

Air Force Real Property Agency

I n t e g r i t y - S e r v i c e - E x c e l l e n c e

Kelly Restoration Advisory Board

July 13, 2010



**AFRPA Headquarters
485 Quentin Roosevelt
San Antonio, TX 78226
6:30 – 8:30 p.m.**

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Welcome and Overview

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- **6:30 – 6:35** **Welcome and Overview**
- **6:35 – 6:40** **RAB Membership**
- **6:40 – 6:45** **RAB Administrative Items**
- **6:45 – 7:45** **Environmental Update**
- **7:45 – 8:00** **Property Transfer**
- **8:00 – 8:20** **Public Comment Period**
- **8:20 – 8:30** **Suggested Agenda Items for next RAB**
- **8:30** **Meeting Adjournment**



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Kelly RAB Membership

**Beverly Abbott
Community Co-Chair**



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Kelly RAB Membership

- **Member Roll Call**
- **Vacated RAB Seat**



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Kelly RAB Administrative Items

Jose Martinez
Facilitator



RAB Administrative Items

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■ **Newspaper Announcements**

- **San Antonio Express-News: July 7 & 11, 2010**
- **La Prensa: July 7 & 11, 2010**

■ **AFRPA Press Release**

- **Air Force to further monitor local creek to protect human health and the environment, July 1, 2010**

■ **Media Coverage**

- **KENS 5.COM July 1, 2010**
- **WOAI.COM July 1, 2010**
- **Express News June 30, 2010**

■ **TCEQ Letters**

- **Final Semiannual Compliance Plan Report, June 18, 2010**
- **Risk Reduction Standard No. 2 – Vadose Zone Soil Only, April 30, 2010**

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AFRPA / Kelly Environmental Update



Paul Carroll
BRAC Environmental Coordinator

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Building 171: Parking Lot Update



Paul Carroll
BRAC Environmental Coordinator

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Building 171 Parking Lot Update

- **A number of sinkholes have formed in the parking lot of Building 171 in the vicinity of the Site MP project between December 2009 and June 2010.**
- **During a subsequent investigation by Port San Antonio, it was discovered that a storm drain was blocked and potentially contributing to the sinkhole problem. The storm drain has been recently replaced.**
- **Due to concerns about unconsolidated soil and water infiltration, grout columns are currently being installed in order to prevent future collapses in the parking lot.**



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Building 171 Parking Lot Update



Integrity - Service - Excellence

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Semiannual Compliance Plan Report June through December 2009 Former Kelly Air Force Base



**Paul Carroll
BRAC Environmental Coordinator**

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Activities Covered by the Report

- **Zones 1 through 3 presented at April 13 RAB meeting.**
- **Long Term Monitoring / Sampling Zones 4 and 5**
- **Leon Creek Sampling performed in July 2009**
 - **Stream flow and elevation measurements**
 - **Surface water, outfall, seep, and sediment sampling**
 - **Bioassessment and fish tissue sampling**
- **Sampling and reporting activities were in accordance with the requirements of the renewed Hazardous Waste Permit issued by TCEQ in April 2009.**
- **TCEQ approval or Semiannual Compliance received June 2010.**



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IRP and Remediation Sites – Zone 4

- Site OT-051
- East and South Bank Sites
- UPRR PRB
- Commercial Street PRB





PCE and TCE Isoconcentration Zone 4

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PCE



TCE



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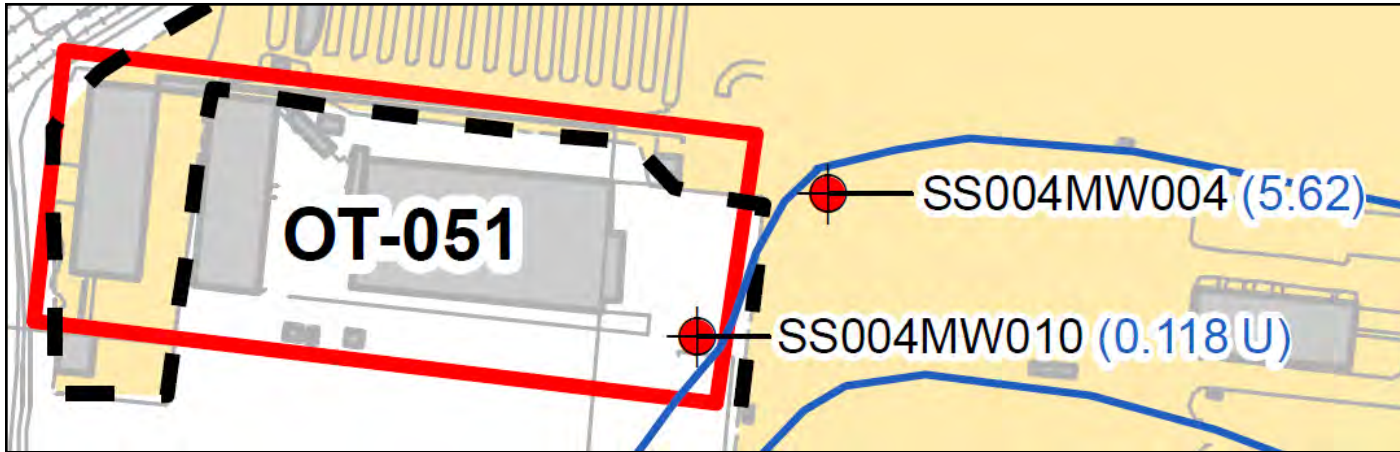
Site OT-051

- **Current remedy includes vegetable oil treatment performed in October 2002.**
- **COCs that exceeded the GWPS in 2009 included TCE and vinyl chloride.**



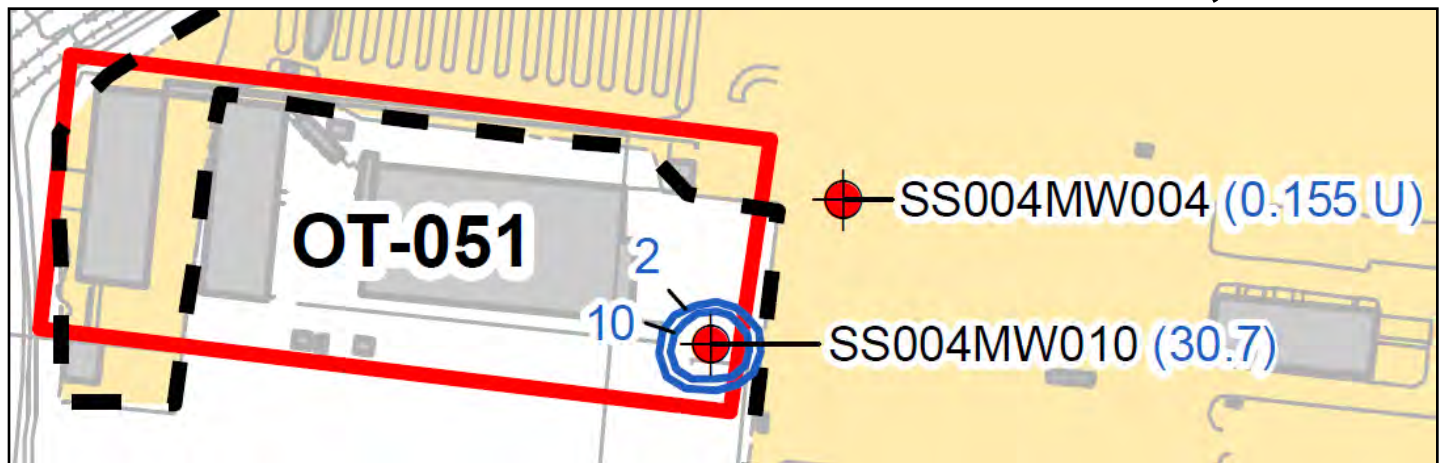
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TCE and cis 1,2-DCE Isoconcentration, Site OT-051



TCE

Cis 1,2-DCE





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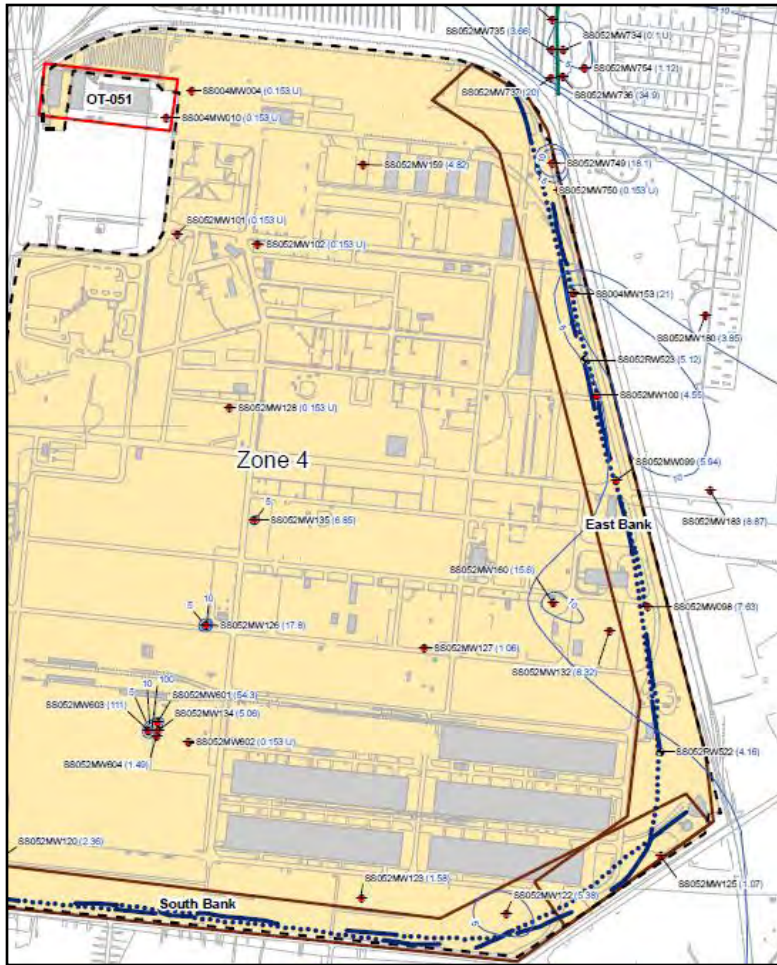
East and South Bank Sites

