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NTC ORLANDO
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MINUTES FROM 16 AUGUST 2000 RESTORATION ADVISORY BOARD MEETING NTC
ORLANDO FL
8/16/2000
NAVFAC SOUTHERN

**Meeting Summary
Restoration Advisory Board
Naval Training Center (NTC), Orlando
August 16, 2000**

13.05.00.0032

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A meeting of the NTC, Orlando Restoration Advisory Board (RAB) was held on August 16, 2000, in the City Commission Chambers, Winter Park City Hall. Attached to this meeting summary are:

Attachment A:	Meeting Agenda
Attachment B:	RAB Member Sign-in Sheet
Attachment C:	2000 RAB Attendance Record
Attachment D:	IRP Program Investigation Summary
Attachment E:	Community Mailing List Notice
Attachment F:	Community Sign-in Sheet

RAB members present at the meeting were:

Hank Beers	Nancy Maloney
Penelope Felger	Thomas C. Nelson
David Grabka	Blanche Olson
Wayne Hansel	Nancy Rodriguez
Phillip Jaffe	Ann Williams

Other support personnel present at the meeting included:

Barbara Nwokike, Southern Division Naval Facilities Engineering Command
Vickie Stitt, Tetra Tech NUS, Inc.

Welcome

Wayne Hansel, Co-Chairman of NTC RAB, opened the meeting at 7:10. He explained the function of the RAB to the members of the community present and that this was a working meeting and questions would be held until after the meeting was adjourned.

Mr. Hansel asked if all members approved the minutes to the May meeting. It was decided that the sentence on the second page, 9th paragraph, third line "...from a former dry-cleaning business at the base." would be changed to "...from a former dry-cleaning operation at the base." A motion for approval of the minutes, after the correction, was made and seconded.

Robert Mackey was excused from this meeting.

Stella Baerassa was the only member of the public present.

Wayne Hansel stated that a quorum had not been met at this meeting.

Wayne Hansel asked if there was any new business. A brief discussion followed between Hank Beers and Wayne Hansel concerning truck traffic on and off the base.

No further business was presented for discussion. Wayne Hansel moved on to the BRAC update titled *UST UPDATE AND STATUS, August 2000*, and *IRP UPDATE AND STATUS, August 2000*. A copy of the document is attached.

The Special Topic for this meeting was *Interim Remedial Action for Operable Unit 4 and Study Areas 39 and 2* presented by Steve Tsangaris, CH2M Hill, and Steve McCoy, Tetra Tech NUS, Inc. Copies of the overheads used to summarize the Special Topic are attached to these minutes.

Steve Tsangaris began with Operable Unit 4. He explained that the recirculation well system had been having problems from the beginning and would be retrofit with an air stripper system. The system would pull in and treat 6 - 15 gallons of groundwater per minute. The treated water would be discharged to the city sewer system.

Why isn't the treated water discharged back into the lake?

Wayne Hansel explained that discharging back into the lake required special permits that can be time-consuming to obtain. It was important to begin this treatment as soon as possible to prevent the possibility of contamination running into the lake. If treatment appears to be necessary for an extended time, the permits to discharge into the lake will probably be obtained.

Steve Tsangaris continued by explaining that the city would monitor the water discharge and charge the subcontractor for the amount of water going into the sewer system.

How high is the fence around the air-sparging system?

Six feet.

Monitoring wells will be checked often in the beginning to determine that the air-sparging system is removing contaminants before they reach the lake edge. Later, the monitoring wells will be checked on a quarterly schedule.

Steve McCoy continued the presentation with Study Area 2. The major contaminant at this site is benzene. Soil samples showed that oxygen levels were low at the core of the plume, limiting the biodegradation of the benzene. Oxygen levels need to be increased by injecting an Oxygen Release Compound thereby increasing the biodegradation of the benzene.

Steve Tsangaris presented the remedial plan for Study Area 39. He began by explaining that conditions at this site are not favorable for natural attenuation of the contaminant PCE. A carbon source is needed for reduction of the PCE. Vegetable oil has been found to be a good source of the carbon needed to stimulate biodegradation. Vegetable oil is only slightly soluble in water as compared to molasses or Hydrogen Release Compound and the cost of vegetable oil is \$0.20 to \$0.50 per pound as compared to \$12.00 per pound for the others.

Nineteen injection points/wells will be installed and injected with 50 gallons of vegetable oil per well. Injection point installation is to begin in mid-September followed by vegetable oil injection. Groundwater samples will be taken quarterly to monitor the progress.

A motion to adjourn the meeting was made and seconded. The meeting was adjourned and Wayne Hansel asked the community members if there were any questions.

