disposal of decontamination water, and will advise the MPCA of the method intended to be used.

Doug Hildre said that FMC plans to dispose contaminated soil from the underground tank removal at an asphalt plant. The asphalt plant must approve receipt of the contaminated soil, under procedures of a new pilot program developed by the MPCA. Under this pilot program, the asphalt plant representatives do not need advance approval from the MPCA to receive and process the contaminated soil.

Clyde Giaquinto said that if the USACE cannot use the existing decontamination pad, a contract change order will be required for the USACE's contractor to build a decontamination station. This may cause a construction delay.

Doug Hildre said that FMC will consider using roll-away boxes for storage of soil from the tank removal, instead of using the decontamination pad. He will call Clyde Giaquinto on June 28 to discuss this further. Clyde Giaquinto said that the USACE intends to store soil cuttings from construction of the new recovery and monitoring wells in roll-away boxes. Cuttings from drilling in the Anoka County Park will also be placed into the boxes and brought to the NIROP for storage. However, final disposition of the soil to be stored in roll-away boxes has not been resolved by the USACE.

9. Linda Hicken presented an overview of the planned remedial investigation for soil outside the buildings at the NIROP. Investigation of soil beneath buildings and other structures at the NIROP would be part of a subsequent and separate operable unit, if determined to be necessary.
- a. The general approach for the soil investigation is to incorporate data from the soil investigation performed in the fall of 1990 into the upcoming remedial investigation to the fullest extent possible, and to expand the previous investigation with new sampling locations around the site. New soil samples will also be collected to confirm the results from the study done in 1990.
  - b. A combination of soil borings and test pits will be used. The depth of test pits will be approximately 12 feet; former disposal trenches and pits were approximately 6 to 8 feet deep. Samples will be collected for headspace screening with an Hnu at 2 foot intervals in each test pit.
  - c. Soil borings will be drilled to the water table, with samples collected for headspace screening at 2 1/2 foot intervals. Two samples will be taken from each soil boring for laboratory analysis. The analytical plan for the test pits and borings will include field GC screening and confirmatory TCL/TAL laboratory analyses.
  - d. The RI Workplan for the soil investigation will clarify previous nomenclature defining plant areas, particularly the north 40 area and at the location of former Hazardous Waste Storage (HWS) Area C.
  - e. In the "far northeast area," 3 magnetic anomalies were identified by the USACE in the early 1980s. These anomalies will be investigated using 2 test pits and some soil borings. The results of the soil pore gas testing performed in 1987 in this area will also be confirmed by these proposed sampling locations.
  - f. The "northeast area" will be defined as part of the overall north 40 area, except for the location of HWS Area C. Several soil borings will be placed in this area. The sampling strategy for this area is still being developed.
  - g. Investigations will be continued in the "north 40 area," which will consist of the larger storage yard area within the perimeter security fence, except for the interior areas to be identified for special investigation (the far northeast area and the northeast area). Further investigation of soil within HWS Area C will not be included.
  - h. Based on results from soil samples collected in October 1990, no additional soil borings are required in the southeast area. The source of ground water contamination found in this area is not soil in the vicinity of the monitoring wells.
  - i. The former location of the TCE storage tank on the west side of the plant is now beneath building additions constructed since the tank was relocated several years ago. Therefore, soil samples at the former location of the TCE tank will not be collected during this investigation. A couple of soil borings will be drilled at the current TCA storage tank location.
  - j. Approximately 10 background soil samples will be collected. The single background boring used for the investigations in October 1990 showed soil physical characteristics which were not representative of soil conditions in the north 40 area.

10. Linda Hicken distributed and discussed a preliminary schedule for development of the RI Workplan for soil. A pre-QAPP meeting with USEPA-Quality Assurance Section has been set for August 8, 1991, at 1:00 p.m., at the USEPA's office in Chicago. Tom Bloom will confirm the date for this meeting and advise the Navy. The Draft RI Workplan is scheduled to be sent to the USEPA and MPCA by October 1, 1991, which is the due date specified in the final FFA.

The USEPA and MPCA previously provided review comments on the workplan developed for the soil investigations performed in October 1990. These comments will be addressed in the approach and details for the upcoming soil investigation.