- **Current remedy includes Groundwater recovery from overlapping, on-base horizontal recovery wells along the eastern and southern boundaries of East Kelly.**
- **COCs that exceeded the GWPS in 2009 included PCE and TCE.**

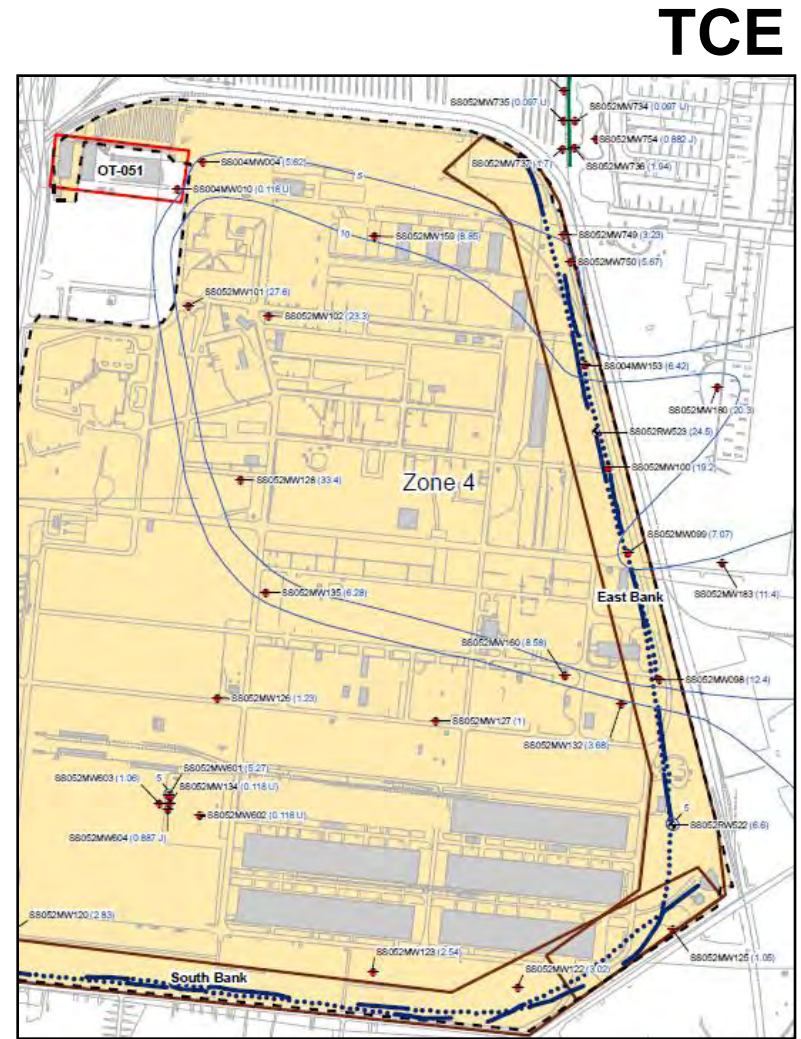


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PCE and TCE Isoconcentration, East and South Bank Sites



PCE



TCE

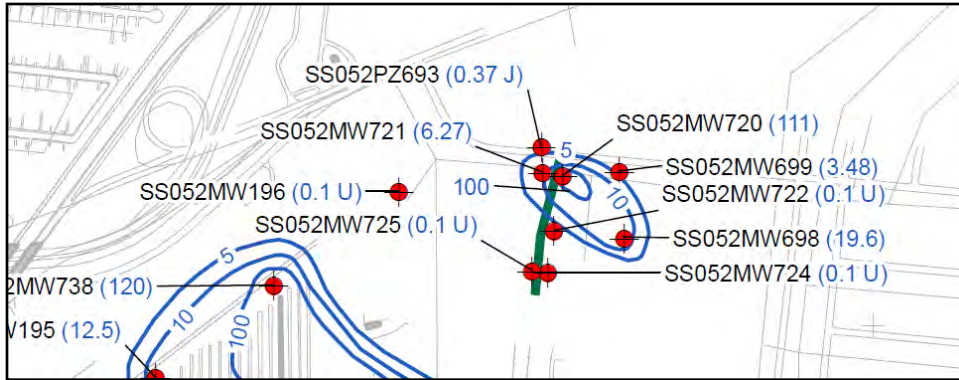


- **PRB was installed in 2005 as an interim remedial action to address the migration of chlorinated VOCs from an upgradient, off-base source located north of East Kelly.**
- **COCs that exceeded the GWPS in 2009 included PCE, TCE, cis 1,2-DCE, and vinyl chloride.**



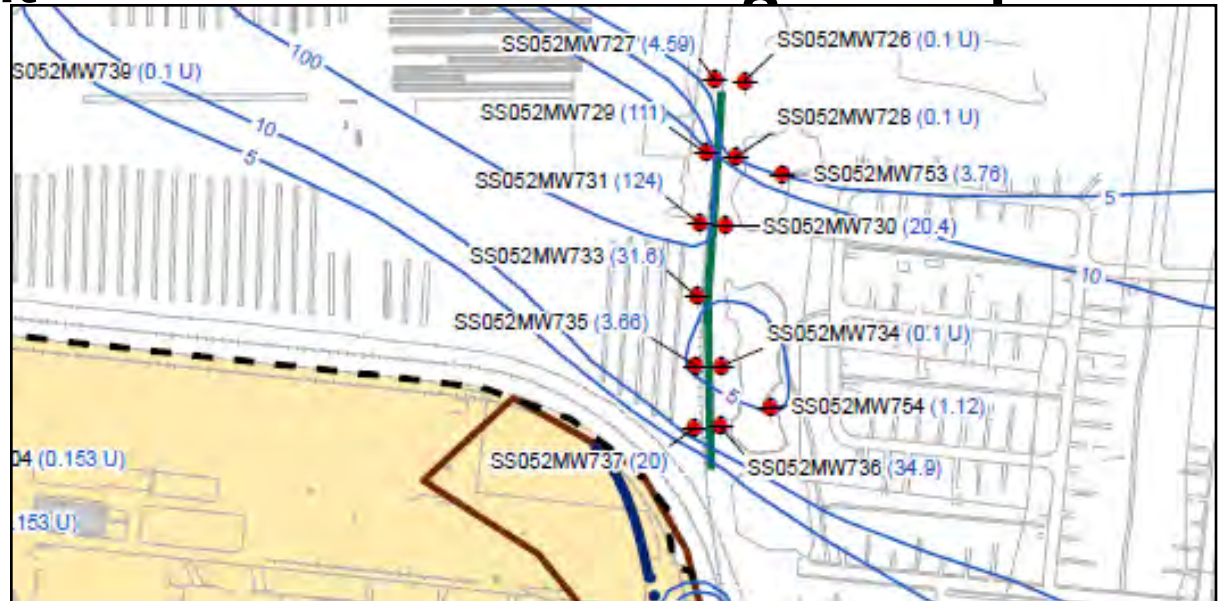
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PCE Isoconcentration UPRR PRB



Northern Segment

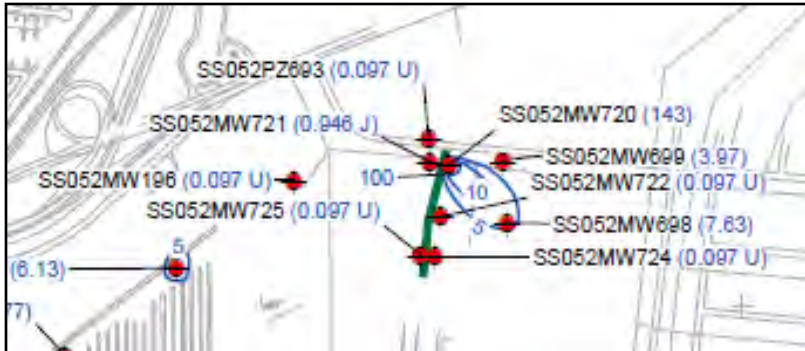
Southern





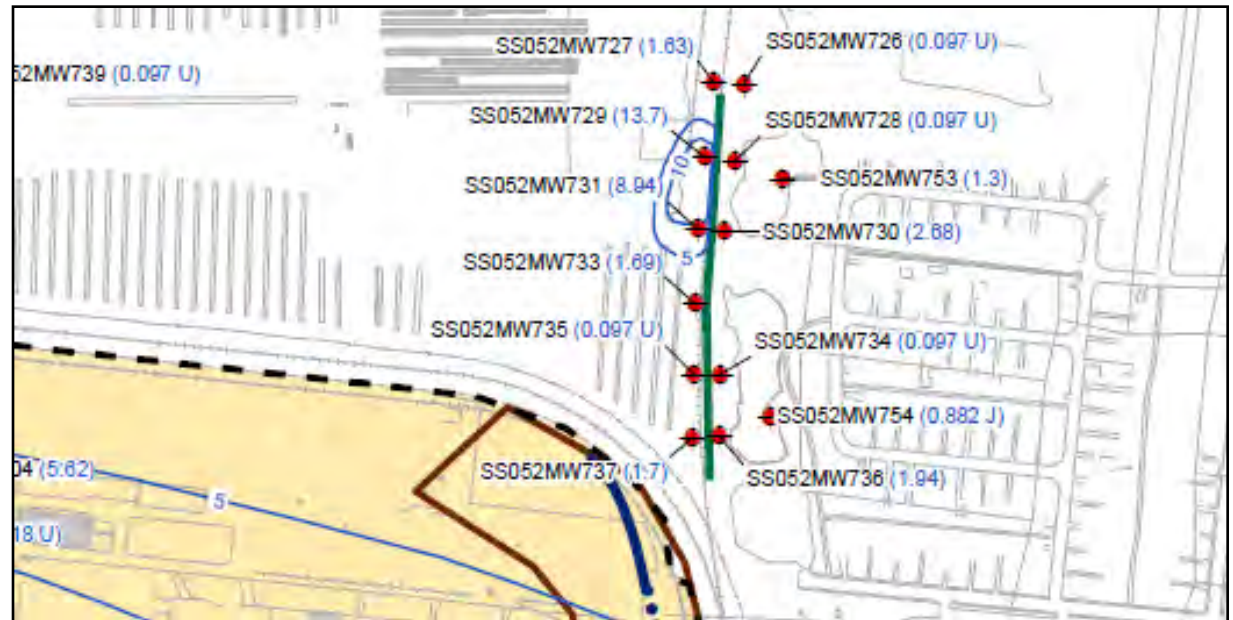
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TCE Isoconcentration UPRR PRB



