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NTC ORLANDO
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UNDERGROUND STORAGE TANK UPDATE AND STATUS NTC ORLANDO
1/1/2003
NTC ORLANDO

UST UPDATE AND STATUS
January 2003

MAIN BASE

Building 109

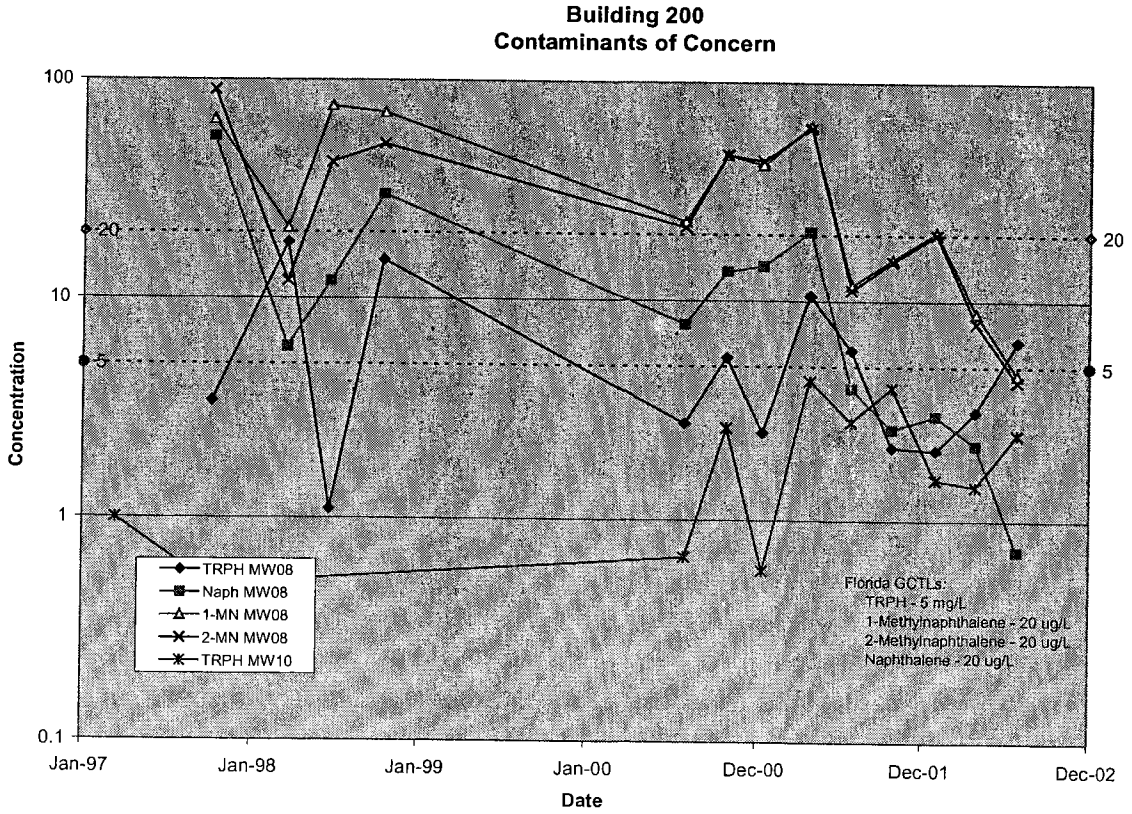
The initial concentrations measured in groundwater were xylene 12,330 µg/L; toluene 22,280 µg/L; and benzene 6280 µg/L. Remediation of 109 was subsequently completed by the Developer, and the first round of sampling in October 2002 had no detects over GCTLs. The second round of sampling was performed in January 2003 again with no detections above GCTLs. ~~The initial concentrations measured in groundwater were xylene 12,330 µg/L~~; toluene 22,280 µg/L; and benzene 6280 µg/L. The Developer is preparing a report for submittal to FDEP to request site closure.

Building 200

Contaminants of concern: naphthalene, TRPH

Significant Events:

- 1995: Tank removed.
- June 1997: Contamination Assessment Report (CAR) submitted recommending NFA.
- August 1998: Site Assessment Report (SAR) Addendum submitted.
- August 1998: Response to SAR requesting additional sampling issued by FDEP.
- January 1999: SAR Addendum/Monitoring Only Proposal (MOP) submitted to FDEP.
- February 1999: Response to SAR Addendum requesting additional sampling issued by FDEP.



- April 1999: MOP Addendum submitted.
- July 1999: MOP approved by FDEP.
- October 2002: 9th quarter groundwater monitoring report submitted to FDEP recommending change in frequency of sampling from quarterly to semi-annually.
- November 2002: FDEP approved recommendation to change sampling frequency.

Groundwater Monitoring (Sampling):
2000 (July, October); 2001 (January, April, July, October); 2002 (January, April, July).

Building 2080
Contaminants of concern: xylenes, PAHs, TPH
Significant Events:

- February 1999: Tanks removed by the DET
- June 1999: A Tank Closure Assessment Report (TCAR) was submitted to the FDEP.
- July 1999: TCAR response letter requesting Site Assessment was issued by the FDEP.
- January 2000: A Site Assessment was initiated.
- February 2000: A source removal was conducted to remove petroleum-impacted soil.
- September 2000: A Source Removal Report (SRR) was submitted to the FDEP.
- March 2001: A Site Assessment Report (SAR) recommending preparation of a Remedial Action Plan was submitted to the FDEP.
- August 2001: A SAR response letter requesting installation and sampling of a vertical extent monitoring well was issued by the FDEP.
- December 2001: The vertical extent well was installed and sampled.
- May 2002: A SAR Addendum recommending natural attenuation monitoring was submitted to the FDEP.
- July 2002: The FDEP requested additional information and clarification of some data provided in the SAR Addendum.
- September 2002: Supplemental SAR Addendum submitted to the FDEP.
- November 2002: SAR Addendum approved and Natural Attenuation Monitoring Plan Approval Order issued by FDEP.

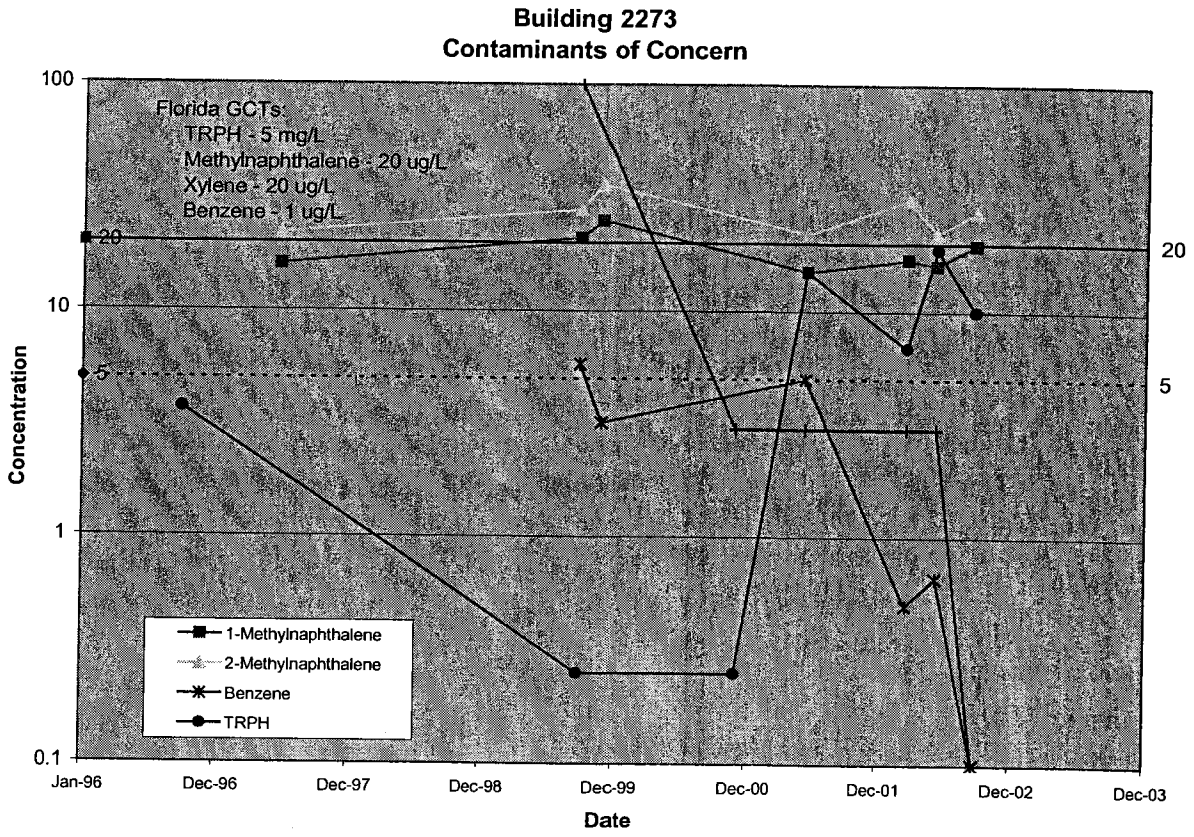
Building 2273
Contaminants of concern: benzene, xylenes, PAHs, TPH
Significant Events:

- 1996–1997: Analytical results from sampling performed by ABB-ES detected BTEX exceedances.
- September 1999: Monitoring wells destroyed by the City of Orlando's contractors were replaced and sampled.
- April 2000: A downgradient deep monitoring well was installed and sampled. The sample results showed an exceedance of 1.2 ppb benzene.
- November 2000: Draft Site Assessment Report (SAR)/Monitoring Only Proposal (MOP) was submitted to the OPT.
- March 2001: A Site Assessment Report (SAR) recommending installation of additional deep monitoring wells was submitted to the FDEP.

