KELLY AFB
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 3287

KELLY RESTORATION ADVISORY BOARD
TECHNICAL REVIEW SUBCOMMITTEE
MEETING AGENDA
Tuesday, 8 August 2000, 6:30 P.M.
St. Mary's University, Garni Science Hall

I. Introduction A. Agenda Review and Handouts	6:30 - 6:35	Dr Lené
II. TAPP Update	6:35 -6:45	Dr. Lené
III. MP Slurry Wall Update	6:45 - 7:05	Ms. Hampton, BCA
IV. Bioaugmentation Pilot Study	7:05 - 7:25	Mr. Reasons, SAIC
V. Hydrant System Decommissioning Update	7:25 - 7:45	Mr. Westerman, BCA
VI. Administrative A. BCT Update B. Spill Summary Report C. Documents to TRS/RAB D. Action Items 1. Mr. Quintanilla asked if radiation had been found in Leon Creek fish. E. Agenda/Location/Time of Next TRS Meeting	7:45 - 8:00	Dr Lené
VII. Adjournment	8:00	

MEETING MINUTES

KELLY AFB TECHNICAL REVIEW SUBCOMMITTEE (TRS)
TO THE RESTORATION ADVISORY BOARD (RAB)

8 August 2000, St. Mary's University, Garni Science Hall
Dr. Lené, TRS Chairman

I. **Introduction:** The TRS meeting began at 6:40 p.m. Attachment 1 is the attendance report.

II. **TAPP Update:** Mr. Zapotek reported the funds for the next round of report review is expected in the next few weeks. Once funds are received the selected TAPP contractors will be tasked.

III. **MP Slurry Wall Update:** Ms. Rhonda Hampton, Base Conversion Agency (BCA), informed the committee the Site MP Interim System, including the slurry wall is performing well and the source of contamination has been isolated. (See Attachment 2)
   A. Working with the slurry wall, the optimized pump and treat system, and the DNAPL removal wells, the system has reduced solvent contaminates down gradient significantly, according to three rounds of sampling.
   B. The slurry wall is containing the sites DNAPL. In 1999, 2,000 gallons of DNAPL were removed by using two wells. In September four new wells will be added to the system.

IV. **Bioaugmentation Pilot Study:** Mr. David Reasons, Science Applications International Corporation, explained this study was to evaluate injecting microbes and methanol/acetate in a contaminated site to dechlorinate chlorinated ethenes. The most recent round of sampling indicates it is working. (See Attachment 3)
   A. The test site is a 20' x 30' plot with 1 injection well, 5 monitoring wells, and 3 extraction wells. The system is a closed loop, re-circulation system.
   B. The test will continue through October 2000. The final analysis and report of results will be provided during January 2001.
   C. Questions:
      1. Since the chemicals injected were toxic, how would the toxic microbes be removed?
         a) The microbes die and degraded once injection is stopped. *Note: The chemicals used are not toxic.*
      2. Has this been tried on a full scale?
         a) Not with this group of organisms.

V. **Hydrant System Decommissioning Update:** Mr. Bill Westerman, BCA, brought the committee up-to-date on the old fuel delivery system shut down. Most of the system has been purged, cleaned, and filled with a material to prevent any future use. Complete decommissioning is expected in March 2001. (See Attachment 4)
   A. Remaining activities are to remove the fill station and pipes, remove tanks and surrounding containment dikes. Once removal actions are complete, the area will have fresh dirt graded in and the entire area will be seeded.
   B. Questions:
      1. What is the pipe filling material made of?
         a) It is similar to what is used for a slurry wall.

2. Is any sampling done along the pipe line.
   a) Yes about every 100', as close to the pipe as possible.

VI. Administrative

A. Base Conversion Team (BCT) handouts were presented to Dr. Lené. (See Attachment 5) Mr. Ryan told the committee BCT was told the Zone 4 RFI would be delivered to Texas Natural Resource Conservation Commission in October 2000.

B. Spill Summary Report: There were no spills during the month of July 2000. (See Attachment 6)

C. Documents to TRS/RAB: There were two new documents. (See Attachment 7)

D. Action Items: None

E. Next TRS meeting: The next TRS meeting will be held 26 September 2000 at 6:30 p.m. at St. Mary's Garni Science Hall. *Note the date is not the usual second Tuesday of the month.*

IV. Adjournment: The TRS adjourned at 7:35 p.m.

Attachments:

1. Attendance Report
2. MP Slurry Wall Update
3. Bioaugmentation Pilot Study
4. Hydrant System Decommissioning Update
5. BCT Minutes and Handouts, August 2000
6. Spill Summary Report
7. Documents List
8. Action item Response