Ms. Stella Baerassa of Vancouver, Washington, asked Wayne Hansel his name and what organization he is with. Wayne gave his name and answered that he was with the Navy. Ms. Baerassa asked where the RAB documents were kept and Wayne answered that there were several places, two being the Orange County Public Library in Orlando and Wayne's office. Ms. Baerassa asked who was our EPA representative and Wayne identified Nancy

August 21, 2000

Rodriguez seated at the table. Ms. Baerassa explained that she is seated on a RAB board in Vancouver although she now resides in Florida. She is still active on the Vancouver RAB and is interested in how the Orlando RAB operates.

There were no further questions and the meeting ended at 8:40.

OU-4 Groundwater Treatment System Upgrade

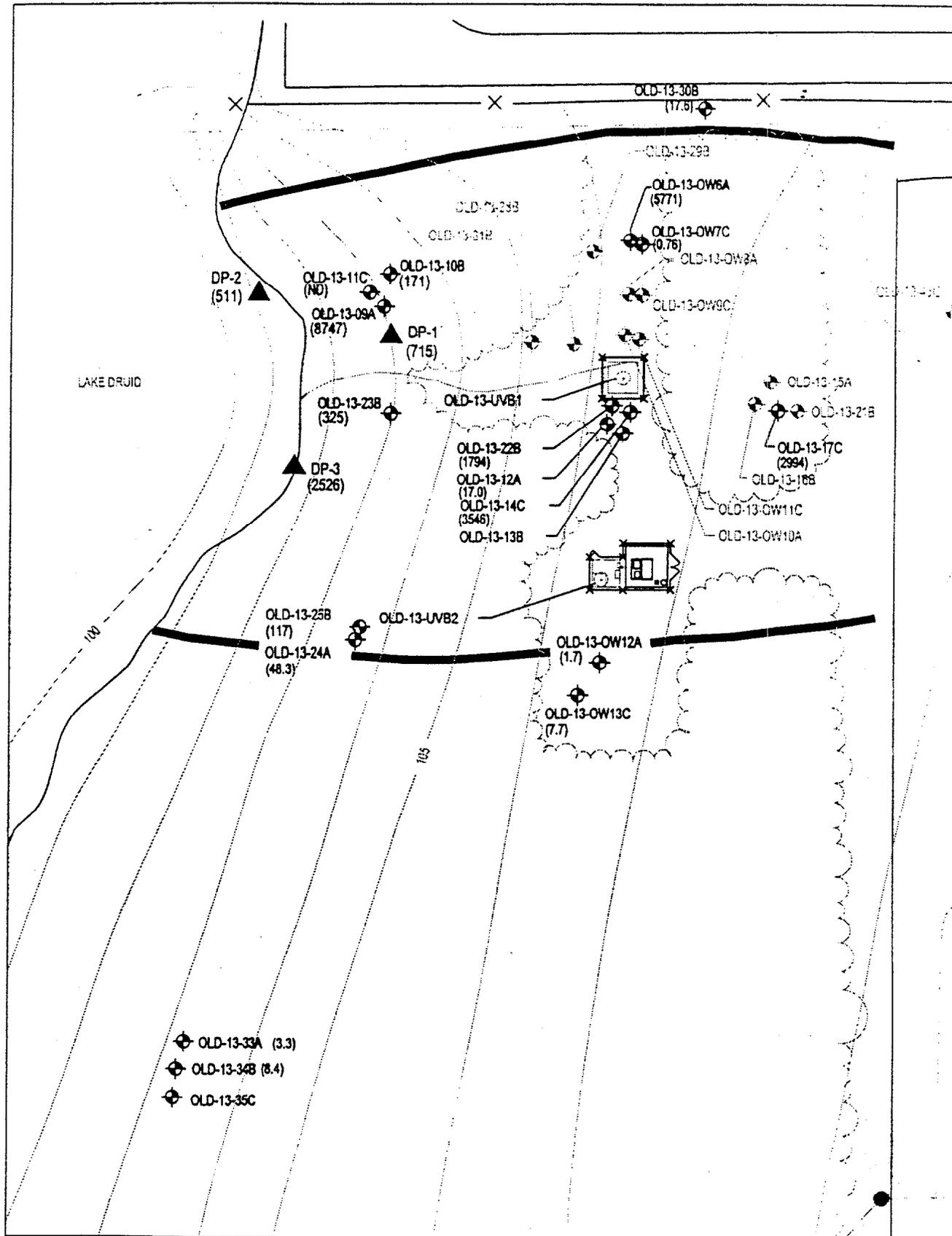
August 16, 2000

Site History

- Old dry cleaner site in Area C
- Contaminant of concern is PCE
- Recirculation well system installed in 1997 has been problematic to operate