- May 2001: SAR response letter concurring with recommendation for additional wells issued by the FDEP.
- April–June 2001: Additional monitoring wells installed.
- March 2002: A SAR Addendum recommending a natural attenuation monitoring was submitted to FDEP.
- March 2002: The Groundwater Sampling Work Plan was issued to the OPT.

Groundwater Monitoring (Sampling):

2002 (Mar, Jun, Sep); 2003 (Jan). A report for the June '02 sampling event was issued 01/13/03.



McCOY ANNEX

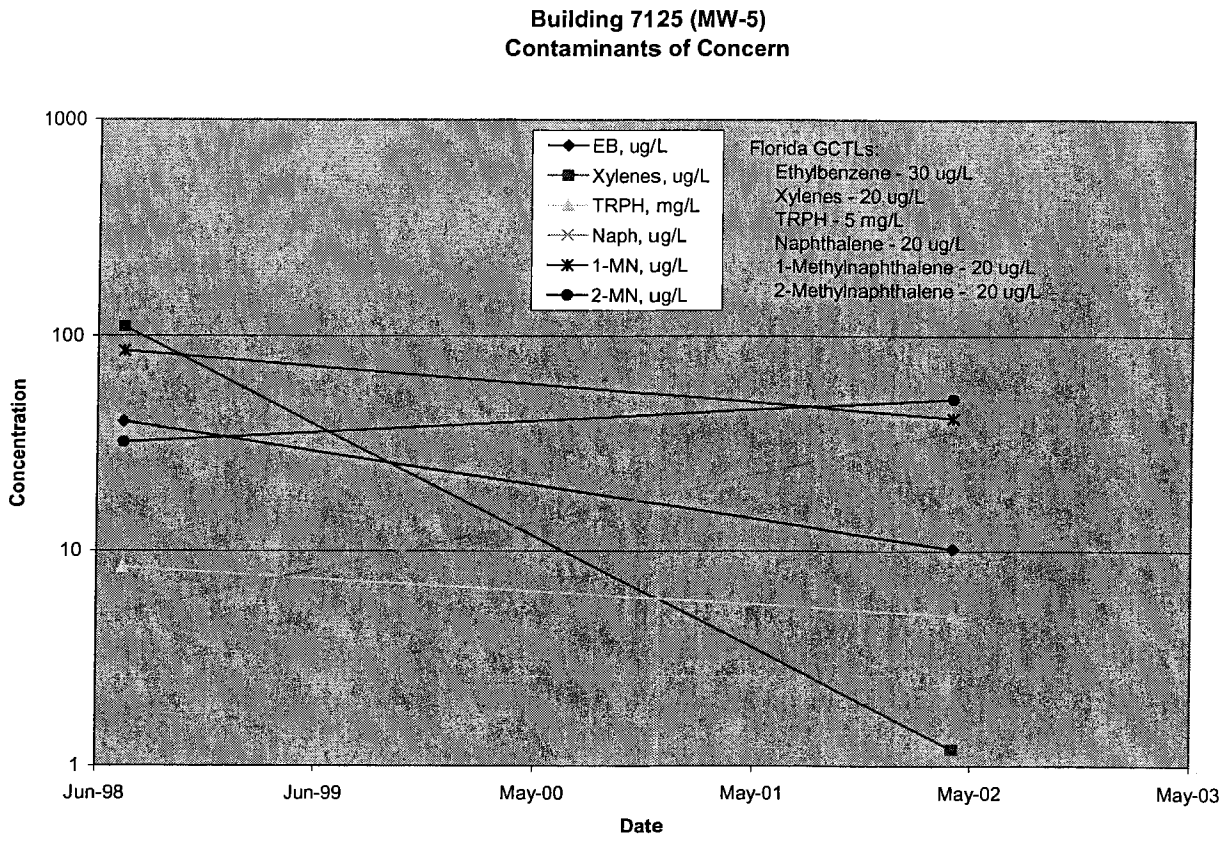
Building 7125

Contaminants of concern: BTEX, PAHs, TPH

Significant Events:

- January 1999: Tanks removed by PWC Pensacola.
- January 1999: A Site Assessment Report (SAR) recommending a source removal was submitted to the FDEP.
- March 2000: A source removal was conducted to remove petroleum impacted soil.

- June 29, 2001: A Source Removal Report (SRR) was submitted to the FDEP.
- August 3, 2001: The SRR was approved by FDEP.
- May - July 2002: Replacement monitoring wells were installed and sampled.
- November 30, 2002: SAR Addendum recommending natural attenuation monitoring submitted to FDEP.



Building 7151

Contaminants of concern: Benzene, PAHs

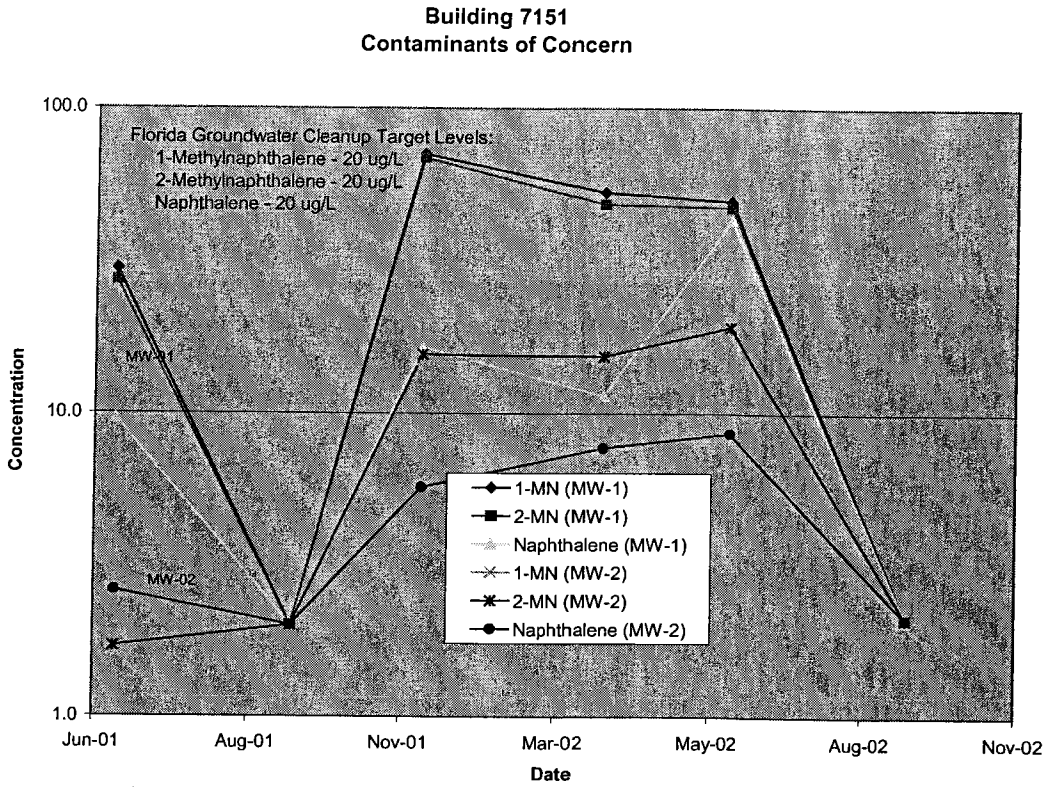
Significant Events:

- February 14, 1999: Tanks removed by the DET.
- June 15, 1999: A Tank Closure Assessment Report (TCAR) was submitted to the FDEP.
- July 9, 1999: A TCAR response letter requesting a Site Assessment issued by the FDEP
- January 2000: Site Assessment field activities were initiated.
- March 13, 2000: A source removal was conducted to remove petroleum impacted soil.
- November 3, 2000: A Source Removal Report (SRR) was submitted to the FDEP
- November 28. 2000: A Site Assessment Report (SAR) recommending natural attenuation monitoring was submitted to the FDEP.
- March 15, 2001: A SAR response letter and Natural Attenuation Monitoring Plan Approval Order were issued by the FDEP.

- December 10, 2002: Sixth quarter groundwater monitoring report submitted to FDEP recommending change in frequency of sampling from quarterly to semi-annually. Currently awaiting FDEP response.

Groundwater Monitoring (Sampling):

2001 (June, September, December); 2002 (March, June, September).