17S
MINUTAS DE LA JUNTA

SUBCOMITÉ DE REVISIÓN TÉCNICA (TRS, por sus siglas en inglés) DE LA BASE DE LA FUERZA AÉREA KELLY

PARA LA JUNTA ASESORA DE RESTAURACIÓN DE KELLY (RAB, por sus siglas en ingles)
8 de agosto de 2000, Universidad de St. Mary's, Garni Science Hall
Dr. Gene Lené, Copresidente del TRS

I. Introducción: La junta del TRS se inició a las 6:40 p.m. El Documento Adjunto # 1 es el reporte de asistencia. **[NOTA DEL TRADUCTOR: El documento original en inglés no tenia documentos adjuntos].**

II. Actualización del TAPP: El Sr. Zapotek reportó que los fondos para la siguiente ronda de revisión de reportes se espera en las siguientes semanas. Una vez que se reciban los fondos, a los contratistas del TAPP seleccionados se les asignarán sus tareas.

III. Actualización de la Pared de Lechada MP: La Srta. Rhonda Hampton, de la Agencia de Conversión de Bases de la Fuerza Aérea (AFBCA, por sus siglas en inglés), informó al Comité dónde se encontraba el Sistema Interino del Sitio MP. Además agregó que la pared de lechada estaba funcionando bien y que la fuente de contaminación se ha aislado. (Ver Documento Adjunto # 2).

A. Al estar trabajando con la pared de lechada, la bomba optimizada y el sistema de tratamiento, al igual que con las paredes de remoción de líquidos densos en fase no acuosa (DNAPL, por sus siglas en inglés), el sistema ha reducido significativamente los solventes contaminantes a un nivel muy bajo, según se ha observado en tres rondas de muestreos.
B. La pared de lechada está conteniendo los sitios con DNAPL. En 1999, se extrajeron 2,000 galones de DNAPL usando dos pozos. En septiembre, se agregaron cuatro pozos nuevos al sistema.

IV. Estudio Piloto de Bioaumentación: El Sr. David Reasons, de Science Application International Corporation, explicó que el propósito de este estudio era evaluar la inyección de microbios y metano / acetato en un sitio contaminado para desclorinar los etilenos clorinados. La ronda más reciente de muestra indica que está funcionando bien. (Ver el Documento Adjunto # 3).

A. El lugar de la prueba piloto es un terreno de 20' x 30' con un pozo de inyección, 5 pozos de vigilancia y 3 pozos de extracción. El sistema es un sistema de recirculación de anillo cerrado.
B. La prueba continuará hasta octubre de 2000. El análisis final y el informe con los resultados se entregarán en enero de 2001.
C. Preguntas:
   1. Ya que los químicos que se inyectan son tóxicos, ¿cómo se extraerán los microbios tóxicos?

a) Los microbios mueren y se degradan una vez que se deja de inyectar. *Nota: Los químicos que se utilizan no son tóxicos.*
2. ¿Se ha probado esto a gran escala?
a) No con este grupo de organismos.

V. Actualización del Proyecto de Descomisionar el Sistema de Distribución: El Sr. Bill Westerman, de AFBCA, actualizó al Comité en cuanto al cierre del antiguo sistema de distribución de combustible. La mayor parte del sistema se ha purgado, limpiado y se ha llenado con un material que le impide que se use en el futuro. Se espera que se termine este cometido en marzo del 2001. (Ver Documento Adjunto # 4).

A. Las actividades restante son quitar las estaciones de llenado y las tuberías, remover los tanques y las represas de contención en el área cercana. Una vez que se terminen estas actividades, el área se nivelará con tierra nueva y se plantarán semillas.
B. Preguntas:
1. ¿De qué está hecho el material para rellenar las tuberías?
a) Es de algo similar a lo que se usa en la pared de lechada.
2. ¿Hay algún muestreo que se hace a lo largo de la red de tubería?
a) Sí, casi cada 100'. Lo más cerca de la tubería posible.

VI. Puntos administrativos:

A. Los folletos del Equipo de Conversión de la Base (BCT, por sus siglas en inglés) se le entregaron al Dr. Lené. (Ver el Documento Adjunto # 5). El Sr. Ryan le dijo al Comité que el BCT había dicho que se entregaría la Investigación de la Facilidad bajo RCRA (RFI, por sus siglas en inglés) de la Zona 4 a la Comisión para la Conservación de Recursos Naturales de Texas en octubre de 2000.
B. Informe del Resumen de Derrames: No hubo derrames en el mes de julio de 2000. (Ver Documento Adjunto # 6).
C. Documentos que se entregaron al TRS /RAB: Hubo dos documentos nuevos (Ver Documento Adjunto # 7)
D. Puntos de Acción: Ninguno.
E. La siguiente junta del TRS será a las 6:30 p.m. del 26 de septiembre de 2000 en el Garni Science Hall, de la Universidad de St. Mary. *Nota: Esta fecha no es la fecha regular del segundo martes del mes.*