Northern Segment

Southern





Commercial Street PRB

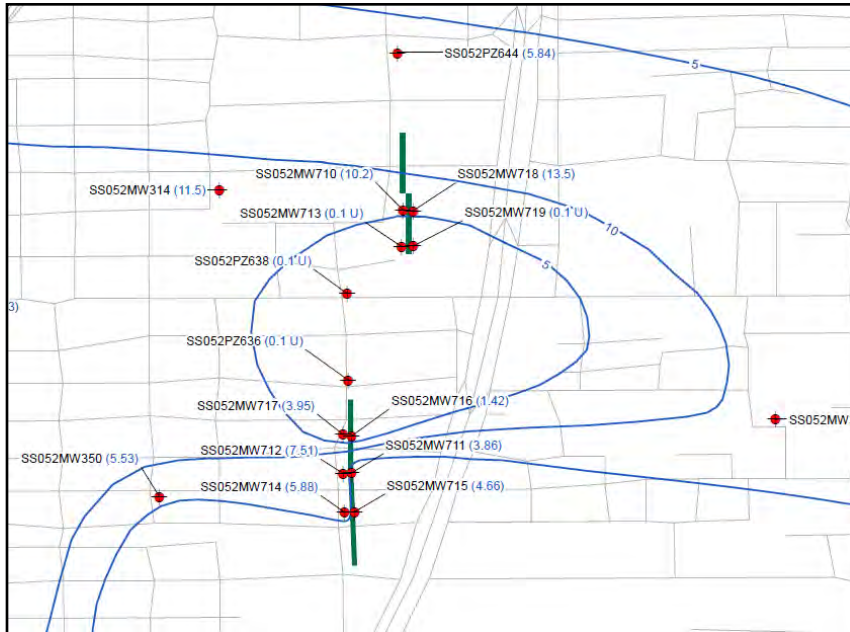
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- **Commercial Street PRB was installed in two phases between April 2004 and June 2005 to stop migration of chlorinated VOCs.**
- **COCs that exceeded the GWPS in 2009 included PCE, TCE, and vinyl chloride.**

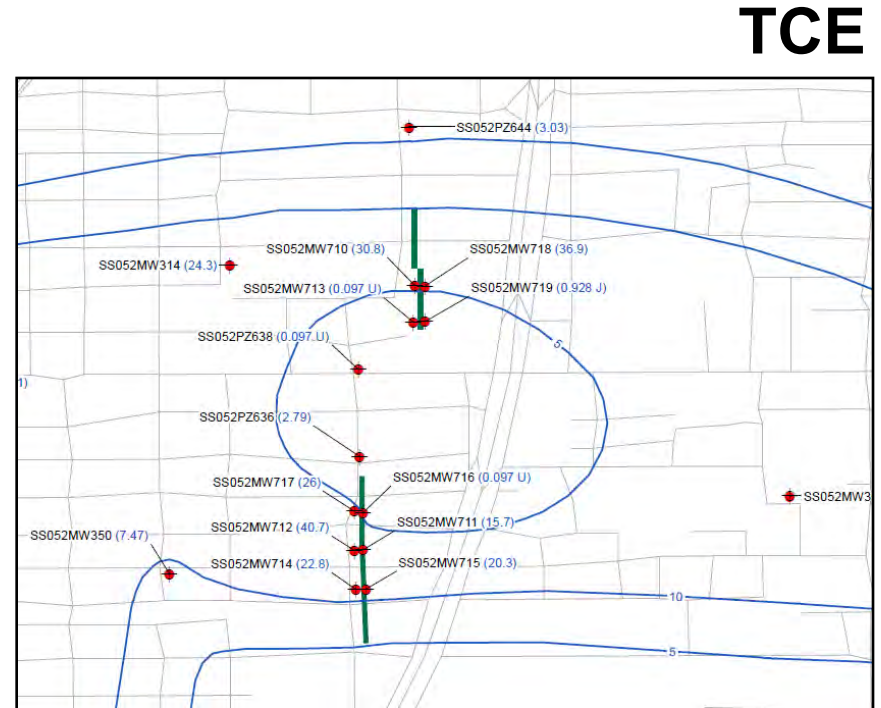


PCE and TCE Isoconcentration Commercial Street PRB

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PCE



TCE



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Findings and Conclusions

Zone 4 Sites

- **Site OT-051**
 - Natural degradation is almost complete with a small quantity of vinyl chloride remaining.

- **East and South Bank**
 - Groundwater recovery system appears to be effective.

- **UPRR PRB**
 - The UPRR PRB continues to be operating properly and successfully.

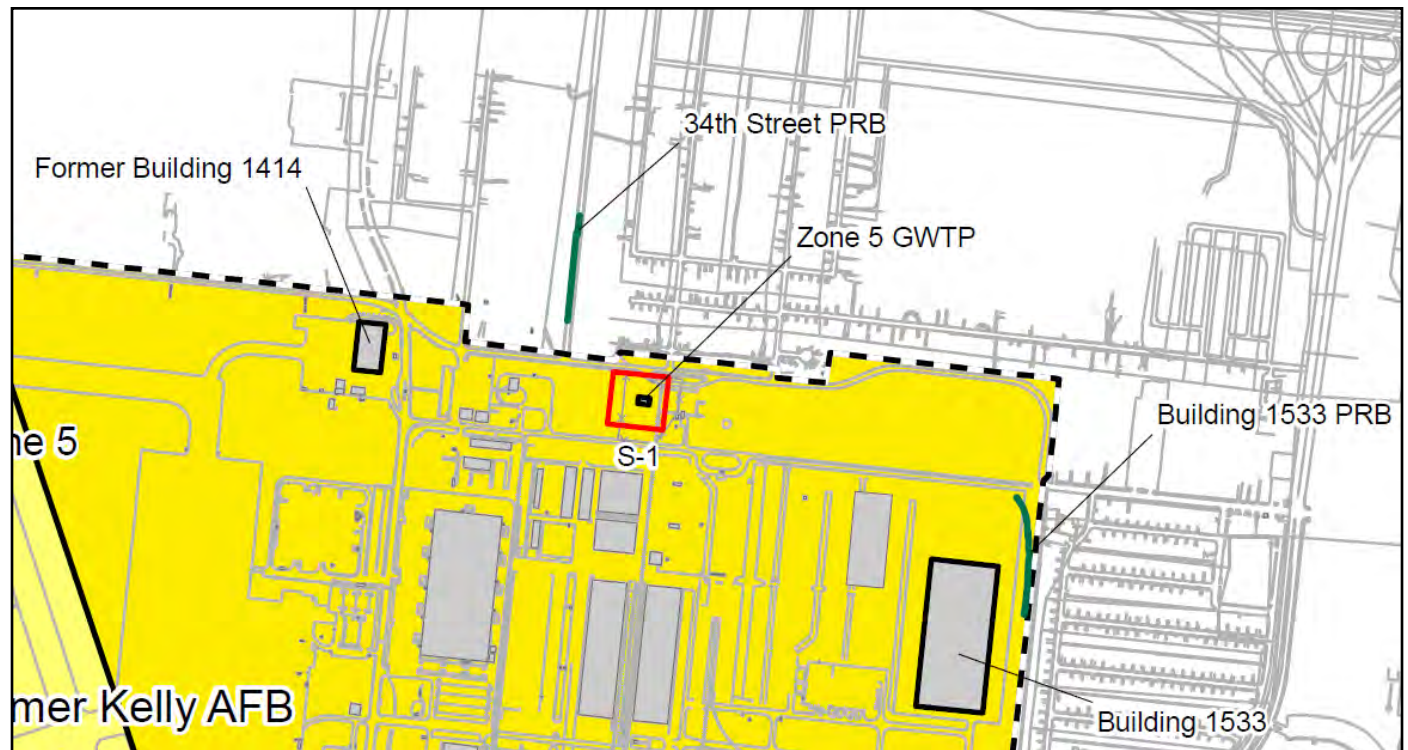
- **Commercial Street PRB**
 - The PRB appears to be effectively remediating groundwater.