Upgrade Activities

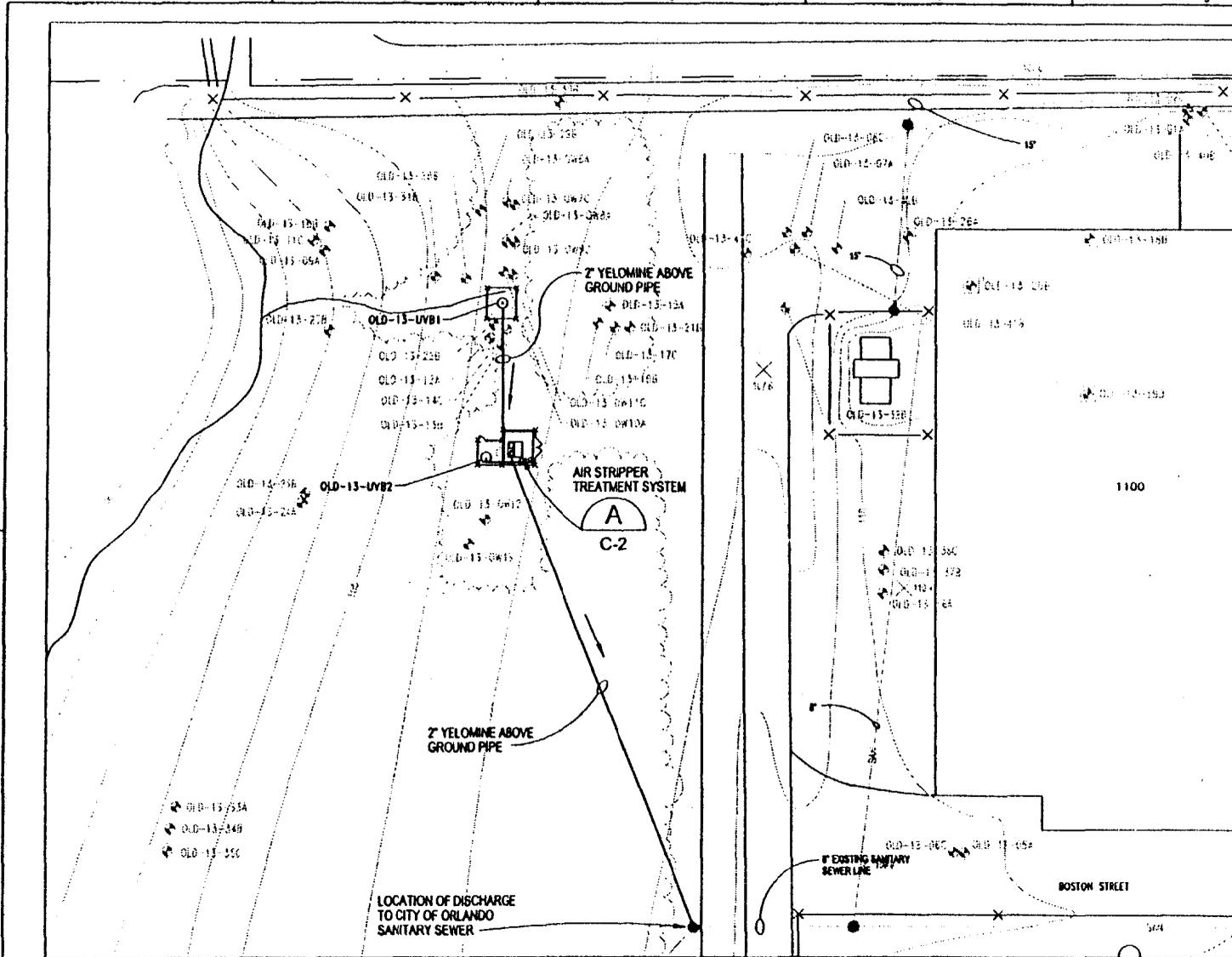
- Use existing wells
- Install an air stripper to treat the groundwater
- Discharge treated groundwater to sanitary sewer at the site



14-Aug-2000

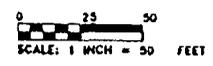
Filename 2044g006.dwg

Piping plan



LEGEND

- Monitoring well location and designation
- Microwell location and designation
- Interim remedial action recirculation well
- Fence
- Structure removed; topography no longer accurate.
- 100 Elevation contour (1-foot interval)
- X Ground elevation