Building 7174

Contaminants of concern: Benzene, PAHs

Significant Events:

- February 2000: Construction documentation report submitted (biosparge system); first quarterly GW monitoring
- December 2000: fourth sampling event completed; data indicate all compounds of concern are below cleanup criteria
- April 2001: quarterly sampling completed; biosparge system turned off approximately 1 month prior to the sampling to see if any short-term rebound occurs
- March 2002: first round of quarterly post-active remediation monitoring completed. All detections were below groundwater cleanup target levels (GCTLs).
- July 2002: Second round of quarterly post-active remediation monitoring completed. All detections continue to be below GCTLs.
- September 2002: third round of quarterly post-active remediation monitoring completed; all detections continue to be below GCTLs. Report submitted in December 2002

- January 2, 2003: third round of quarterly post-active remediation monitoring completed; report due in February 2003.

Post-active remediation monitoring results to date have shown compliance with the GCTLs. If these results hold true for the fourth event (Jan 2003), FDEP will be requested for an NFA status and follow-up with System tear down, well abandonment, and site restoration.

Building 7175

Contaminants of concern: Benzene, Naphthalene

Significant Events:

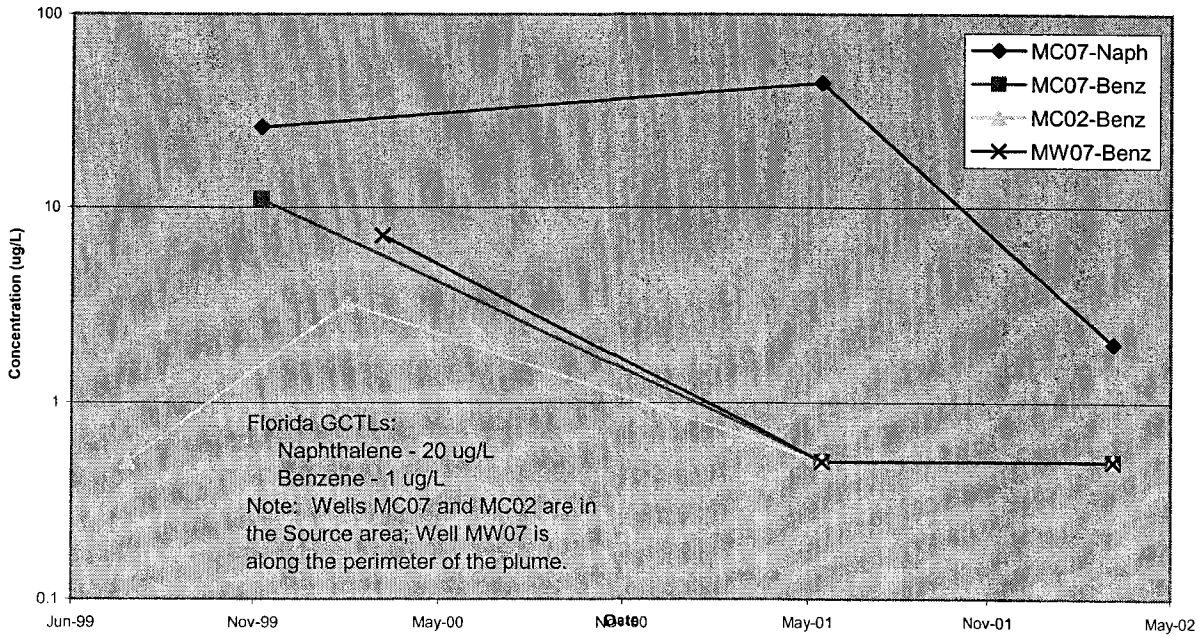
- February 1999: Source removal conducted by the DET to remove petroleum impacted soil
- April 1999: Site Assessment initiated
- June 1999: Source Removal Report (SRR) submitted to the FDEP
- September 1999: SAR/Monitoring Only Proposal (MOP) submitted to FDEP
- October 1999: SAR review letter issued by the FDEP indicating further assessment required
- November 1999 to March 2000: Additional assessment activities completed
- May 2000: SAR Addendum recommending additional assessment submitted to the FDEP
- September 2000: SARA response letter issued by FDEP concurring with the recommendation for additional assessment
- November 2000 to June 2001: Additional assessment activities completed
- November 2001: SAR Addendum recommending Natural Attenuation monitoring submitted to FDEP
- February 2002: SARA approval letter and Natural Attenuation Monitoring Plan Approval Order issued by FDEP
- October 2002: Second quarter groundwater monitoring report recommending No Further Action submitted to FDEP.
- December 2002: Site Rehabilitation Completion Order issued by the FDEP. NFA !

Groundwater Monitoring (Sampling):

- 2002 (April, July)

This site will be dropping off Status List

Building 7175
Contaminants of Concern



IR UPDATE AND STATUS
January 2003

MAIN BASE

Operable Unit 1

Contaminants of concern: Gross alpha and gross beta, antimony, arsenic, and MCPA (a pesticide)

Historical Summary: OU 1 is a landfill, closed in 1967, under the (former) North Grinder Parade Field in the northwest corner of the former Main Base of NTC, Orlando. It accepted film and photographic chemicals, paint thinner, garbage and trash, medical waste, yard and construction debris, and tetrachloroethylene, or perchloroethylene (PCE) stillbottoms.

Significant Events:

- 1985: Initial Assessment Study (IAS), conducted by C.C. Johnson. Nine potentially contaminated sites at NTC Orlando identified, including OU 1.
- 1986: Verification Study conducted by Geraghty Miller; four monitoring wells at OU 1 indicated arsenic and gross alpha contamination in groundwater; recommendation: conduct remedial investigation (RI).
- March 1995: RI field program started
- December 1996: RI report issued
- May 1997: Proposed Plan issued. The selected remedy included: (a) long-term groundwater monitoring; (b) disallow the use of the surficial aquifer groundwater in the vicinity of the landfill for drinking or irrigation; (c) limit intrusive activities within the landfill boundary; and (d) restrict land use within the landfill boundary to non-residential
- November 1997: Record of Decision signed
- March 1998 to January 2002: Long-term groundwater monitoring; groundwater concentrations do not indicate a release from the landfill.
- October 2002: Five-Year Review Report for OU 1 issued and now is being reviewed!

Groundwater Monitoring (Sampling):

- 1998 (Mar-Jun-Sep-Dec); 1999 (Jun-Dec); 2000 (Jun); 2001 (Feb-Jul); 2002 (Jan)

Replacement LTM monitoring wells will be installed by the Developer April/May 2003.

Operable Unit 3

Contaminants of concern: Arsenic and pesticides in groundwater.

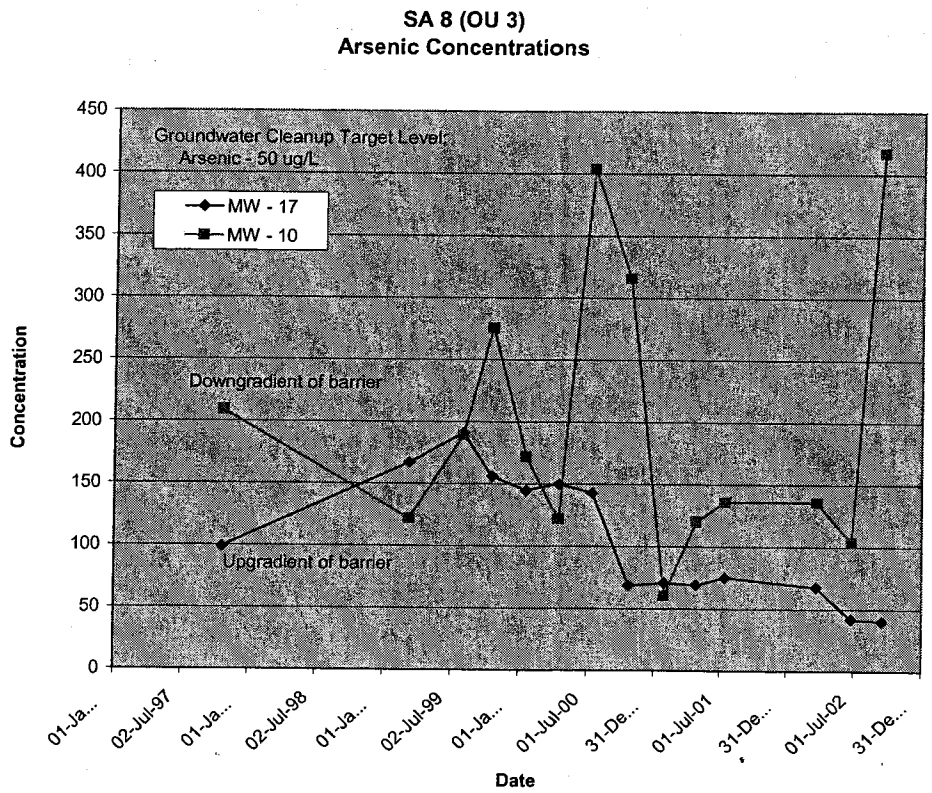
Significant Events:

- August 1994 – March 1998: Site investigations.
- July 1996: Environmental Site Screening Report for SA 9 issued.
- April 1997: Environmental Site Screening Report for SA 8 issued.
- June 1999: Final Remedial Investigation/Feasibility Study Report issued.
- August 1999: IRA Completion Report documented removal of 95 tons of pesticide-contaminated soil and 2,886 tons of arsenic-contaminated soil.