IRP Sites – Zone 5

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- Site S-1
- 34th Street PRB
- Building 1533 PRB
- Building 1414 VOI Site



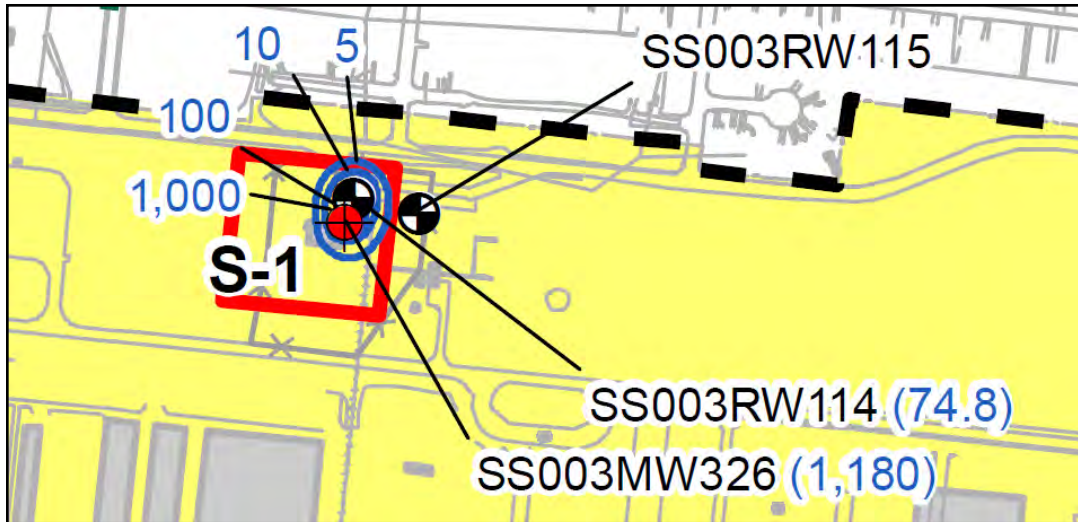


- **Former waste oil storage facility and the former Defense Property Disposal Office (DPDO).**
- **Soil vapor extraction system was installed in 1999 and includes 11 dual extraction wells**
- **Groundwater recovery system currently consisting of six recovery wells**
- **Zone 5 Groundwater Treatment Plant**
- **COCs that exceeded the GWPS in July 2009 included benzene, chlorobenzene, and arsenic.**



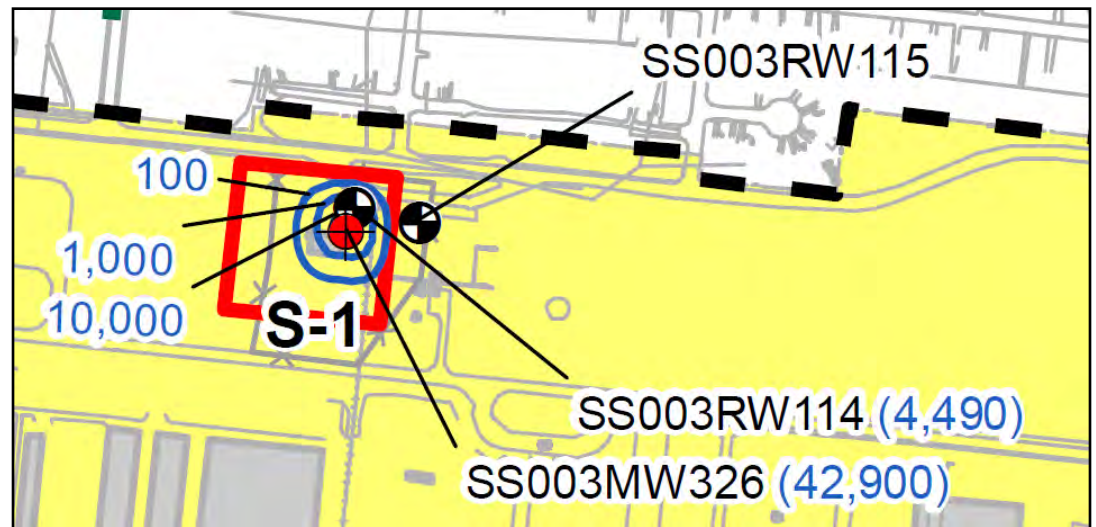
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Benzene and Chlorobenzene Isoconcentration, Site S-1



Benzene

Chlorobenzene





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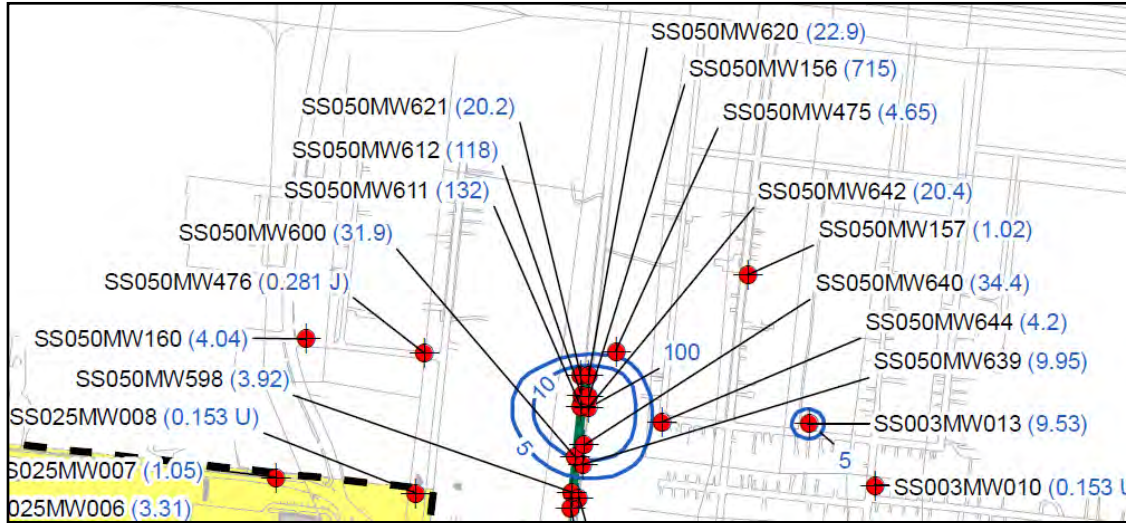
34th Street PRB

- **The 34th Street PRB was installed in 2004-2005.**
- **Treats an off-base PCE and TCE plume.**
- **COCs that exceeded the GWPS in 2009 included PCE, TCE, and cis 1,2-DCE.**



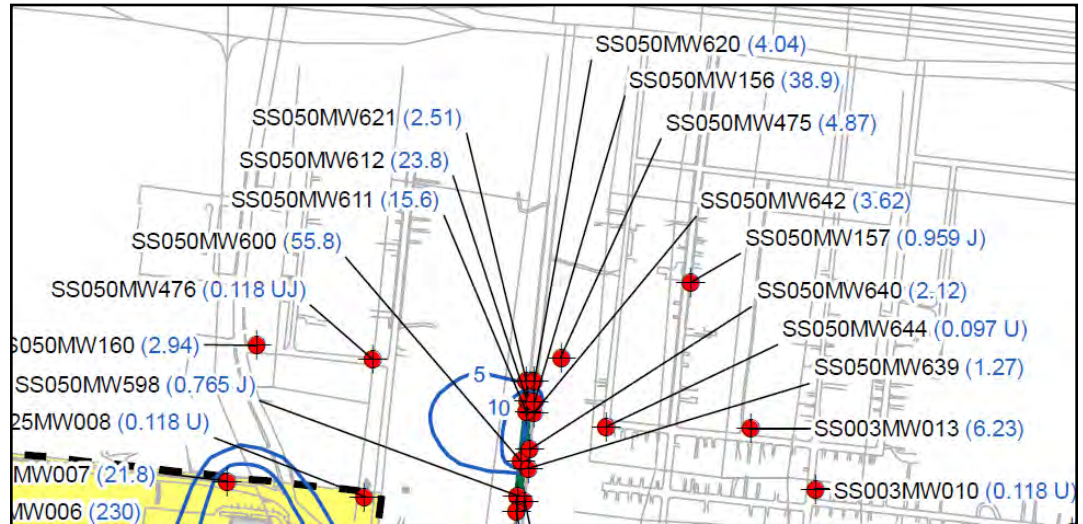
PCE and TCE Isoconcentration 34th Street PRB

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PCE

TCE





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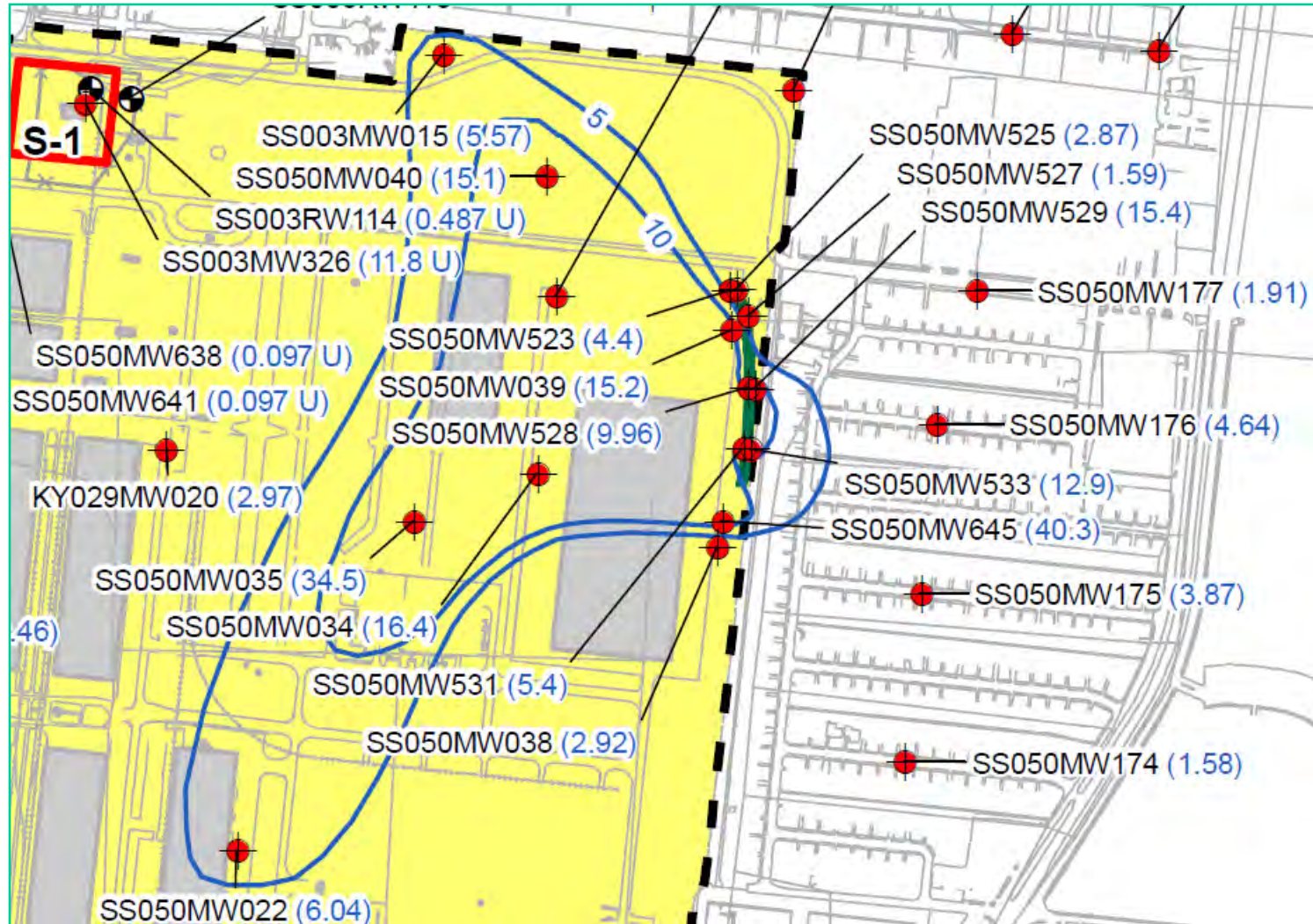
Building 1533 PRB