SOURCE: Naval Training Center Public Works Department, Storm Sewer Map, 1978

DATE	NO	DATE	REVISION	BY	APPROV
11/01/99					
12/01/99					
01/01/00					
02/01/00					

CH2MHILL

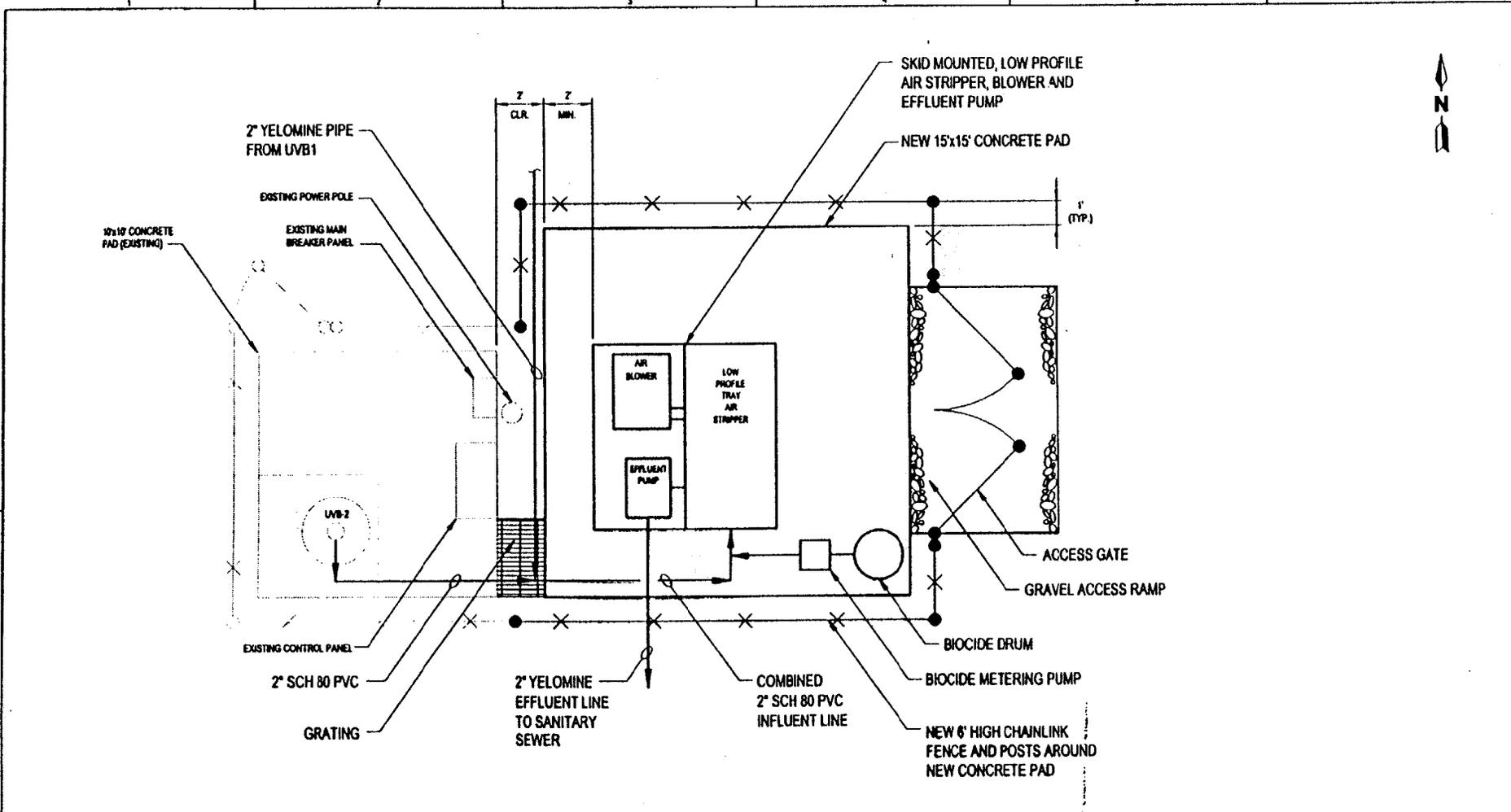
OPERABLE UNIT 4
INTERIM REMEDIAL ACTION RETROFIT
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

CIVIL
FIELD PIPING PLAN

SHEET 3
DWG C-1
DATE AUGUST 2000
PROJ 162044 34 01 03 30

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Equipment plan



LAYOUT PLAN A
 1/4" = 1'-0" C-1

DRAWN DWG CUR APD	NO DATE REVISION BY APD	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. IF DIMENSIONS IN THIS SHEET ADJUST SCALE ACCORDINGLY.	CH2MHILL	OPERABLE UNIT 4 INTERIM REMEDIAL ACTION RETROFIT NAVAL TRAINING CENTER ORLANDO, FLORIDA	CIVIL AIR STRIPPER TREATMENT SYSTEM LAYOUT PLAN	SHEET 4 DRAWING C-2 DATE AUGUST 2000 PROJ 152044 24 01 03 PLOT TIME 14 25 3
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Schedule

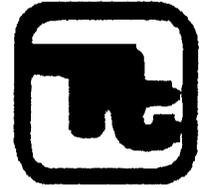
- Stripper has been ordered; due for delivery in mid-September
- System start-up anticipated in late September
- Wells will be monitored quarterly
- System will run until source area is cleaned up

Tetra Tech, Inc.