VII. Cierre de la Sesión: Se cerró la junta del TRS a las 7:35 p.m.

Documentos Adjuntos:

1. Informe de asistencia
2. Actualización de la Pared de Lechada MP
3. Estudio Piloto del Bioaumentación
4. Actualización del Proyecto de Descomisionar el Sistema de Distribución
5. Minutas y folletos del BCT de agosto de 2000
6. Informe del Resumen de Derrames

7. Lista de documentos
8. Respuesta a los Puntos de Acción.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS SAN ANTONIO AIR LOGISTICS CENTER (AFMC)
KELLY AIR FORCE BASE, TEXAS

MEMORANDUM FOR RESTORATION ADVISORY BOARD/TECHNICAL REVIEW SUBCOMMITTEE (RAB/TRS)

FROM: SA-ALC/EMC
307 Tinker Dr, Bldg.306
Kelly AFB, TX 78241-5917

SUBJECT: Monthly Spill Report for July 2000

There have been no reportable quantity or otherwise notable spills for the month of July 2000. Should you have any further questions or require additional information, please contact Mr. Jerry Pantoja by phone at 925-3100 ext. 310 or by email at jerrypantoja@kelly.af.mil.

Sean M. O'Brien

SEAN O'BRIEN, Capt, USAF
Chief, Environmental Compliance Division

Site MP Interim Systems

August 8, 2000

Site MP Interim Systems

- OPTIMIZED PUMP AND TREAT - 1998
- SLURRY WALL - 1999
- DNAPL REMOVAL - 1999 & 2000

DNAPL Removal

- 1999 - Removed ~2,000 gallons with 2 wells
- 2000 - Begin DNAPL removal in Sept. with 4 new wells.

Source Containment

- Pump and Treat
  - Optimized 3 well system
  - Sufficient capture zone
  - Downgradient influence on contamination

Source Containment

- Slurry Wall
  - DNAPL
  - Soil Data
  - Inward Gradient Control - Pump 15 gpm

Source Containment

- Evidence of Effectiveness (in ppb) - 1997 total solvents compared to October 1999 total solvents in downgradient wells

  - SS037MW033 5110 to 69
  - SS040MW013 270 to ND
  - SS040MW016 4541 to 263
  - SS037MW027 5850 to 2250
  - SS040MW001 1990 to 154

Conclusions

- Interim systems are working
- Source is isolated
- RFI to be submitted Sept 2000
- CMS to be submitted Dec 2000