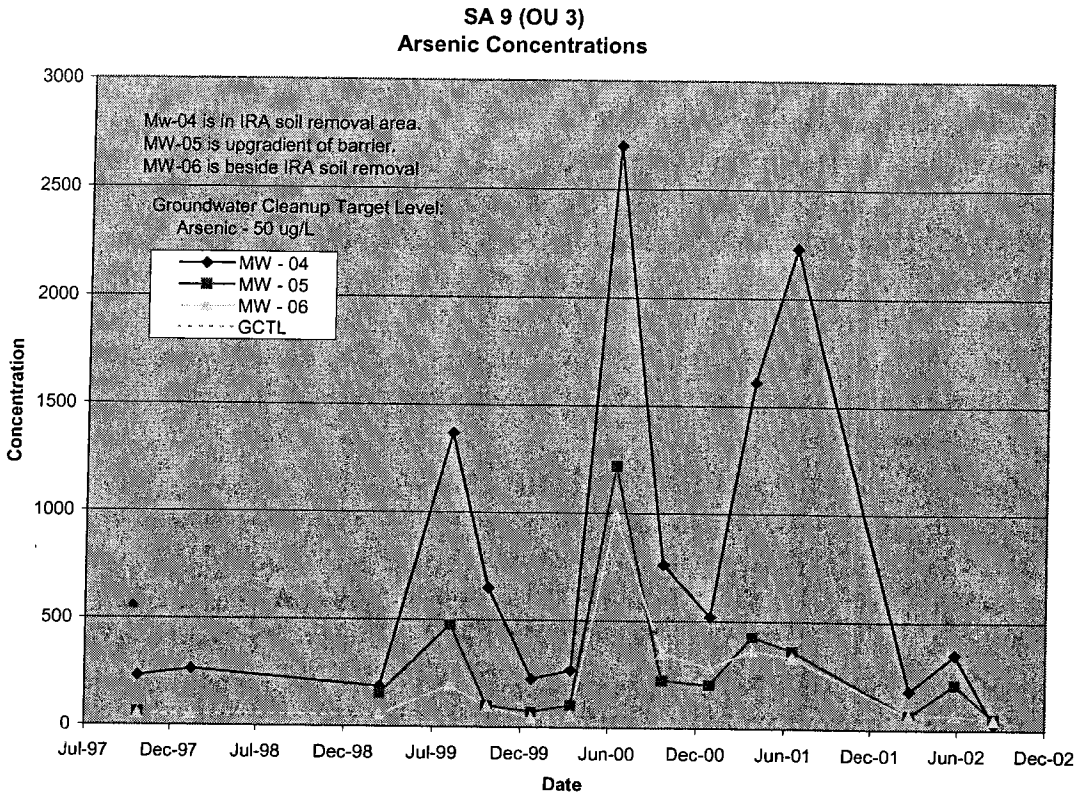
- September 2000: Interim Record of Decision stipulated institutional controls on groundwater use and other administrative remedies, groundwater monitoring, and evaluation of three groundwater treatment options.
- January 2001: Specifications for Site Monitoring issued.

Treatability Study Permeable Absorbtive Barrier (PAB):

- February 2, 2001: Bench-scale study report issued. Activated alumina was effective in removing arsenic from OU 3 groundwater.
- August 2001: Borings confirmed lack of a confining layer in which to key a wall for a funnel and gate design.
- February 2002: Fact Sheet issued.



Downgradient well is approx 10' from barrier wall and we don't feel that arsenic has gotten thru the wall.



Study Area 36

Contaminants of concern: TCE (up to 300 µg/L vs. MCL of 3 µg/L) and PCE (up to 5.4 µg/L vs. MCL of 3 µg/L) in groundwater

Historical Summary: SA 36 is the former Public Works Yard, where lumber, paint, thinners and solvents were stored at one time or another. Vehicles were stored and maintained on the premises. Hazardous and nonhazardous materials, including waste oil drums, transformers, and batteries, were stored here prior to disposal. Sand, gravel, and other construction supplies were staged at Public Works prior to their use throughout the Main Base.

Significant Events:

- July – November 1997: Field investigations for site screening
- July 1999: Site Screening Report issued, recommending removal of contaminated surface soil (PAHs, TRPH, arsenic) with confirmation sampling; groundwater monitoring to determine if TCE/PCE levels are decreasing via natural attenuation. If no decrease, consider remedial alternatives.
- April 2000: Additional field investigations to delineate TCE/PCE plume
- Feb 2002: Draft Decision Document for all of SA 36 is issued.
- May 2002: A Technical Memorandum on the groundwater investigation at SA 36 was issued and subsequently approved by FDEP and USEPA. The portion of SA 36 excluding the groundwater contamination was included in the FOST/EBST Addendum 4 issued by the Navy during the week of 06/03/02.
- June 2002: The clean portion of SA 36 (w/o groundwater contamination) was transferred to the Developer.
- September 2002: Draft Site Investigation Report issued by TtNUS.
- January 2003: FDEP recommends opening a separate site investigation to look into benzene detections NW of SA 36.

Vegetable Oil Injection Treatability Study:

- November 2000: Enhanced bioremediation work plan issued.
- January 2001: Injector and monitoring well installation and vegetable oil injection activities (60 gallons into each of 15 wells, 900 gallons total – food grade vegetable oil)
- November 2001: Additional 540 gallons of vegetable oil injected into site wells
- December 2001: All monitoring wells abandoned due to construction in Baldwin Park
- April 2002: Monitoring wells reinstalled for continuing groundwater monitoring
- Draft "Operating Properly & Successfully" (OPS) report issued on 04/05/02

Groundwater Monitoring (Sampling):

- Site Screening: 1997 (Nov); 1998 (Jun, Dec)
- Vegetable Oil Treatability Study: 2000 (Dec – baseline); 2001 (Mar, Aug, Oct): 2002

Benzene contamination was found NW outside of SA 36. The upgradient well to the TCE plume found this detection. The Navy is proposing to investigate the benzene as a new site

Study Area 39

Contaminants of concern: PAHs and arsenic in soil (remediation completed), and PCE in groundwater (GCTL = 3 µg/L).

Historical Summary: SA 39 was a coal storage area for base utilities, and also had hazardous materials storage and functioned as a staging area for solid waste in two large dumpsters with loading ramps, and large items, including brush and trees. It is located immediately south of a known landfill that reportedly accepted medical waste, small armaments, asbestos-containing materials, and household refuse.

Significant Events:

- Jan 1996 – Sep 1997: Field investigations for site screening (Phases I/II) (ABB-ES).
- April 1999: Site Screening investigation report issued (ABB-ES).
- Jul-Oct 1999: Field program (TtNUS) to evaluate chlorinated hydrocarbons in groundwater, further delineate PCE plume, install additional monitoring wells, and evaluate NA parameters.
- August 2000: Site Investigation Report issued (TtNUS).
- August 2001: Soil removal by Developer (soil transported to OU 2 and used as cover).
- December 2001: monitoring wells abandoned due to site development activities at Main Base
- February 2002: Draft decision document issued (TtNUS).
- April to May 2002: Monitoring wells reinstalled
- June 2002: The clean portion of SA 39 (w/o groundwater contamination) was transferred to the City.

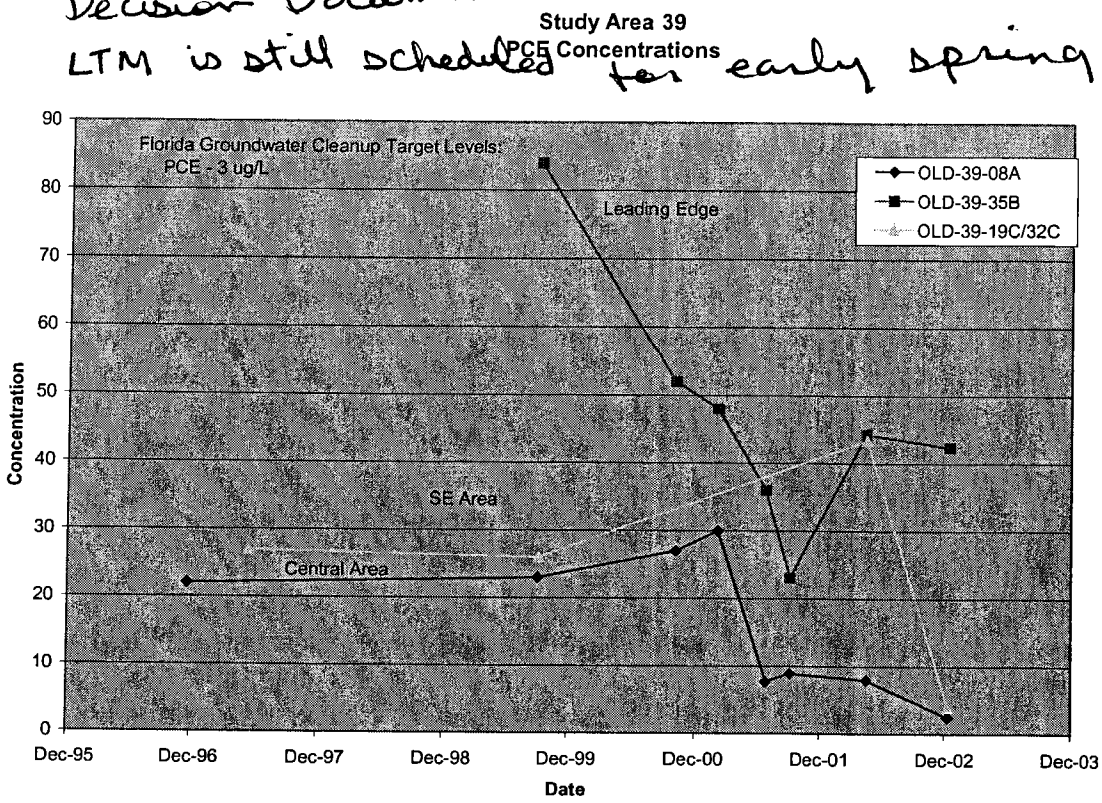
Vegetable Oil Injection Treatability Study:

- October 2000: Work Plan approved for IRA implementation (ground water remediation by injection of vegetable oil) (CCI)
- December 2000: Injection of 960 gallons of veggie oil in site wells.
- November 2001: Injection of additional 960 gallons of veggie oil in site wells.
- December 2001: All wells abandoned due to Developer activities at Baldwin Park.
- April/May 2002: Wells reinstalled, groundwater monitoring continues.

Groundwater Monitoring (Sampling):

Vegetable Oil Treatability Study: 2000 (Oct - baseline sampling); 2001 (Feb, June, Sep); 2002 (May and Dec)

Transfered by ET 12/23/02.
Decision Document still on hold due to LUC issues!
LTM is still scheduled for early spring!



AREA C

Operable Unit 4

Contaminants of concern: PAHs in soil (remediation has been completed); PCE, TCE, cis-DCE, vinyl chloride in groundwater and/or surface water.

Historical Summary: Operable Unit 4 is the former base laundry, Defense Reutilization and Marketing Office (DRMO), and salvage yard. Hazardous materials including paints, solvents, insecticides, transformers (PCBs), and asbestos were stored at several locations within the site during its long history. PCE was used in the laundry as a dry cleaning agent, and there have been at least three documented spills of PCE at the facility.

Significant Events:

- February-April 1995: field investigations in Study Areas 12, 13, and 14
- Fall 1995: Orlando Partnering Team elevated SAs 12, 13, and 14 to Operable Unit status
- May 1996: focused field investigation to determine if there are VOCs from the laundry in the groundwater, sediment, and surface water of Lake Druid, 400 feet west of the former laundry
- July 1996: Site screening report issued
- March-April 1997: focused source characterization with direct push technology (DPT), concentrating on the surge tank on the west end of Building 1100; results permitted conceptual model that included the degradation of PCE to daughter products (TCE, cis-DCE, and vinyl chloride) as groundwater plume migrated west to Lake Druid
- Fall 1997: Interim Remedial Action (IRA) implemented: two recirculating wells were installed to intercept and treat contaminated groundwater before it could reach Lake Druid; the wells were plagued with O&M problems early on and had to be converted to traditional extraction wells (November 2000) with a tray stripper system to maintain objectives of the IRA.
- September 1997 to March 1998: Remedial Investigation field studies (install 11 additional monitoring wells, 5 microwells, collect 11 surface/20 subsurface soil samples, collect 11 surface water/sediment sample pairs
- May 1999: Soil remediation by Environmental Detachment Charleston (DET) in three areas of PAH-contaminated soil
- February 2000: Startup of potassium permanganate injection pilot study, to determine effectiveness of this technology in treating contaminated groundwater near the contaminant source
- January 2001: RI report issued
- March 2001: Extraction wells (former recirculating wells) began pumping/treating groundwater
- December 2001: Draft ROD issued (TtNUS)
- February 2002: final Remedial Design Report (90% design) issued

- March 2002: Phytoremediation implemented: 4,600 bio-engineered poplars and willows planted; vegetation with deep roots will "polish" shallow groundwater prior to entry into Lake Druid Construction of
- May 2002: full-scale chemical oxidation system to treat source area began in May 2002 should be ~~completed by February 2003~~ turned on March 2003.

Soil and Groundwater Sampling:

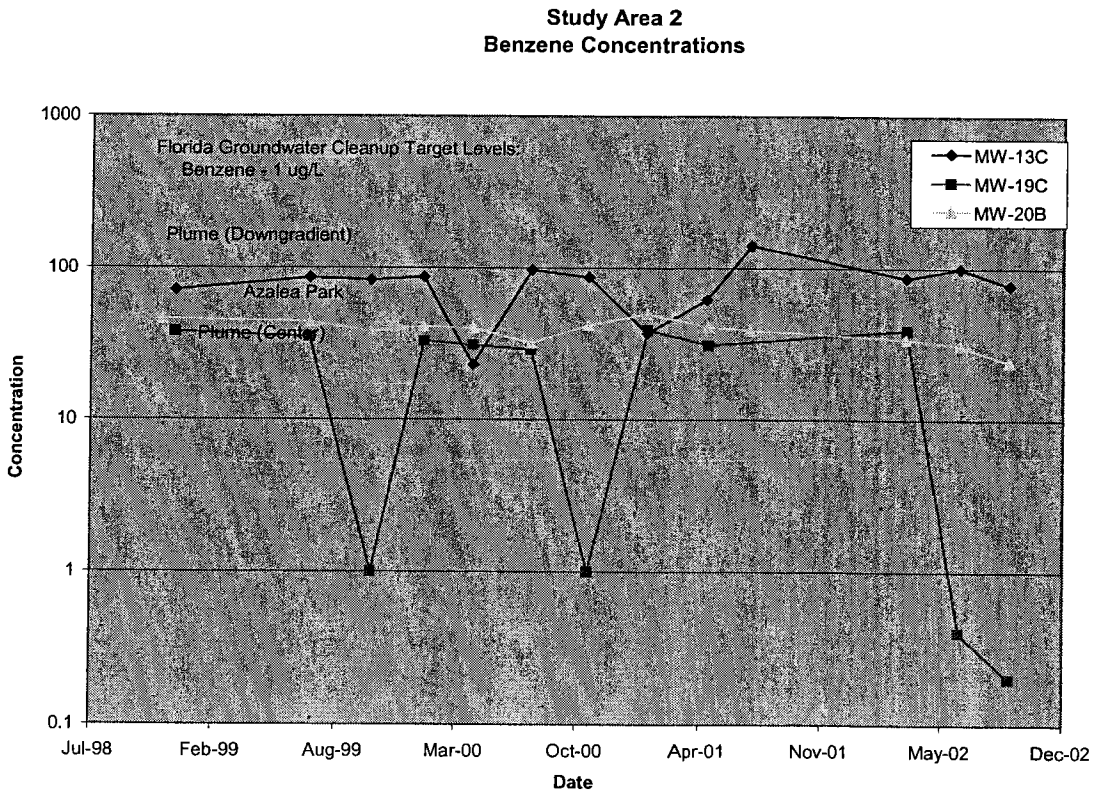
- 1995 (Feb, Mar, Apr); 1996 (May); 1997 (Mar, Oct); 1998 (Jan, Mar); 1999 (May); 2002 (Apr).

Extraction wells is still capturing the Plume

HERNDON ANNEX

Study Area 2

Contaminant of concern: Benzene in groundwater



Significant Events:

- July 1994 – December 1998: Site Screening Investigation.
- June 1999: BCT signed the final site screening report. Recommendations included focused risk assessment, groundwater use advisory, sampling of yard wells in Azalea neighborhood, and quarterly groundwater monitoring.
- November 1999: Completion of final FFS and NA Work Plan.
- April 2000: Final Decision Document issued.
- August 2000: FDEP issued approval letter for the final Decision Document.

- ORC Treatability Study:
- July 2000: FDEP approved the selected remedy, injection of Oxygen Release Compound (ORC) into groundwater (issued July 19, 2000).
- December 2000/January 2001: ORC injection (four injection points completed on March 26).
- Treatability Study sampling: April/May 2001, July 2001, March 2002 (final)
- July 2002: TS Tech Memo issued (ORC unsuccessful in decreasing benzene concentration)

Groundwater Monitoring (Sampling):

1999 (Jul, Oct); 2000 (Jan, Apr, Jul, Oct); 2001 (Jan, Apr, Jul): 2002 (Mar, Jun, Sep).

Still evaluating various technolgies at this site.

McCOY ANNEX

Operable Unit 2

Contaminants of concern: Semivolatile organic compounds (SVOCs), pesticides, and several heavy metals in soil; volatile organic compounds and inorganics in groundwater; and SVOCs, pesticides and metals in surface water and sediment.

Historical Summary: OU 2 is a 99-acre landfill in the southern portion of McCoy Annex. The landfill operated from 1960 to 1978 and a large portion of the landfill underlies the McCoy Annex golf course. The landfill was identified in the Initial Assessment Study (IAS) in 1985 as being of environmental concern. Landfill wastes reportedly included paint and paint thinners, asbestos, transformers, hospital wastes, low level radiological waste, batteries, aircraft parts, yard waste, and possibly waste oil.