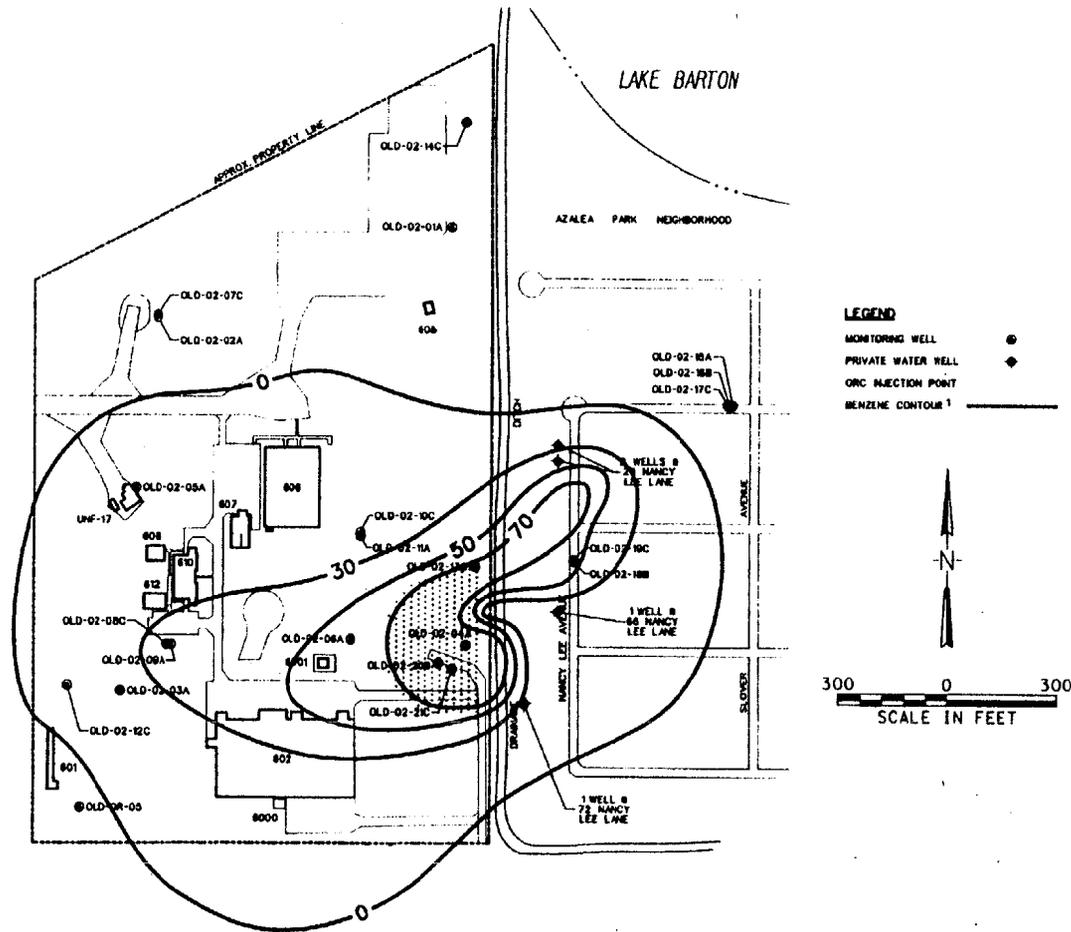


Study Area 2 - ORC Treatability Study

July 2000



Benzene Plume

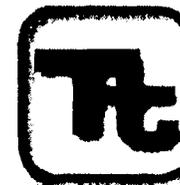




Background

- Major contaminant - benzene
- Concentrations over GCTL
- Concentrations up to 83 $\mu\text{g/L}$
- Plume size is static
- No free product

Tetra Tech, Inc.



Recent Data

PARAMETER	BACKGROUND (WELL 12C)	MOST CONTAMINATED (WELL 13C)
D.O (mg/L)	1.58	2.67
ALKALINITY (mg/L)	13	5.8
NITRATE (mg/L)	0.08	NON-DETECT
CO₂ (mg/L)	67.9	101
SULFATE (mg/L)	33.9	9.5
METHANE (ug/L)	2.9	1274

July 2000



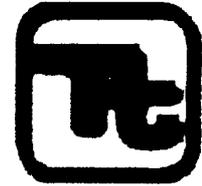
ORC Treatability Study

- Microbial plate count was low (200/mL)
- Will oxygen addition stimulate enough biological activity by itself?
- Will other nutrients become limiting after oxygen addition?
- **Propose:** Bench scale tests on water samples for effectiveness