- **The Building 1533 PRB was constructed in 2002 to treat a PCE and TCE plume that originated at Site S-1 and prevent it from migrating off-base.**
- **Vegetable oil injection was performed in late 2008 upgradient of the PRB to extend the life of the PRB.**
- **TCE exceeded the GWPS in 2009**



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TCE Isoconcentration Bldg. 1533 PRB





Building 1414

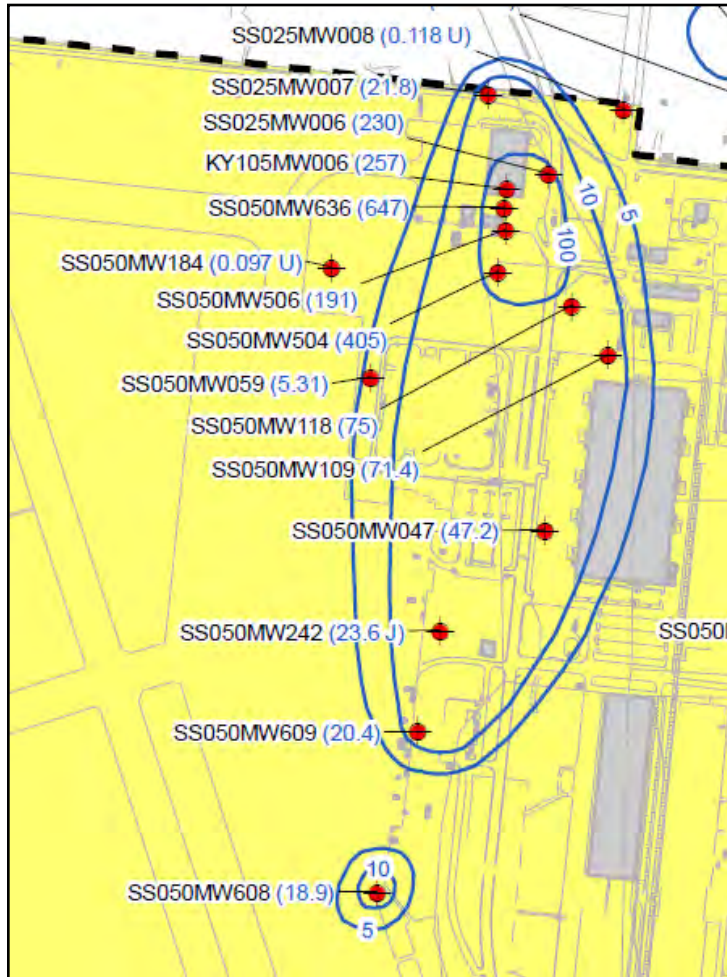
- **Substrate injection site**
 - **HRC® was injected in the Former Building 1414 area in 2002**
 - **Emulsified vegetable oil was injected during the first quarter of 2006.**

- **COCs that exceeded the GWPS in 2009 included TCE and cis 1,2-DCE.**

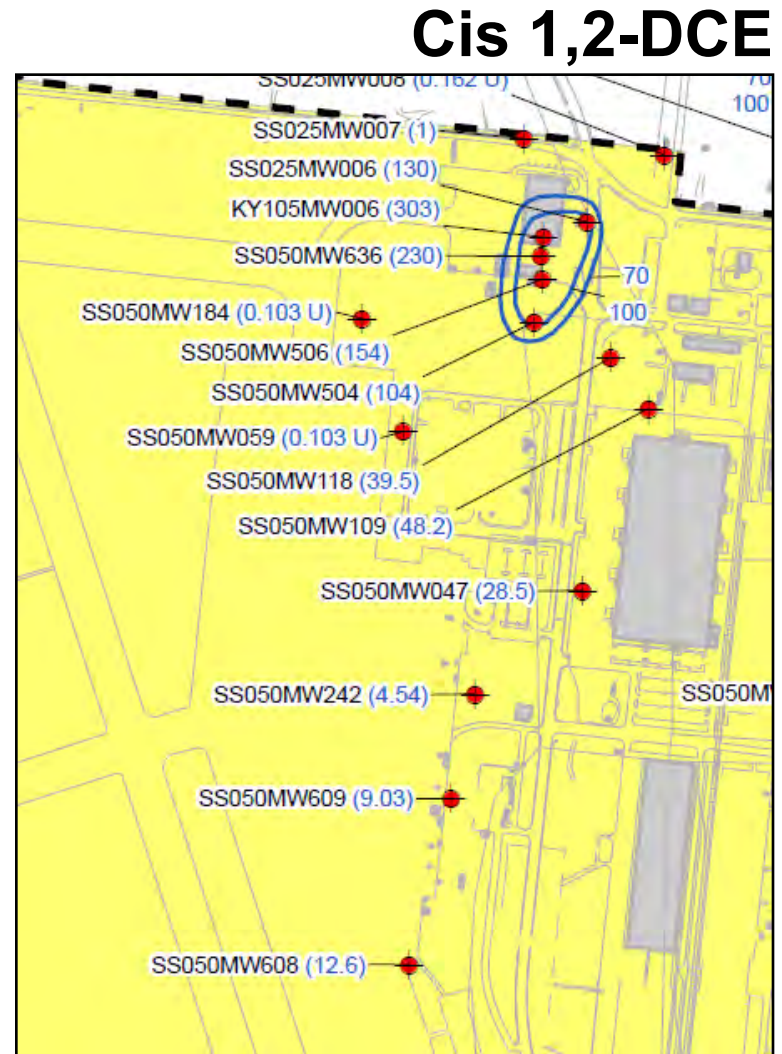


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TCE and cis 1,2-DCE Isoconcentration, Bldg. 1414



TCE



Cis 1,2-DCE



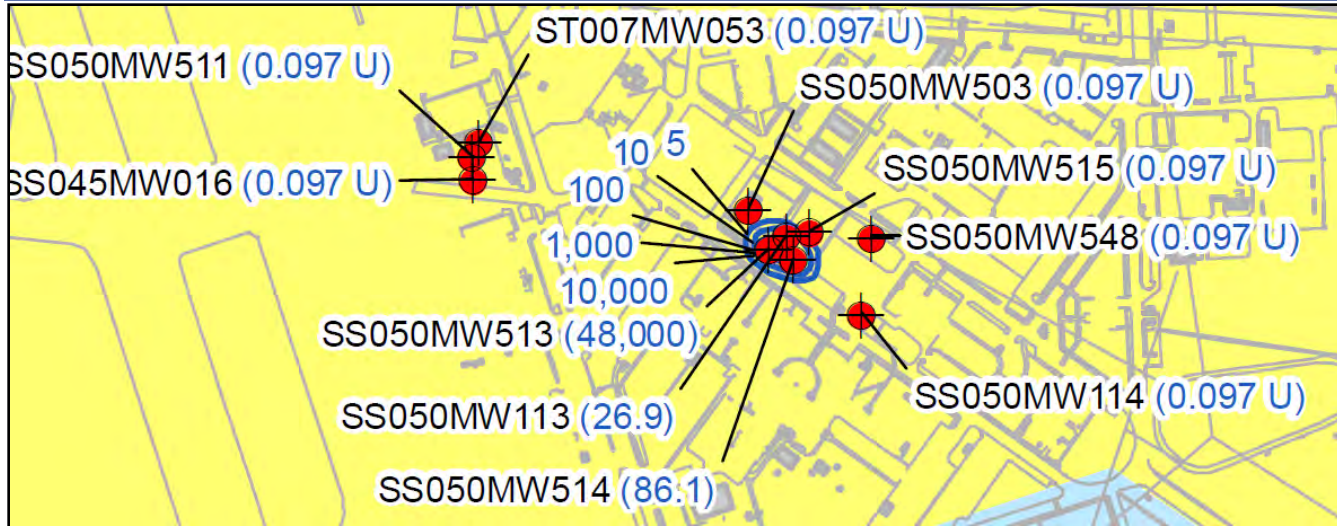
- **Substrate injection site**
 - **HRC® was injected at both areas in 2002**
 - **HRC Advanced®-3DME and EOS were injected in 2008 in the 1600 Area East.**

- **COCs that exceeded the GWPS in 2009 included TCE, cis 1,2-DCE, trans 1,2-DCE, and vinyl chloride**