Significant Events:

- Initial Assessment Study (C.C. Johnson, 1985): identified the landfill in southern McCoy Annex as being of environmental concern
- May 1997 to November 1997 – Remedial Investigation (RI) field operations, Phase I (geophysics to define landfill boundaries; surface soil, sediment, surface water sampling; soil vapor investigations; Direct Push Technology (DPT), hand auger borings (TtNUS)
- March 1998 to October 1998 – RI field operations, Phase II (monitoring well installation, geophysics to refine west landfill boundary, aquifer testing, DPT groundwater sampling (TtNUS)
- February 1999 to February 2001 – RI field operations, Phase III (additional surface water and sediment sampling; monitoring well sampling; hand auger borings to refine cover thickness over landfill (TtNUS)
- April 1999 – Interim Remedial Action: soil removal of 2,000 yd3 of PAH-contaminated soil from two areas (Bechtel)
- Summer 1999 – 86,000 yd3 of cover materials from two local sources placed over landfill in 25-acre area with less than 2 feet of cover materials (EEG)
- March 2001 – RI report issued (TtNUS)
- December 2001 – (draft) Proposed Plan issued for review (TtNUS)
- February 2002 – (final) Monitoring Plan issued; (draft) ROD issued for review (TtNUS)
- September 2002: draft final EBST/FOST for three small parcels adjacent to OU 2 issued

FDEP has given approval

Soil and Groundwater Sampling:
1997 (Jul, Sep); 1998 (Aug); 1999 (Jun-Jul, Aug-Sep); 2002 (Mar, Jun, Sep, Dec).

Study Area 16:

Harding collected 13 surface soil and 5 sediment samples from the ditches surrounding SA 16 on 8/17/99. These results were summarized in a letter distributed at the November OPT meeting. Harding issued a letter on 1/26/00 recommending excavation of 4 surface soil samples and one sediment sample. Soil removal performed by EEG (formerly DET) the week of 3/13/00. Draft Source Removal Report (SRR) submitted to Navy on 9/21/00. Draft SRR approved by Navy 9/22/00. Final SRR submitted to the FDEP on 9/28/00. Confirmatory sampling indicates that PAH concentrations still exceed SCTLs in the ditches to the south and east of the site. The delineation of the PAH contamination will be discussed at the July 2001 OPT meeting. TtNUS personnel met with FDEP on 7/26/01 to discuss sampling options. Based on this meeting and subsequent discussions with the Navy, soil samples ~~will be~~ were collected from the drainage ditches south and east of the site. Industrial GCTLs will be the groundwater cleanup criteria used to delineate the soil. TtNUS collected soil samples from the ditch south of Binnacle Way on 9/26/01. The laboratory analysis has been completed and the results will be presented at the December OPT meeting. PAH contaminated sediments in the ditch were excavated and disposed of offsite in April 2002. Within 30 days, site rehabilitation completion report will be finalized.

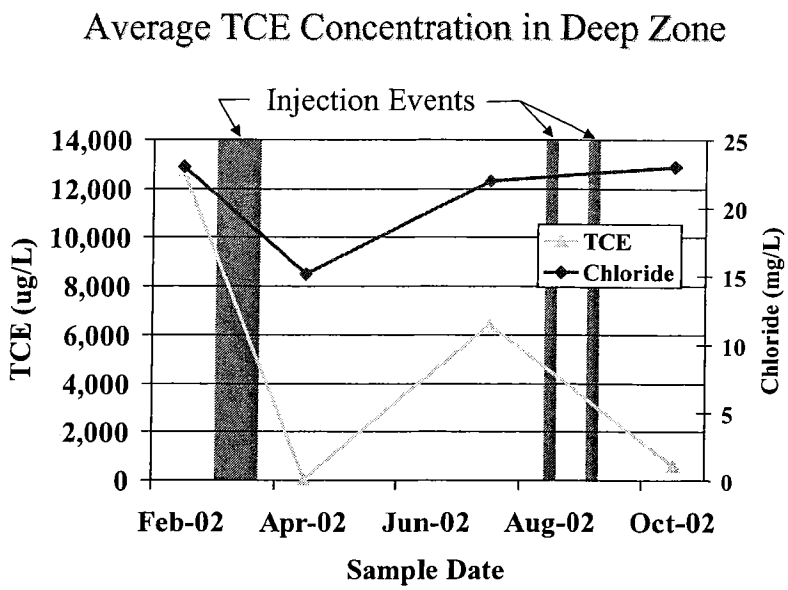
Study Area 17:

Contaminants of concern: PAHs in soil (remediation May 1999); chlorinated hydrocarbons (primarily TCE, VC and cis-DCE) in groundwater.

Historical Summary: This site is the former Defense Property Disposal Office, which consisted of 5 buildings on 25 acres in the south portion of McCoy Annex. One of the buildings was a motor pool and included a wash rack with drainage to a former leach bed, and another stored hazardous and flammable materials; there were also drum and transformer (with PCBs) storage areas.

Significant Events:

- February to May 1995: Initial field investigations for site screening (ABB-ES)
- October/November 1996: Supplemental field investigations, delineation of PAH contamination in soil (ABB-ES)
- January/February 1997: Supplemental field investigations, delineation of chlorinated VOCs in groundwater (ABB-ES)
- March/April 1998: Supplemental field investigations, delineation of chlorinated VOCs in groundwater (ABB-ES)
- May 1999: IRA soil removal of PAH contaminated soil (DET)
- March 1999 – Site Screening Report issued (Harding)



Continue LTM is on

- August 2002 – Work plan for delineating the downgradient extent of VOC contamination issued (TtNUS).
- Aug-Sep 2002; Nov-Dec 2002 – Performed fieldwork for the downgradient site investigation.

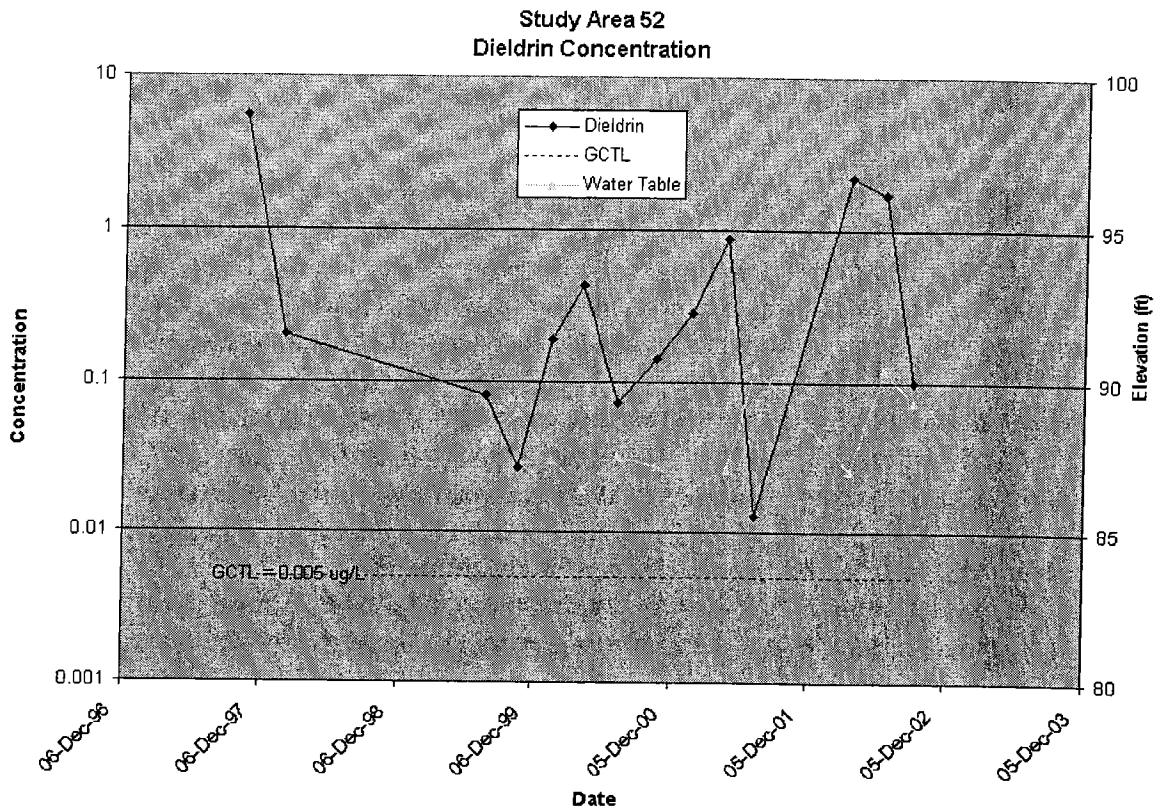
Soil Sampling and Groundwater Monitoring:

- 1995 (Apr-May-Jun); 1996 (Jun); 1997 (Feb, Nov); 1998 (Mar-Apr, Jun); 2000 (Oct – Pre-Injection); 2001 (Feb, Jul); 2002 (Feb, Mar, Apr, Jul, Oct).