11. Jim Shafer said that RMT will perform a study of alternatives for re-use of treated ground water, under a contract with the Navy. Preparation of a ground water flow model for the entire site will also be included under this contract. John Betcher requested to be kept informed of the status of the flow model during its development.
12. Pre-design ground water treatment tests will be performed by RMT shortly after startup of the recovery system. The purpose of these tests is primarily to evaluate actual ground water treatment performance in a pilot-scale treatment unit to determine whether special pretreatment provisions must be included in the overall design, to preclude potential scaling or fouling of air stripping column packing.
13. Tom Bloom said that a written plan defining the method to be used for temporary pretreatment of ground water during Phase I of the ground water remedial action must be sent to the USEPA for approval prior to startup of the recovery system. This plan will be prepared by the USACE.
14. An Operation and Maintenance Plan or manual will be prepared jointly by RMT and the USACE's contractor. The plan will address the information requirements specified in the final FFA.
15. Tom Bloom gave RMT a computer disk containing Region V's new "model" QAPP and guidance. This document has been approved by Dr. Tsai. RMT was instructed to follow this guidance when preparing the QAPP for the soil RI.

#### **D. RCRA Status**

1. Based on discussions with MPCA staff last week, FMC will prepare a revised Closure Plan for HWS Area C. The MPCA will accept only 2 alternatives for Area C: 1) close as a landfill, or 2) clean close, which requires remedial action. Details of the requirements under each of these alternatives have not yet been determined. The revised Closure Plan may be sent to the MPCA by FMC by August 1, 1991.
2. A meeting between FMC and MPCA-RCRA staff has been scheduled in 2 weeks, to discuss Area C closure. At this time, FMC is not planning any further removal or remedial action for soil at HWS Area C; a permanent cap for the site with long-term monitoring is being considered.

#### **E. General Topics**

1. Mark Lahtinen has resigned from the MPCA. His last day will be July 16, 1991. A replacement for the project manager position at MPCA may not be assigned until August 1991, at the earliest.

2. Clyde Giaquinto mentioned that a long-time FMC employee at the plant told him that various types of waste materials were routinely dumped "out the back door" over many years of operation. These areas are now covered by building additions. Eric Gredell noted that this information was known to RMT from previous work on the ground water investigation; however, potentially contaminated soil beneath the building floor is generally not expected to be a source of ground water contamination, due to the absence of surface water infiltration into the soil as a carrying medium for contaminants from soil into the ground water.
3. Mark Lahtinen sent information to the USACE describing requirements of the MPCA Air Quality Division for the exhaust air discharge from the temporary ground water pretreatment unit to be provided by the USACE during the remaining construction period. Mark Lahtinen will send a copy of this information to RMT and the Navy-NORTHDIV.
4. Eric Gredell noted that the various modifications to the ground water recovery system must be consistent with the Record of Decision (ROD). It was agreed by all meeting attendees that the construction modifications proposed to date are consistent with the flexibility allowed by the ROD.
5. Jim Shafer said that the Navy-NORTHDIV must be informed of any planned or projected construction or facility improvements on the government property, as soon as the plans are known. The purpose of this request is to allow the Navy to coordinate the environmental restoration activities with other NIROP facility activities. Dick Hanson will give Jim a list of projects currently scheduled for the NIROP.
6. The next TRC meeting will be held on September 19, 1991, at 1:00 p.m., at the Defense Plant Representative Office at the NIROP.

TECHNICAL REVIEW COMMITTEE (TRC) MEETING

27 JUNE 1991

NIROP FRIDLEY, MINNESOTA

LIST OF <sup>EXPECTED</sup> ATTENDEES: (SEE ATTACHED  
SIGN-IN SHEET)

<u>NAME</u>	<u>ORGANIZATION</u>
James Shafer	NORTHDIVNAVFAC
Jeff Ciocco	NORTHDIVNAVFAC
John Betcher	MPCA
Mark Lahtinen	MPCA
Tom Schaub	MPCA
Gary Eddy	MPCA
Fred Jenness	MPCA
John Japp	Corps of Engineers, Omaha
Mel Buessler	DPRO FMC Minneapolis
Dick Hanson	NAVSEA Tech Rep
Thomas Bloom	USEPA, Region V, Chicago, IL
Scott Anderson	USEPA, Region V, Chicago, IL
Mark Winson	City of Fridley
Evan Drivas	DNR
Eric Gredell	RMT, Inc.
Linda Hicken	RMT, Inc.
Adam Kramer	Minneapolis Water Works
Larry Cole	Minneapolis Water Works
Mike Pliml	MWCC
Lynn Holly	MWCC
Clyde Giaquinto	Corps of Engineers, CENCS
Thomas Georgian	NORTHDIVNAVFAC

AGENDA:

1. INTRODUCTION
2. ACTIONS SINCE LAST TRC MEETING
  - \* REMEDIAL DESIGN PHASE I AND PHASE II
  - \* CONSTRUCTION PHASE I
  - \* PHASE I MONITORING PLAN TO REGULATORS
  - \* TECHNICAL MEMORANDUM NO. 1 TO TRC
  - \* RIWP SOILS OPERABLE UNIT
    - OBJECTIVES
    - SCHEDULE
    - QAPP
  - \* AREA C RCRA SITE
3. ACTIONS SCHEDULED FOR NEXT QUARTER
  - \* PRE QAPP MEETING FOR SOILS RI WORK PLAN
  - \* WATER REUSE STUDY
  - \* TREATABILITY TEST
  - \* GROUND WATER MODELING
  - \* PRE TREATMENT ALTERNATIVES FOR PHASE I
  - \* OPERATIONS AND MAINTENANCE PLAN
4. QUESTIONS/COMMENTS

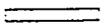
SIGN IN SHEET

TECHNICAL REVIEW COMMITTEE (TRC) MEETING #10  
27 JUNE 1991  
NIROP FRIDLEY, MINNESOTA

LIST OF ATTENDEES:

<u>NAME</u>	<u>ORGANIZATION</u>	
James Shafer	NORTHDIVNAVFAC	<i>James Shafer</i>
Jeff Ciocco	NORTHDIVNAVFAC	<i>Jeff Ciocco</i>
John Betcher	MPCA	<i>[Signature]</i>
Mark Lahtinen	MPCA	<i>Mark J. Lahtinen</i>
Fred Jennes	MPCA	
Gary Eddy	MPCA	<i>Gary Eddy</i>
Tom Schaub	MPCA	
John Japp	Corps of Engineers, Omaha	
Mel Buesseler	DPRO FMC Minneapolis	<i>Mel Buesseler</i>
Dick Hanson	<del>NAUSEA TECH R10</del> <del>DPRO FMC Minneapolis</del>	<i>Richard Hanson</i>
Thomas Bloom	USEPA, Region V, Chicago, IL	<i>Thomas R. Bloom</i>
Scott Anderson	USEPA, Region V, Chicago, IL	<i>Scott Anderson</i>
Mark Winson	City of Fridley	<i>Mark Winson</i>
Evan Drivas	DNR	<i>Evan Drivas</i>
Eric Gredell	RMT, Inc.	<i>Eric Gredell</i>
Linda Hicken	RMT, Inc.	<i>Linda E. Hicken</i>
Adam Kramer	Minneapolis Water Works	
Larry Cole	Minneapolis Water Works	<i>Larry Cole</i>
Mike Pliml	MWCC	
Lynn Holly	MWCC	
Clyde Giacinto	Corps of Engineers, CECS	<i>Clyde Giacinto</i>
Thomas Georgian	NORTHDIVNAVFAC	<i>Thomas Georgian</i>
<i>James Clark</i> <i>David H. DRE</i>	DPRO FMC Mpls FMC-NSD	<i>James Clark</i> <i>David H. DRE</i>

ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1990			1991						1992				
				NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
				Site Testing and Preparation													
1	0	15NOV90A	19NOV90A	Perform Site Survey													
2	0	22NOV90A	9DEC90A	Drill Test Holes @ AT-4													
3	0	29NOV90A	24DEC90A	Drill Test Holes @ AT-5													
				Groundwater Extraction Line Piping													
6	0	24NOV90A	10DEC90A	Install GW Extract Line, Bldg./Elect to AT-4													
7	0	6DEC90A	16DEC90A	Install GW Extract Line, Cntl House/Elect to AT2													
11	0	8DEC90A	21DEC90A	Install GW Extract Line, Bldg./Elect. to AT-1													
8	0	13DEC90A	19DEC90A	Install GW Extract Line, Cntl House to 96" SS													
9	0	14DEC90A	28DEC90A	Install GW Extract. Line, C. House/Elect to AT-3													
10	0	27DEC90A	6JAN91A	Install GW Extract Line, C. House/Elect to AT-5													
12	0	27DEC90A	28JAN91A	Install GW Extract Line in FMC Bldg @ AT-1													
16	0	31JAN91A	18MAR91A	Install GW Extract Line in FMC Bldg. AT-4													
				Electrical													
13	0	27DEC90A	14JAN91A	Install Electrical Conduit @ AT-1													
14	0	17JAN91A	18FEB91A	Install Electrical Conduit @ AT-4													
				Insulation													
15	0	14FEB91A	7MAR91A	Insulate GW Extract Line in FMC @ AT-1													
17	0	7MAR91A	28MAR91A	Insulate GW Extract Line in FMC @ AT-4													
				Well Development													
19	0	10JAN91A	17JAN91A	Perform Well Development @ AT-3, Preliminary													
21	0	17JAN91A	21JAN91A	Perform Well Development @ AT-1													
20	0	24JAN91A	28FEB91A	Perform Well Development @ AT-2, Preliminary													
22	0	14FEB91A	18FEB91A	Perform Well Development @ AT-3, Final													
18	0	14FEB91A	14MAR91A	Construct Extraction well AT-4													
23	0	14MAR91A	18MAR91A	Perform Well Development @ AT-2, Final													
				Control House													
4	0	24NOV90A	10DEC90A	Excavate Bldg. and Electrical to Control House													
5	0	7DEC90A	22DEC90A	Construct Control House Foundation													
51	9	11JUN91	21JUN91	Erect Control House													
52	9	11JUN91	21JUN91	Install cutouts, Place Louvers, Htrs, Windows													
135	5	24JUN91	28JUN91	Install Control House Plumbing													
134	6	24JUN91	3JUL91	Install Control House Electrical													
156	1	4JUL91	4JUL91	Demobilize from Control House and Clean Up Area													
				Bidding and Proposal Process													
222	0	23JAN91A	23JAN91A	MK Letter to ARMY COE, Notice of Diff. Site Cond													
223	0	14MAR91A	14MAR91A	ARMY COE Letter to MK, Modification F-4													
28	0	19APR91A	19APR91A	Submit Cost Proposal for AT1, AT2 to ARMY COE													
34	0	20APR91A	20MAY91A	COE Review Costs for AT1, AT2 Proposal													
31	0	21MAY91A	21MAY91A	MK/COE Meeting on Project													
32	0	23MAY91A	23MAY91A	COE Issue Revisions to Mods R4, RE, R9													
27	0	24MAY91A	9JUN91A	MK Prepare Revised Proposal for Mods R4, RE, R9													
29	0	10JUN91A	10JUN91A	MK Issue Revised Proposal for Mods R4, RE, R9													
26	6	10JUN91	17JUN91	COE Review Revised Proposal for Mods R4, RE, R9													
33	3	18JUN91	20JUN91	MK/COE Negotiation Meeting on Modifications													
37	11	21JUN91	5JUL91	COE Execute Modifications													
35	0	8JUL91	5JUL91	Commence Work													
				Extraction Well AT3													
109	1	8JUL91	8JUL91	Abandon the Existing Well at AT3													

 Activity Bar/Early Dates  
 Critical Activity  
 Progress Bar  
 Primavera Systems, Inc. 1984-1990

ARMY Corps of Engineers  
 NIROP Groundwater Extraction  
 Construction Schedule

Project Start : 15NOV90  
 Project Finish: 24DEC91

Sheet 1 of 4  
 Data Date: 10JUN91  
 Plot Date: 21JUN91

Construction Project Schedule			
Date	Revision	Checked	Approved

(DISTRIBUTED BY C. GIAQUINTO OF USACE AT TRC MTG. # 10 ON 6-27-91)

ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1990												1991		1992	
				NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
				Extraction Well AT3															
200	1	9JUL91	9JUL91																
129	8	10JUL91	15JUL91																
201	4	22JUL91	25JUL91																
130	4	26JUL91	31JUL91																
115	3	1AUG91	5AUG91																
131	2	6AUG91	7AUG91																
133	1	8AUG91	8AUG91																
132	1	9AUG91	9AUG91																
126	1	12AUG91	12AUG91																
205	3	13AUG91	15AUG91																
124	6	16AUG91	23AUG91																
125	1	26AUG91	26AUG91																
127	1	27AUG91	27AUG91																
179	1	28AUG91	28AUG91																
				Extraction Well AT1															
107	1	8JUL91	8JUL91																
99	0	12AUG91	9AUG91																
210	4	12AUG91	15AUG91																
211	4	16AUG91	21AUG91																
105	4	22AUG91	27AUG91																
104	1	28AUG91	28AUG91																
112	2	29AUG91	30AUG91																
122	1	2SEP91	25SEP91																
121	1	3SEP91	25SEP91																
123	1	3SEP91	25SEP91																
114	3	4SEP91	6SEP91																
212	6	9SEP91	16SEP91																
108	1	17SEP91	17SEP91																
116	1	18SEP91	18SEP91																
				Extraction Well AT-2															
67	3	16AUG91	20AUG91																
74	6	21AUG91	28AUG91																
67	1	29AUG91	29AUG91																
				Extraction Well AT4															
41	3	21AUG91	23AUG91																
56	1	26AUG91	26AUG91																
56	6	26AUG91	2SEP91																
				Monitor Well A-1															
180	1	8JUL91	5JUL91																
181	1	9JUL91	5JUL91																
182	5	10JUL91	15JUL91																
183	4	17JUL91	22JUL91																
184	4	25JUL91	25JUL91																
185	1	25JUL91	25JUL91																
186	1	30JUL91	30JUL91																
187	1	31JUL91	31JUL91																
188	1	31JUL91	31JUL91																
				Monitor Well A-3															
151	0	1AUG91	31JUL91																
157	5	1AUG91	7AUG91																
158	4	8AUG91	13AUG91																
170	4	14AUG91	19AUG91																
159	1	20AUG91	20AUG91																
160	1	21AUG91	21AUG91																