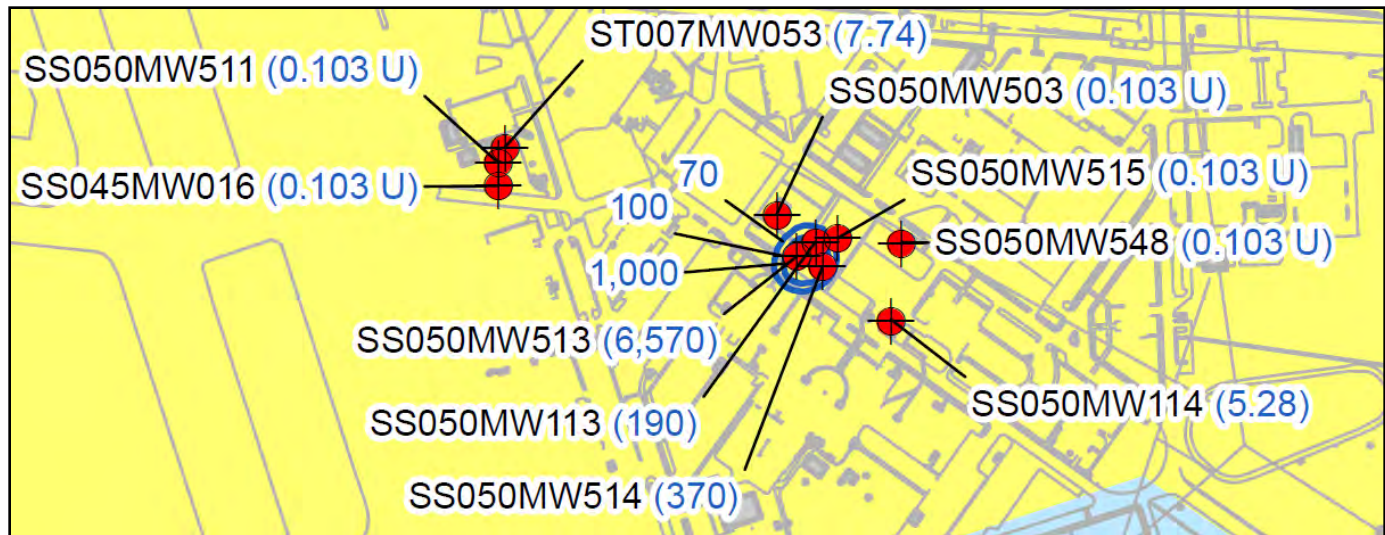
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TCE and cis 1,2-DCE Isoconcentration, Plume D



Cis 1,2-DCE

TCE





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Findings and Conclusions

Zone 5 Sites

■ **Site S-1**

- **Current groundwater recovery network is effective in providing boundary control.**
- **An Electric Resistance Heating system is being installed at this site to treat soil and groundwater.**

■ **34th Street PRB**

- **Groundwater samples from one monitor well (SS050MW156) show elevated concentrations.**
- **Elevated concentrations are not reported in wells further downgradient.**
- **Air Force continues to monitor this well.**



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Findings and Conclusions

Zone 5 Sites

■ Building 1533 PRB

- Since 2008, the TCE plume has shown an increase in size to the north and south.**
- Fluctuations are common due to varying annual rainfall amounts.**
- AF will continue to monitor the effectiveness of the PRB and make adjustments as necessary.**

■ Plume D

- The decrease in TCE concentrations and increased presence of cis 1,2-DCE and vinyl chloride from 2008 to 2009 indicates that reductive dechlorination is occurring at the 1600 East Area.**
- Dechlorination of VOCs is almost complete at the 1600 Area, with some residual vinyl chloride present in the vicinity of one well.**



Leon Creek Monitoring

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- **Total of 59 sample stations were monitored:**
 - **56 stations within the boundaries of the former Kelly AFB**
 - **3 reference stations at Salado Creek, Medina River, and Medio Creek.**

- **Leon Creek is divided into 4 segments:**
 - **Section 1: Extends 3.4 miles from Interstate Highway 90 to the northern boundary of the former Kelly AFB;**
 - **Section 2: Extends from the Section 1 boundary southeast approximately 1.7 miles to SW Military Drive;**
 - **Section 3: Extends from the Section 2 boundary southeast approximately 0.9 miles to the City of San Antonio storm water discharge pipe on Leon Creek; and**
 - **Section 4: Extends from the Section 3 boundary southward approximately 0.8 miles downstream.**



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Leon Creek Surface Water Elevation/Flow

- **Surface water elevations were collected at 22 stations (including 2 seeps and three outfalls)**

- **Hydrologic budget for the period July through December 2009 indicates:**
 - **Segments 1 showed neither a loss nor a gain.**
 - **Segment 2 showed a water loss that is most likely related to infiltration.**
 - **Segments 3 and 4 showed water gains presumed to be from groundwater inflow to the creek;**



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Leon Creek Surface Water & Sediment Sampling

- **Surface water samples were collected from 39 stations, including 29 in-stream locations, four seeps, three outfalls, and the three reference stations.**
 - **Surface water results were compared against Texas Water Quality Standards (TWQS) acute and chronic aquatic life criteria and human health criteria.**

- **Sediment samples were collected from 27 stations, including 23 in-stream locations, one outfall, and the three reference stations.**
 - **Sediment sample results were compared against TWQS human health criteria.**



Leon Creek Surface Water Findings

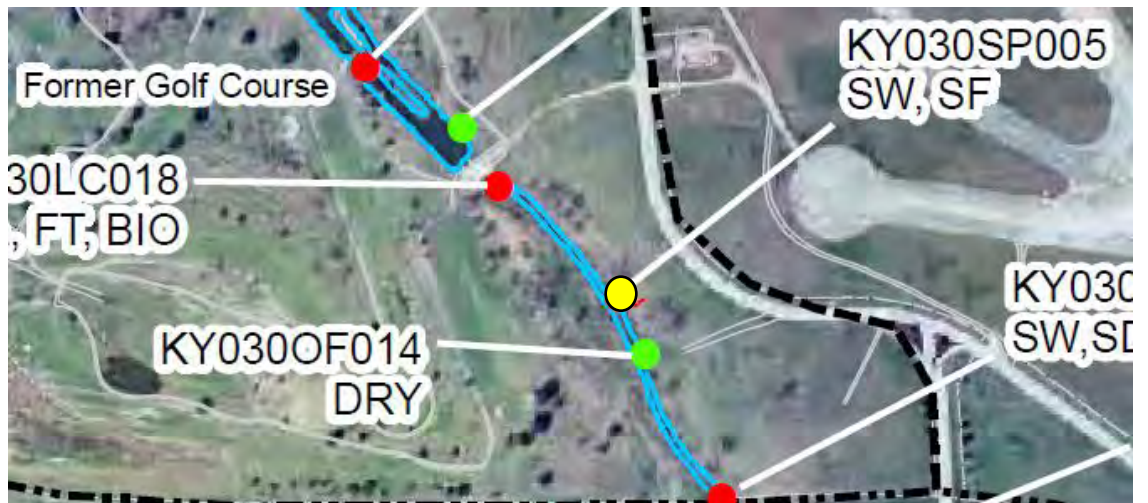
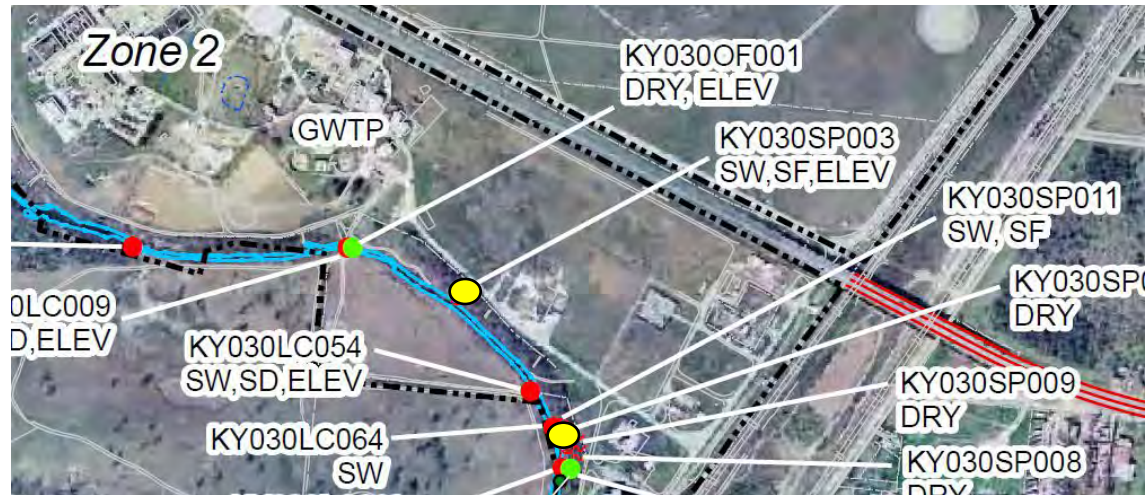
- The following analytes exceeded one or more TWQS criteria:
 - SVOCs:
 - Benzene(a)anthracene was exceeded at one reference station
 - Benzene(a)pyrene was exceeded at one reference station
 - Metals:
 - Dissolved silver was exceeded at five locations (includes both upstream and downstream locations)
 - Pesticides:
 - p,p-DDE was exceeded at one downstream location



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Leon Creek Seep Sampling Findings

- PCE exceeded the human health criteria of 5 µg/L at two seep locations (KY030SP003 and KY030SP011) located near the Zone 2 GWTP.
- TCE exceeded the human health criteria of 5 µg/L at two seep locations (KY030SP005 and KY030SP011); one location in the southern part of Zone 1 and one location near the Zone 2 GWTP.