Study Area 18: The DET completed soil removal activities 5/29/99. TtNUS measured water elevations and resampled monitoring wells 5/99. Chlorinated solvent concentrations in groundwater are all below GCTLs. Harding finalized the site screening report and submitted the report to the OPT in redline/strikeout on 8/26/99. Recommendations include no further action, including a restriction to nonresidential use and a groundwater use advisory due to exceedances of secondary standards for aluminum and iron. The report will be issued following resolution of secondary standards issues, which are being evaluated by FDEP and Tier II. TtNUS resampled groundwater on 10/25/00 and the results were issued to the OPT on 01/22/01. Two "background" wells were installed and sampled for TAL metals the week of 4/23/01. However turbidity in the samples was high and the wells were redeveloped and sampled in June 2001. The groundwater and soil sampling results were presented at the September 2001 OPT meeting. The draft final Site Screening Report was issued in November 2001. Contaminated soil exceeding residential SCTLs was excavated from the site in April 2002. A draft Decision Document was issued in April 2002. A final FOST/EBST is in preparation. ***A draft Technical Memorandum documenting the soil removal was issued 10/27/02, and the final Technical Memorandum was issued on 12/11/02.*** FOST is being finalized.

Study Area 52:

Contaminant of concern: Dieldrin in groundwater (soil has been remediated).



Historical Summary: SA 52 is the site of the former entomology laboratory at McCoy Annex. The focus of the environmental investigations was the area surrounding Building 7261, a 1616 ft2 former maintenance shop, where pesticides and herbicides were stored. The building was demolished in the early 1980s.

Significant Events:

- March-April 1996 – Initial site screening activities (ABB-ES)
- December 1996 – Supplemental investigations, delineation of pesticide-contaminated soils (ABB-ES)
- September 1997 – Interim remedial action (IRA), consisting of the excavation of 1,300 tons of contaminated soil from a 120x80-foot area up to four feet deep (DET)
- April 1998 – Florida issued final report for Development of Soil Cleanup Target Levels (62-785 F.A.C.), in which the groundwater standard for Dieldrin was decreased from 0.1 µg/L to 0.005 µg/L, or 20 times lower.
- March 1999 – Site screening report issued (Harding)
- April 2000 – Decision Document issued (TtNUS); calls for long-term groundwater monitoring
- Overdevelopment Activities (to decrease Dieldrin concentrations in groundwater): 2001 (Apr [550 gal removed from aquifer], Jun [4,450 gal removed]); 2002 (Mar and June [5,000 gal removed])
- December 2002: Report for Sep 2002 sampling issued.

Groundwater Monitoring (Sampling):

1996 (Apr); 1997 (Oct, Dec); 1998 (Feb, Apr, Sep); 1999 (Jul, Oct); 2000 (Jan, Apr, Jul, Oct); 2001 (Jan, Apr, Jul); 2002 (Mar, Jun, Sep, Dec).

Sampled site in 12/02 and running extra analytical step to lower the detection limit for Dieldrin.

Study Area 54:
Draft site screening report on the two background surface soil sample locations (ORS00901 and ORS01601) was submitted to the OPT for review on 12/2/98. TtNUS completed additional sampling in 9/99 to determine if conditions have changed following construction activities. The OPT determined during the 11/99 meeting that no further delineation would be required at sample ORS009, but that additional sampling would be required at ORS016. TtNUS mobilized in 4/00, 6/00, and 12/00 to perform the additional sampling. The results of the 12/00 sampling was presented at the January 2001 OPT meeting. Soil and groundwater sampling (including installation of a temporary well) to test PAH leachability will be performed at one of the PAH hot spots during the week of 4/23/01. Results of the leachability test indicate that PAHs do not leach from the soil. Additional samples were taken in August 2001 to finalize the PAH delineation to commercial SCTLs and the limits of soil excavation have been determined. TtNUS issued the draft Site Investigation Report in November 2001 and the draft Decision Document in January 2002. A PAH-contaminated soil removal to excavate and dispose of surface soils exceeding industrial/commercial SCTLs was completed at the site in April 2002. ***CH2M Hill issued a draft Technical Memorandum documenting the soil excavation on 10/27/02, and the final Technical Memorandum was issued on 12/30/02.***

Clean-up has been officially done!

STUDY AREA STATUS

55 study areas have been screened:

⇒ 42½ SAs have been submitted as final and approved for NFA: 1, 3, 4, 5, 6, 7, 8[WWTP], 10, 11, 15, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 55.

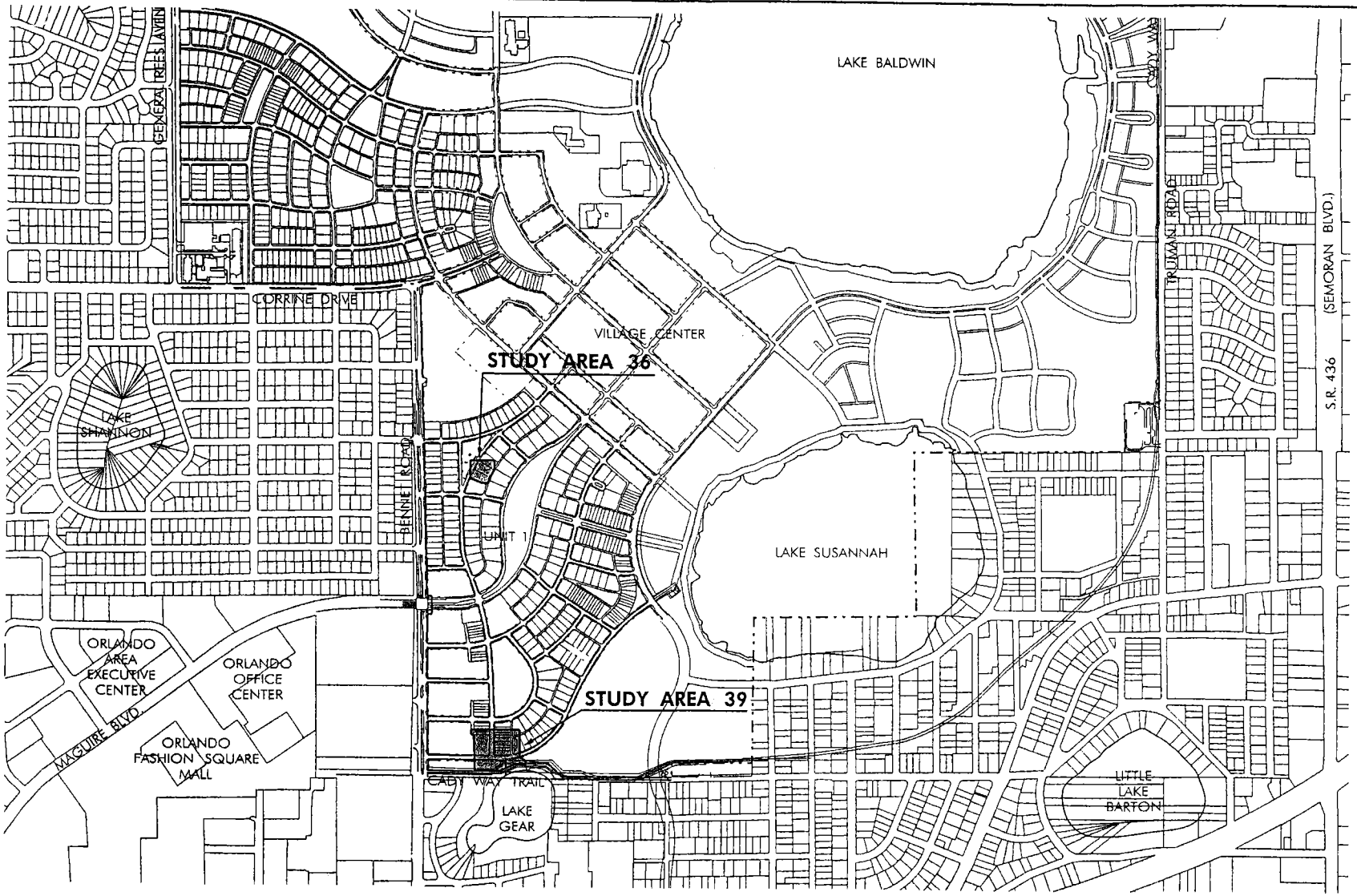
⇒ 4½ SAs became OUs (8 [greenskeeper storage] & 9 [OU3]; and 12, 13, and 14 [OU 4]).

⇒ 4 SA reports have been approved by the BCT as final, but will require additional investigation/remediation (SAs 17, 39) or continued groundwater monitoring (SA 2, 52).