- Setup Drill Rig at New Location
- Drill to 130 Feet with Sampling Every 5 Feet
- Lab Report Development and Review
- Order Screens
- Build the Well
- Develop the Well
- Seal the Well
- Demobilize the Rig
- Set-up Air Stripper
- Pump Test
- Pump Test Report Development and Review
- Install Pitless Adapter & COP
- Install Electric & GEL
- Backfill, Place Bollards and Pour Pads

- Abandon Existing Well
- Set up the Drill Rig at AT1
- Drill to 65 Feet with Sampling Every 5 feet
- Lab Report Turnaround and Review
- Order Screens
- Build the Well
- Develop the Well
- Seal the Well
- Demobilize the Rig
- Set-Up Air Stripper
- Perform Pump Test
- Pump Test Report Development and Review
- Install Pit Less Adapter
- Backfill, Install Bollards and Pour Pads

- Perform Pump Test
- Pump Test Report Development and Review
- Install Bollards and Pour Pads

- Perform Pump Test
- Install Bollards and Pour Pads
- Pump Test Report Development and Review

- Cor the Asonal & all Three "A" Monitoring Wells
- Setup the Drill Rig
- Drill to Desired Depth
- Lab Report Development and Review
- Order Screens
- Build the Well
- Develop the Well
- Seal the Well
- Demobilize the Drill Rig

- Setup the Drill Rig @ Monitor Well A-2
- Drill to Desired Depth
- Lab Report Development and Review
- Order Screens
- Build the Well
- Develop the Well

ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1990												1991												1992	
				NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB										
				Monitor Well A-3																									
161	1	22AUG91	22AUG91																										
162	1	23AUG91	23AUG91																										
				Monitor Well A-3																									
190	0	26AUG91	23AUG91																										
191	5	26AUG91	30AUG91																										
192	4	25SEP91	5SEP91																										
193	4	6SEP91	11SEP91																										
194	1	12SEP91	12SEP91																										
195	1	13SEP91	13SEP91																										
196	1	16SEP91	16SEP91																										
197	1	17SEP91	17SEP91																										
198	1	17SEP91	17SEP91																										
				Monitor Well C-1																									
149	0	18SEP91	17SEP91																										
140	3	18SEP91	20SEP91																										
144	4	19SEP91	24SEP91																										
148	4	25SEP91	30SEP91																										
146	1	10OCT91	10OCT91																										
147	1	20OCT91	20OCT91																										
143	1	30OCT91	30OCT91																										
152	1	40OCT91	40OCT91																										
				Monitor Well C-2																									
80	0	7OCT91	4OCT91																										
88	5	7OCT91	11OCT91																										
90	4	14OCT91	17OCT91																										
174	4	18OCT91	23OCT91																										
89	1	24OCT91	24OCT91																										
92	1	25OCT91	25OCT91																										
97	1	28OCT91	28OCT91																										
93	1	29OCT91	29OCT91																										
				Monitor Well C-3																									
63	4	17SEP91	20SEP91																										
40	0	27SEP91	26SEP91																										
62	7	27SEP91	7OCT91																										
42	4	8OCT91	11OCT91																										
176	4	14OCT91	17OCT91																										
46	1	18OCT91	18OCT91																										
207	1	21OCT91	21OCT91																										
54	1	22OCT91	22OCT91																										
57	1	23OCT91	23OCT91																										
60	1	23OCT91	23OCT91																										
				Monitor Well E-1																									
66	0	30OCT91	29OCT91																										
75	3	30OCT91	1NOV91																										
177	4	4NOV91	7NOV91																										
68	4	8NOV91	13NOV91																										
73	1	14NOV91	14NOV91																										
321	1	15NOV91	15NOV91																										
78	1	18NOV91	18NOV91																										
84	1	19NOV91	19NOV91																										
				Monitor Well B-2																									
86	0	24OCT91	23OCT91																										
96	5	24OCT91	30OCT91																										
102	4	31OCT91	5NOV91																										

ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1990				1991				1992						
				NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
Monitor Well B-2																		<input type="checkbox"/> Order Screens <input type="checkbox"/> Build the Well <input type="checkbox"/> Develop the Well <input type="checkbox"/> Grout the Well <input type="checkbox"/> Demobilize the Drill Rig
178	4	6NOV91	11NOV91															
101	1	12NOV91	12NOV91															
103	1	13NOV91	13NOV91															
322	1	14NOV91	14NOV91															
106	1	15NOV91	15NOV91															
Monitor Well B-3																		<input type="checkbox"/> Setup Drill Rig at Monitor Well B-3 <input type="checkbox"/> Drill to Desired Depth <input type="checkbox"/> Lab Report Development and Review <input type="checkbox"/> Order Screens <input type="checkbox"/> Build the Well <input type="checkbox"/> Develop the Well <input type="checkbox"/> Grout the Well <input type="checkbox"/> Demobilize the Drill Rig
300	0	20NOV91	19NOV91															
301	7	20NOV91	28NOV91															
302	4	29NOV91	40DEC91															
303	4	5DEC91	10DEC91															
304	1	11DEC91	11DEC91															
305	1	12DEC91	12DEC91															
306	1	13DEC91	13DEC91															
307	1	16DEC91	16DEC91															
320	1	16DEC91	16DEC91															
Monitor Well 10																		<input type="checkbox"/> Setup the Drill Rig at Monitor Well 10 <input type="checkbox"/> Drill to Desired Depth <input type="checkbox"/> Lab Report Development and Review <input type="checkbox"/> Order Screens <input type="checkbox"/> Build the Well <input type="checkbox"/> Develop the Well <input type="checkbox"/> Grout the Well <input type="checkbox"/> Demobilize the Drill Rig Backfill, Install Bollards, Pads & All 'E' Wells
308	0	4SEP91	3SEP91															
309	5	4SEP91	10SEP91															
310	4	11SEP91	16SEP91															
311	4	17SEP91	20SEP91															
312	1	23SEP91	23SEP91															
313	1	24SEP91	24SEP91															
314	1	25SEP91	25SEP91															
315	1	26SEP91	26SEP91															
316	1	26SEP91	26SEP91															
Seeding & Grading																		<input type="checkbox"/> Perform Final Grading <input type="checkbox"/> Perform Seeding of Worksite Develop and Complete Puncr. Lis. Items <input type="checkbox"/> Project Turn Over
163	2	16DEC91	17DEC91															
164	4	18DEC91	23DEC91															
165	4	18DEC91	23DEC91															
END	1	24DEC91	24DEC91															

**PROPOSED SCHEDULE FOR PREPARATION OF NIROP SOILS RI WORKPLAN**

	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	9/30	10/7	10/14	10/21	10/28	11/4	11/11	11/18	11/25	12/2	12/9	12/16	12/23	12/30	1/6/92
ELEMENT 1-SIP	XXXXX	XXXXX	XXXXX	XXXXX																										
NAVY/AGENCY REVIEW					OOOOO	OOOOO	OOOOO																							
ELEMENT 2-PROGRESS MTG			X																											
ELEMENT 3-PRE-QAPP MTG								X																						
ELEMENT 4-DRAFT RWP TO NAVY								XXXXX	XXXXX	XXXXX	XXXXX	XXXXX																		
NAVY REVIEW													OOOOO																	
ELEMENT 5-COMMENTS/DRAFT TO AGENCIES													XXXXX	XXXXX																
AGENCY REVIEW															OOOOO	OOOOO	OOOOO	OOOOO												
ELEMENT 6-COMMENTS/DRAFT FINAL RWP																				XXXXX	XXXXX	XXXXX								
AGENCY REVIEW																						OOOOO	OOOOO	OOOOO	OOOOO					
ELEMENT 7-RESPONSE TO COMMENTS																											XXXXX	XXXXX	XXXXX	XXXXX
ELEMENT 8-MEETINGS*		X											X															X		

\* ADDITIONAL 1992 MEETINGS NOT SHOWN