Leon Creek Sediment Findings

- Sediment sample results from in-stream locations resulted in VOCs, SVOCs, pesticides, metals, and PCB that exceeded the TWQS human health criteria:
 - One VOC (toluene).
 - SVOCs included benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, di-n-octylphthalate, fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene.
 - Pesticides included p,p'-DDD, p,p'-DDE, and p,p' DDT
 - PCBs included Aroclor-1260
 - Metals included arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.
- The reported VOCs, SVOCs, pesticides, PCBs, and metals exceedances reported in surface water and/or sediment samples are believed to be coming from an alternate source other than groundwater. Several storm water outfalls are also present within the stream reach bounded by Kelly AFB.



Leon Creek Bioassessment

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- **Rapid bioassessment consisted of a biological survey of fish and macroinvertebrates at 11 bioassessment monitoring stations.**
 - **Leon Creek sample stations were not meeting the assigned aquatic life use except station KY030LC001, which was partially supported, and KY030LC052, which was fully supported.**
- **Chronic toxicity testing of surface water samples from 11 chronic toxicity monitoring stations (water flea and flathead minnow)**
 - **Test results indicated no impact to Leon Creek.**
- **Fish tissue sampling to monitor the ecosystem at 11 fish tissue monitoring stations; a total of 12 fish species were collected for testing.**
 - **A sample from station KY030LC026 exceeded the TCEQ screening level Aroclor-1260, but did not exceed the whole body tissue residue effects levels for freshwater fish species, indicating the fish samples were minimally impacted by contaminants.**



Leon Creek Findings and Conclusions

- The renewed Compliance Plan issued April 2009 indicates:
“If Leon Creek monitoring program indicates an increase in contaminant concentrations in surface water samples, stream sediment samples, or bioassessment samples, the Permittee shall investigate the source and impact of the increase and, if necessary, propose additional corrective action measures.”
- Those analytes showing an increase are being investigated for potential source(s), including storm water outfalls.



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Leon Creek Monitoring

Questions?



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Semiannual Compliance Plan

Questions?

Air Force Real Property Agency

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AFRPA Property Transfer Progress



Paul Carroll
BRAC Environmental Coordinator

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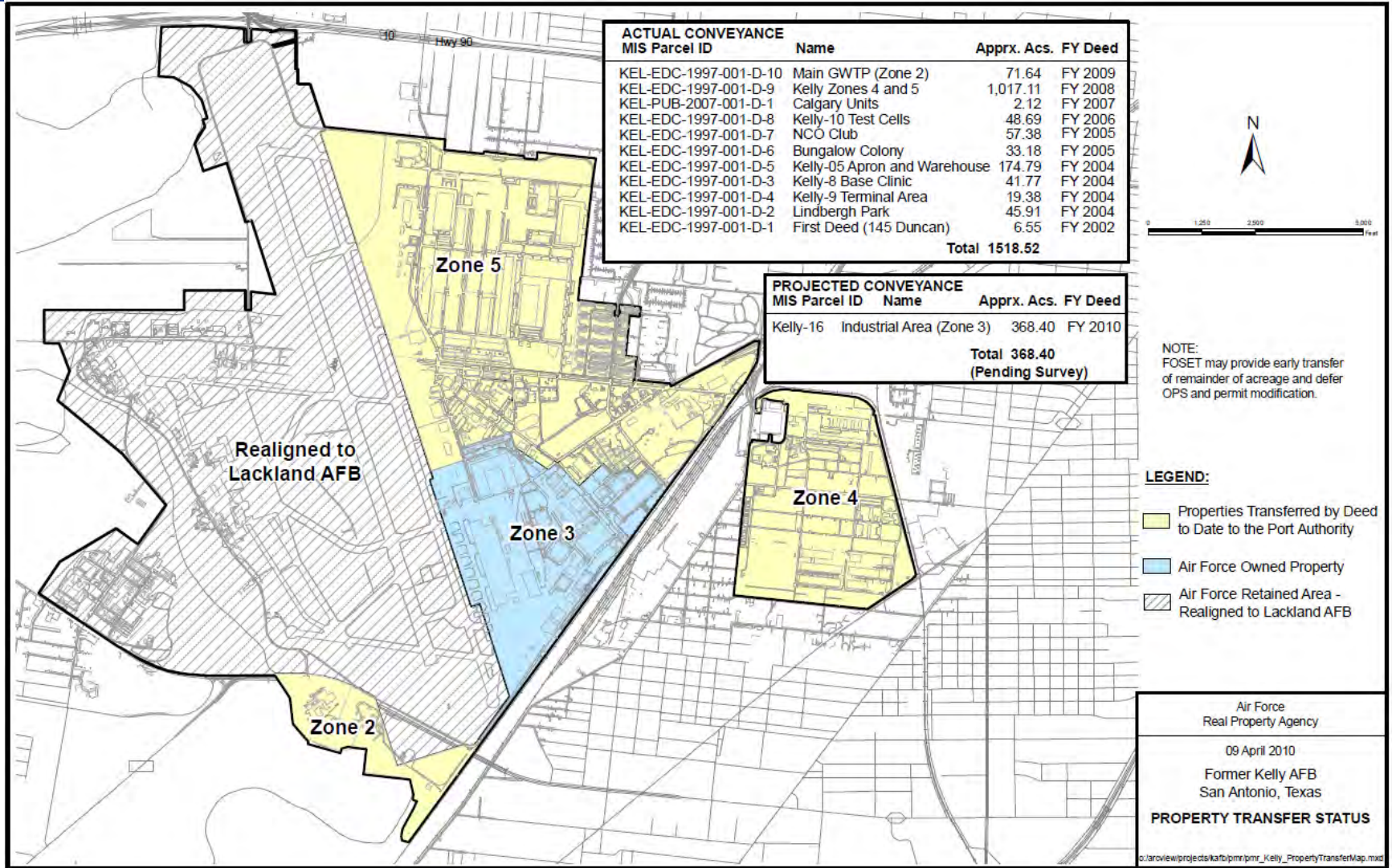
Kelly Property Transfer Progress

- **The Air Force submitted the Draft Final Operating Properly and Successfully (OPS) Determination for Zone 3 to EPA on July 2, 2010 for review and comments.**
- **The Draft Finding of Suitability to Transfer and Supplemental Environmental Baseline Survey (FOST/SEBS) were submitted to EPA on July 2, 2010 for review and comments.**
- **Zone 3 consists of approximately 368 acres and includes most of the original industrial area at former Kelly AFB.**
- **Transfer of Zone 3 will complete the Whole Base Transfer milestone of former Kelly AFB to Port San Antonio.**



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Kelly Parcel

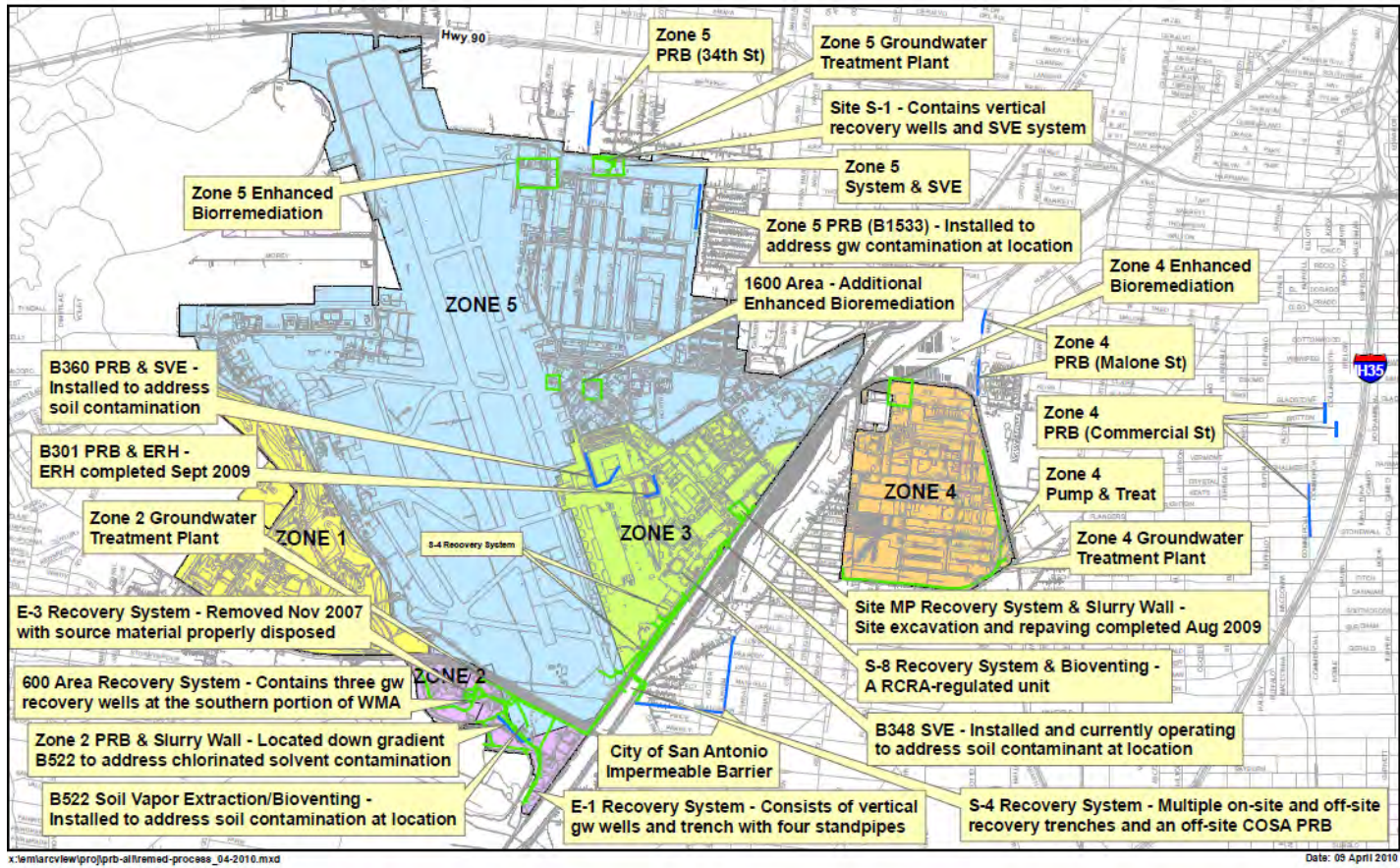




Kelly Remediation Systems

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Remediation Systems / Processes April 2010