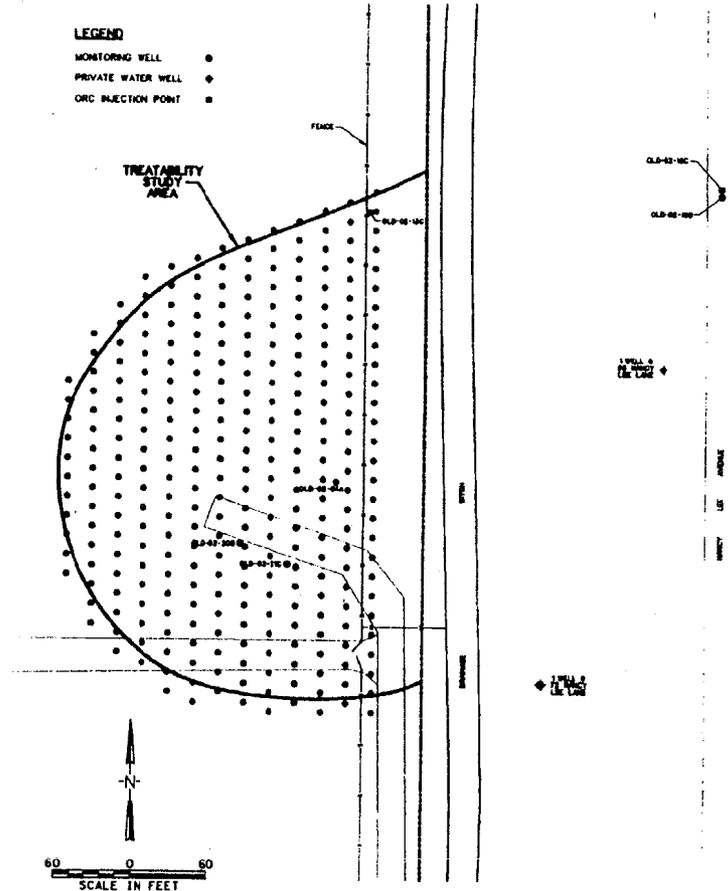


Conclusions

- More signs for anoxic – may be the reason for slow progress
- Some signs for aerobic – aerobic at the edges and anoxic at core
- For faster biodegradation of benzene, DO levels should go up
- ORC (oxygen release compound) may provide the additional DO