4 SA reports are in various stages of being finalized (16, 18, 36, 54).

Glossary

ABB-ES	ABB Environmental Services, Inc.
BCT	BRAC Cleanup Team
BRAC	Base Realignment and Closure
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CAR	Contamination Assessment Report
CCI	CH2M Hill Constructors, Inc.
DCE	Dichloroethylene
DET	Environmental Detachment Charleston
DPT	Direct push technology
EBS(T)	Environmental Baseline Survey (for Transfer)
EEG	? (formerly DET)
FDEP	Florida Dept. of Environmental Protection
FFS	Focused Feasibility Study
FOST	Finding of Suitability for Transfer
GCTL	groundwater cleanup target level (FL)
IRA	Interim Remedial Action
MCL	Maximum Contaminant Level (Federal)
µg/L	micrograms per liter
MOP	Monitoring Only Proposal
MN	methylnaphthalene
MW	monitoring well
NA	Natural Attenuation
NFA	no further action
ORC	Oxygen release compound
OPS	Operating Properly and Successfully (remediation system)
OPT	Orlando Partnering Team
OU	Operable Unit
PAB	Permeable Absorbtive Barrier
PAH	polynuclear aromatic hydrocarbons
PCB	Polychlorinated Biphenyl
PCE	perchloroethylene or tetrachloroethylene
ppb	parts per billion
PWC	Public Works Company
RI	Remedial Investigation
ROD	Record of Decision
SA	Study Area
SAR(A)	Site Assessment Report (Addendum)
SCTL	Soil Cleanup Target Level (FL)
SRR	Source Removal Report
SVOC	Semi-volatile organic compound
TCAR	Tank Closure Assessment Report
TCE	trichloroethylene
T(R)PH	total (recoverable) petroleum hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
VOC	Volatile Organic Compound



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BALDWIN PARK

UNIT 1
MONITORING WELLS

KEY MAP

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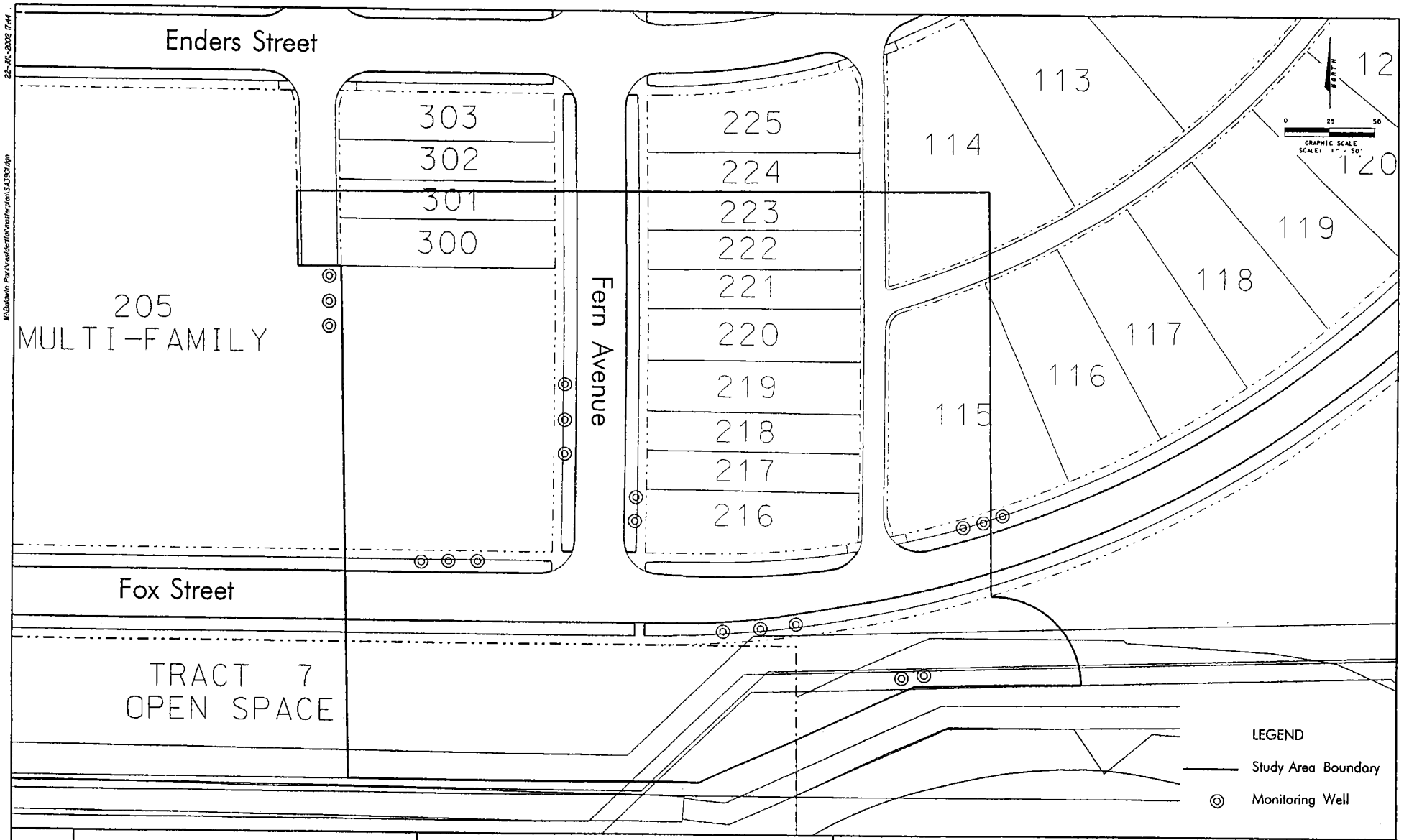

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BALDWIN PARK

UNIT 1
MONITORING WELLS

STUDY AREA
39

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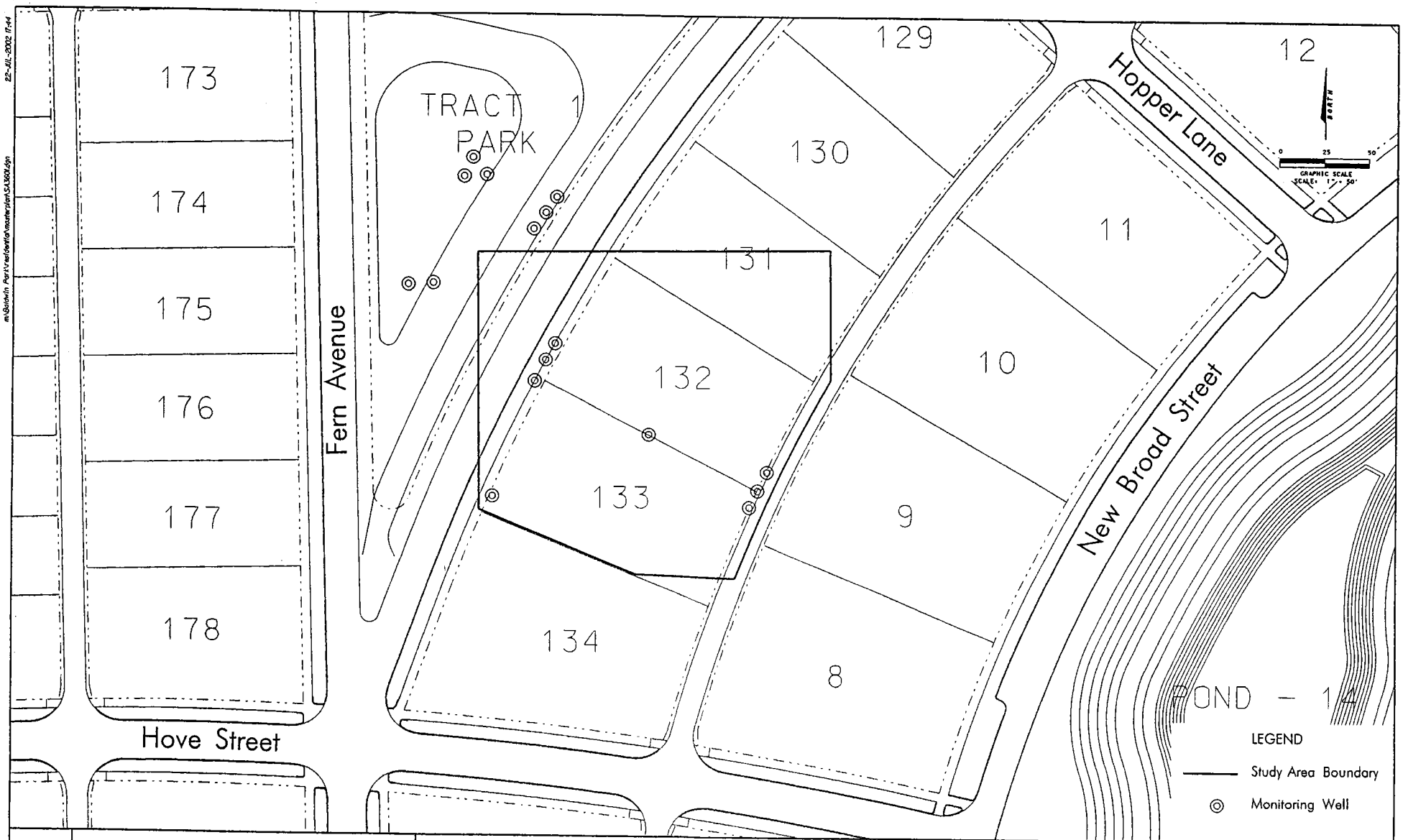

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BALDWIN PARK

UNIT 1
MONITORING WELLS

STUDY AREA
36

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