Legend

- PRB Location
- Remediation System

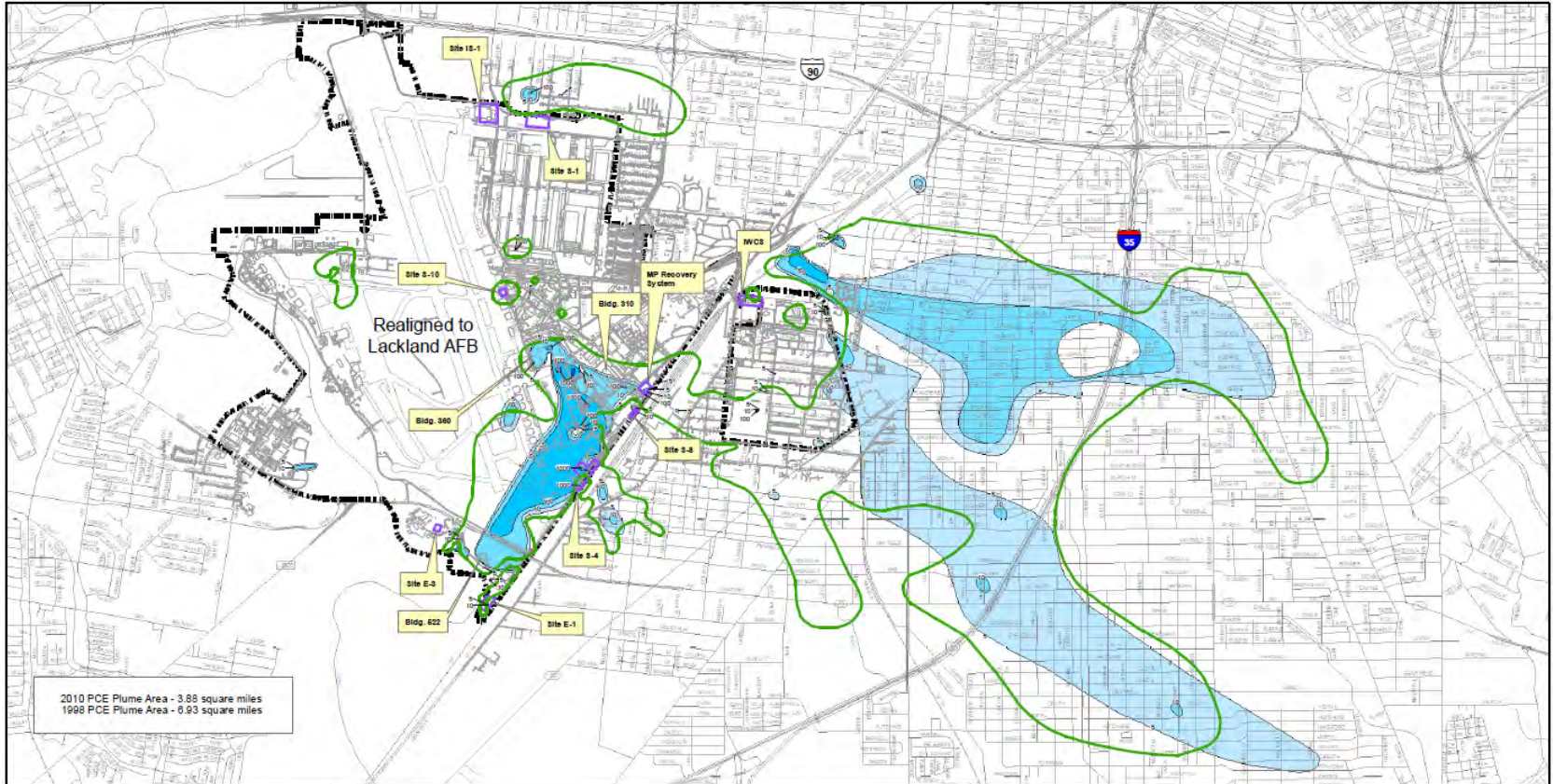
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Former Kelly AFB, Texas



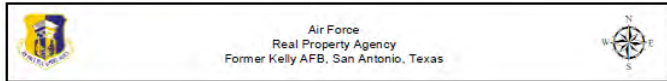
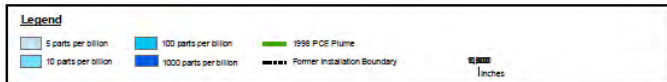
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PCE Plume



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Date: 09 April 2010



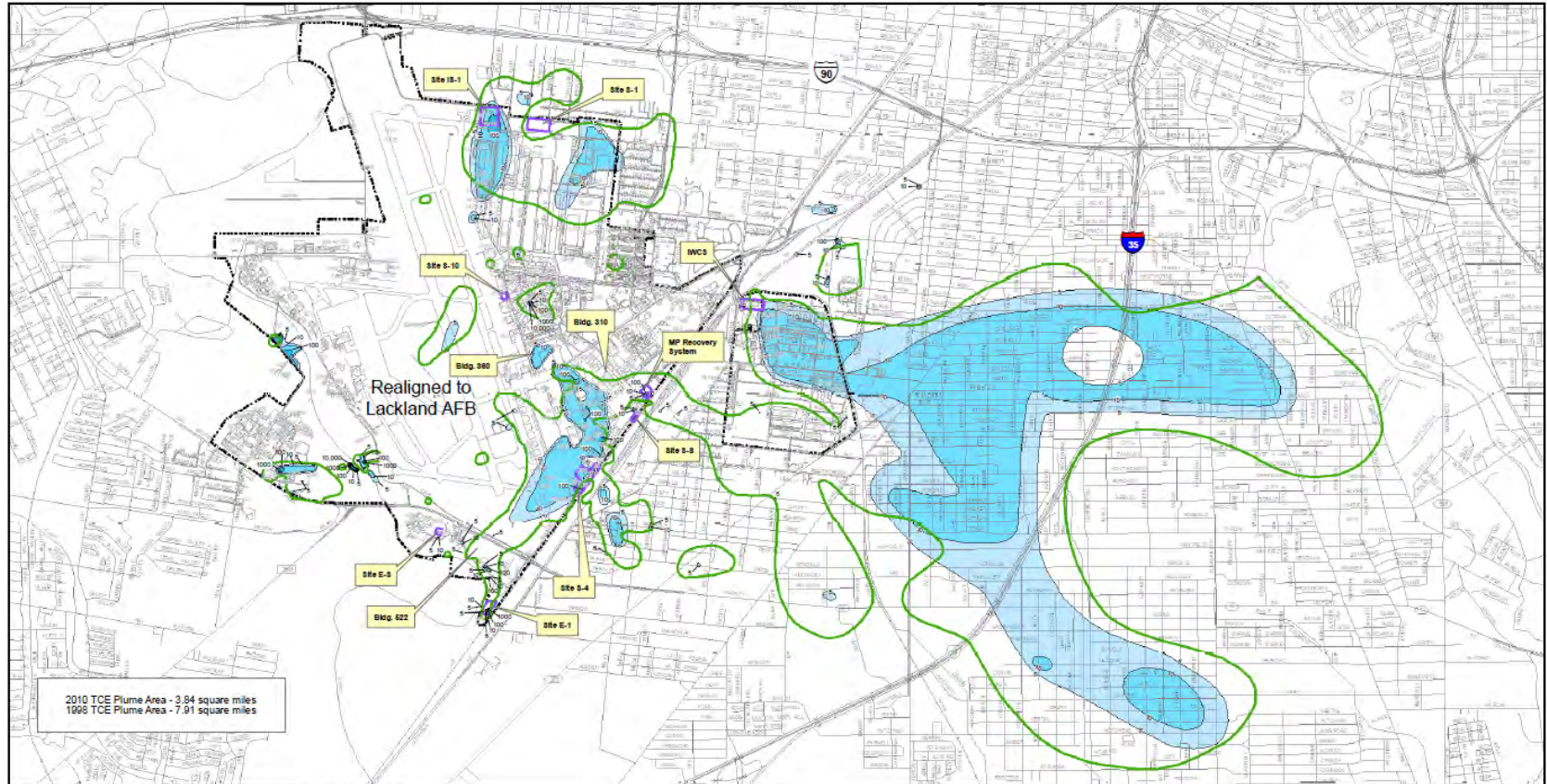
**2010 PCE Basewide Compliance Plan
(2009 Sample Well Data)**

Source: Semiannual Compliance Plan Report, December 2009, HGL.



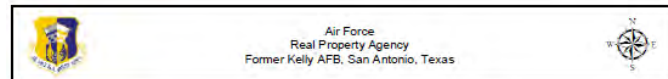
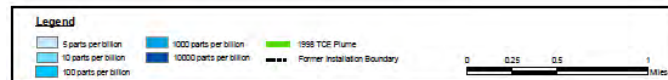
TCE Plume

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Date: 09 April 2010



**2010 TCE Basewide Compliance Plan
(2009 Sample Well Data)**

Source: Semiannual Compliance Plan Report, December 2009, HGL.



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Kelly Property Transfer Progress

Questions?



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Public Comment

Jose Martinez
Facilitator



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Agenda Items for next RAB

Jose Martinez
Facilitator



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For More Information

- **Contact AFRPA Public Affairs:**
 - **Public Information Line: 210-925-0956**
 - **Fax: 210-395-9527**
 - **Email: afrpa.pa@lackland.af.mil**

- **Documents are available electronically or on hard copy:**
 - **Administrative Record Site:
<https://afrpaar.lackland.af.mil/ar/docsearch.aspx>**

 - **San Antonio Central Library
Government Documents Section (6th Floor)
600 North Soledad, San Antonio, TX 78205**



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Meeting Adjournment