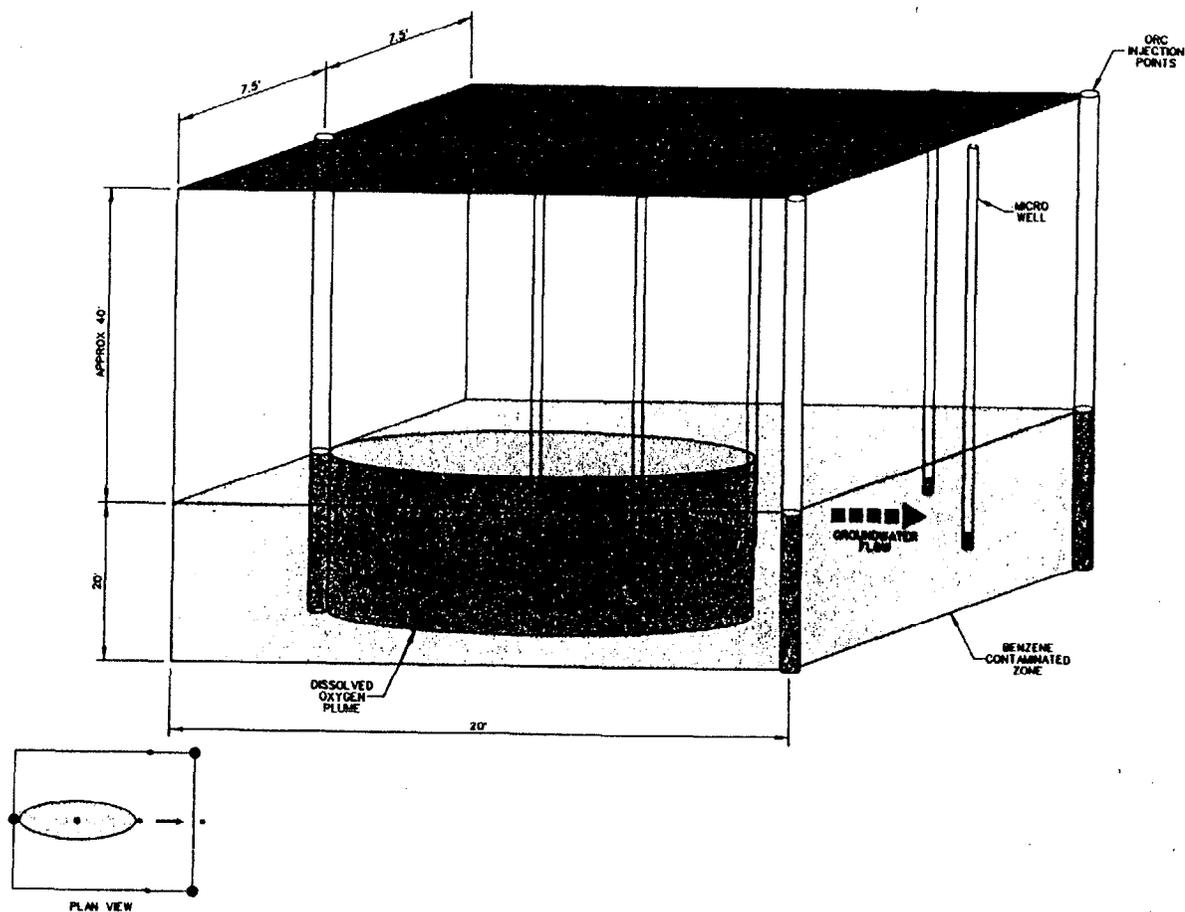


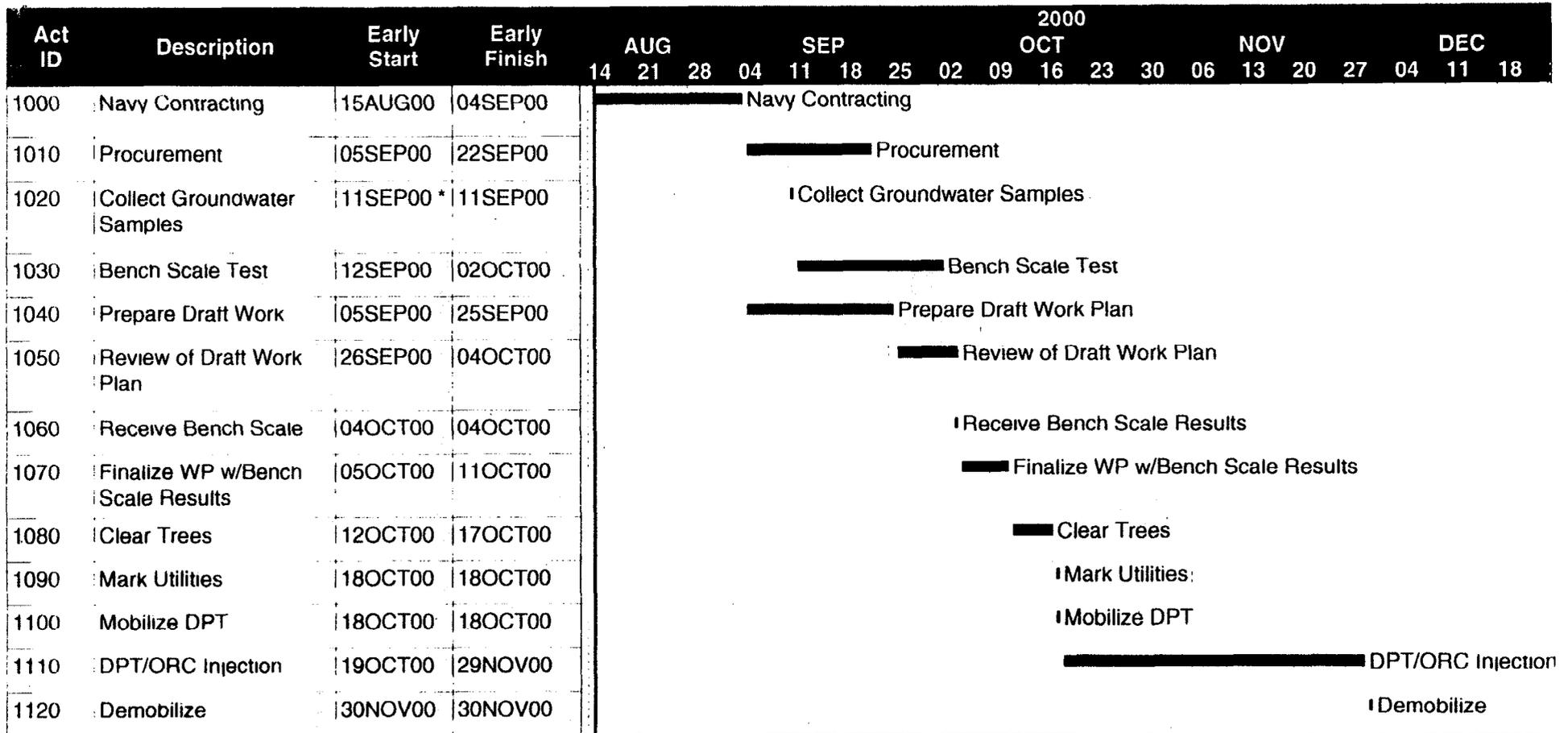
Conceptual Treatment Grid





Conceptual Model





Start date 15AUG00
 Finish date 30NOV00
 Data date 15AUG00
 Run date 15AUG00
 Page number 1A
 © Primavera Systems, Inc.

STUDY AREA 2 ORC TREATABILITY STUDY

- █ Early bar
- █ Progress bar
- █ Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Study Area 39 Enhanced Bioremediation Project

August 16, 2000

Site Location and History

- SA 39 is located in the southwest corner of the Main Base
- Former hazardous materials storage facility
- Two areas of relatively low level contamination at the site
- Contaminant of concern is PCE; highest concentration is 94 ug/L

Site History and Location (con't)

- Aquifer conditions are not favorable for natural attenuation of contamination
- Aquifer needs carbon source for reduction of the PCE

Carbon Sources

- Many types: molasses, Hydrogen Release Compound (proprietary material)
- Limitations: materials are soluble in water; continuous and/or multiple injections are expensive

Carbon Source - Vegetable Oil!

- Veg Oil is known to provide the carbon source to stimulate biodegradation
- Only slightly soluble in water - will last longer
- Costs \$0.20 to \$0.50/pound compared to \$12/pound for others
- Should allow for a one-time injection scenario - big benefit/cost savings

Implementation

- Install 19 injection points/wells in areas of contamination
- Inject veg oil under pressure into the well
- Collect quarterly groundwater samples downgradient to monitor progress over time

Schedule

- Injection point installation to begin in mid-September
- Veg oil injection to follow after injection point installation

ATTACHMENT A

AGENDA

NTC, Orlando Restoration Advisory Board Meeting August 16, 2000, 7:00 p.m.

Welcome/Opening Comments Navy Co-Chair Mr. Wayne Hansel

RAB Administration RAB Co-Chairs
And New Business

BRAC Update Wayne Hansel,
BRAC Environmental Coordinator

***Special Topic: Interim Remedial Action for Operating Unit 4 and Study Areas
39 and 2***

Feedback on May meeting: RAB Members

- Main Base Redevelopment

Close RAB Business

Community Comments and Questions

ATTACHMENT B

NTC, ORLANDO RAB MEMBER SIGN-IN SHEET

August 16, 2000

PRINT name clearly
THOMAS C NELSON
ANN WILLIAMS
WAGNE FLANZEL
Nancy Maloney
Hank Bews
EMILY FAGER
Nancy Rodriguez
Blanche Parrott Olson
DAVID GRABKA
Phillip A Saffel

ATTACHMENT C

Attachment C - 2000 RAB Attendance

RAB Member Name	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Hank Beers - Community			X		Exc.			X				
Penelope Felger - Community	X		X		X			X				
Donald Fuller - Community					Exc.							
Edwin Granberry - Community												
W. Hansel - U.S. Navy, Southern Division	X		X		X			X				
Bruce Hossfield - City of Orlando	X		X		X							
Phillip Jaffe - Community	Exc.		X		Exc.			X				
Robert Mackey - Community	X		X		X			Exc.				
Nancy Maloney - Community	X		X		X			X				
D. Grabka - FL Dept. of Env. Protection	X		X		X			X				
Thomas Nelson - Community	Exc.		X		Exc.			X				
Blanche Olson - Community	X		X		Exc.			X				
N. Rodriguez - U.S. Env. Protection Agency	X		X		X			X				
Ann Williams - Community	X				X			X				
G. Wojeck - Community					O							
Kay Yeuell - Community	Exc.		Exc.									
X = attended meeting exc. = excused absence O = resigned												

ATTACHMENT D

Environmental Meeting - Public Invited

Restoration Advisory Board Naval Training Center, Orlando

The Naval Training Center's Restoration Advisory Board (RAB) will hold its regular meeting concerning ongoing environmental studies and cleanup at NTC.

**When: 7:00 - 9:00 P.M.
Wednesday, August 16, 2000**

**Where: Winter Park City Hall
City Commission Chamber - second floor
401 Park Avenue South
Winter Park, FL**

The current status of all NTC environmental program sites will be presented. The special topic will be "Interim Remedial Action for Operating Unit 4 and Study Areas 39 and 2". An open floor period for community comments or questions will follow the RAB business portion of the meeting.

Documents on the environmental program at NTC, Orlando, including summaries of prior RAB meetings, are available for public review at the Orange County Library, 101 East Central Avenue, Orlando. They are located in the Information Repository in the Social Sciences Department (Aisle 27) on the second floor.

Need More Information?

Call Mr. Wayne Hansel at 895-6714

or

Penny Felger at 657-8276

ATTACHMENT E