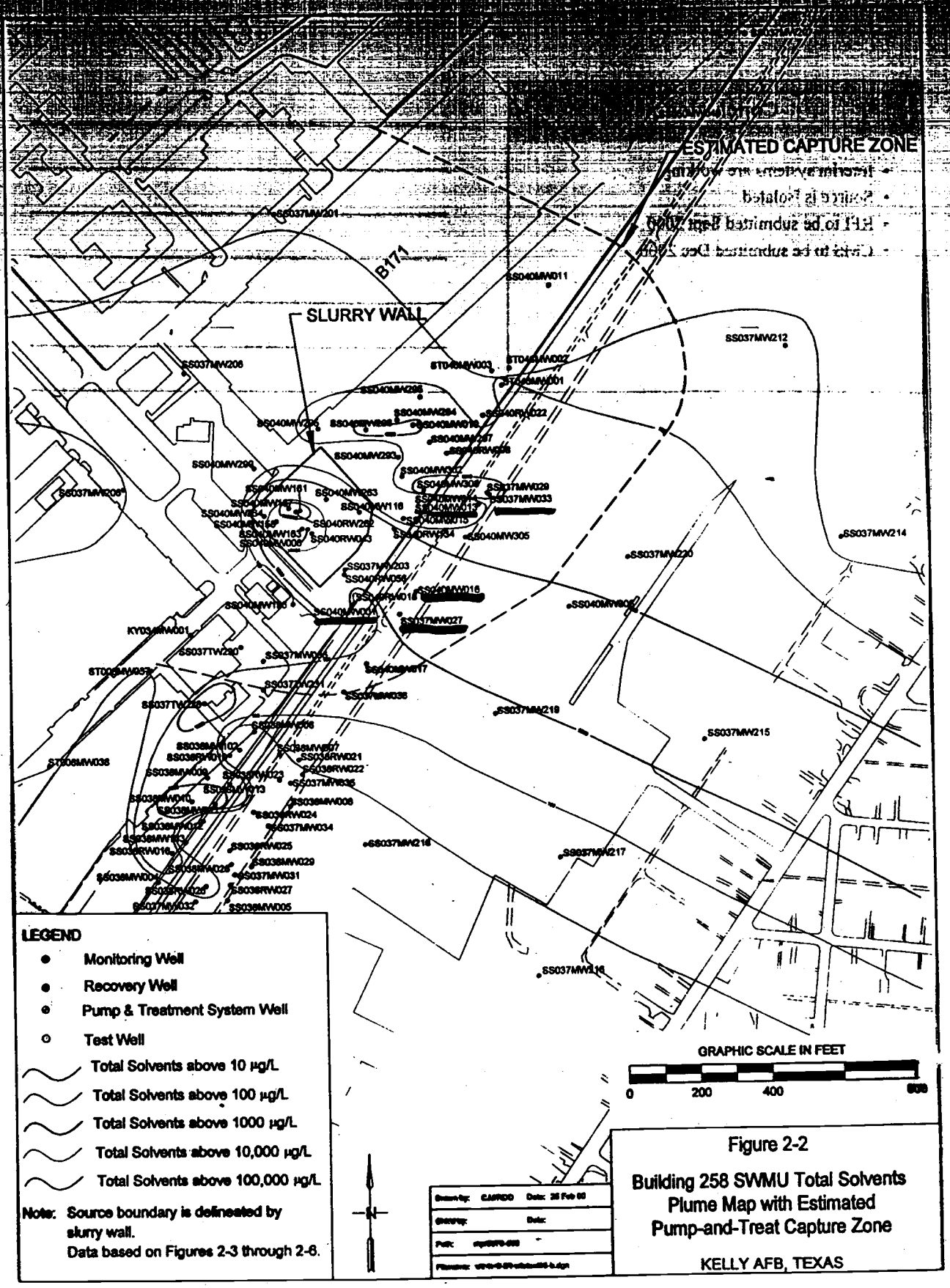


Figure 2-2

Building 258 SWMU Total Solvents Plume Map with Estimated Pump-and-Treat Capture Zone

KELLY AFB, TEXAS

Progress Update for Bioaugmentation Pilot Test

Kelly AFB

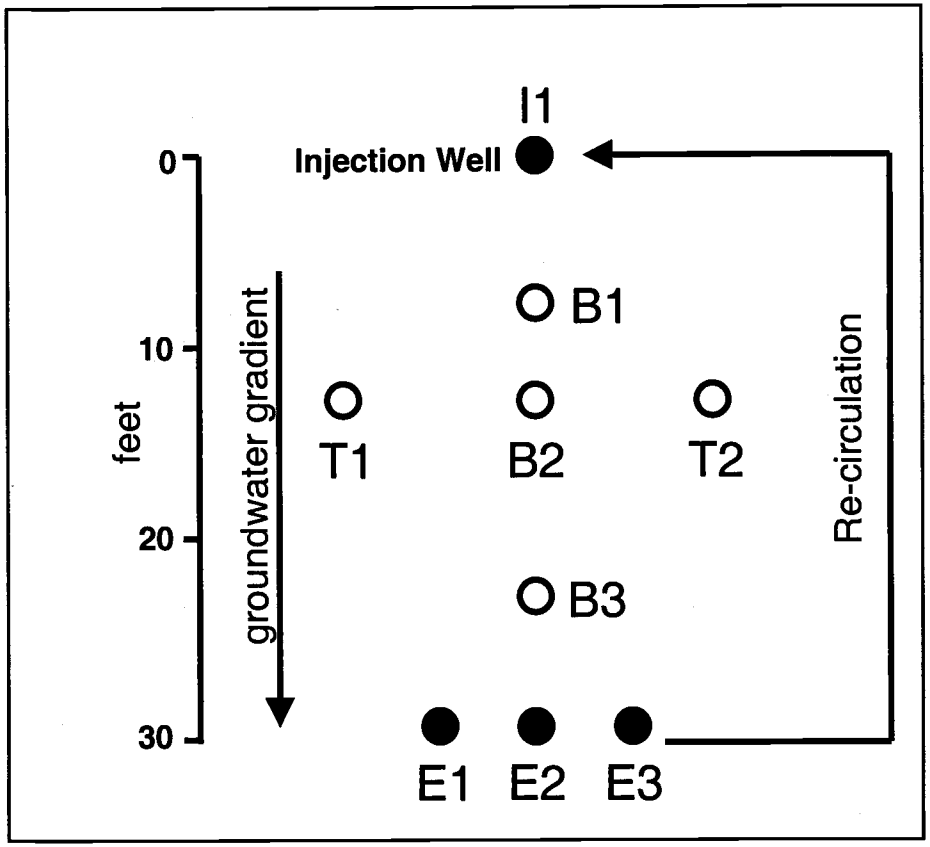
August 8, 2000

Study Overview

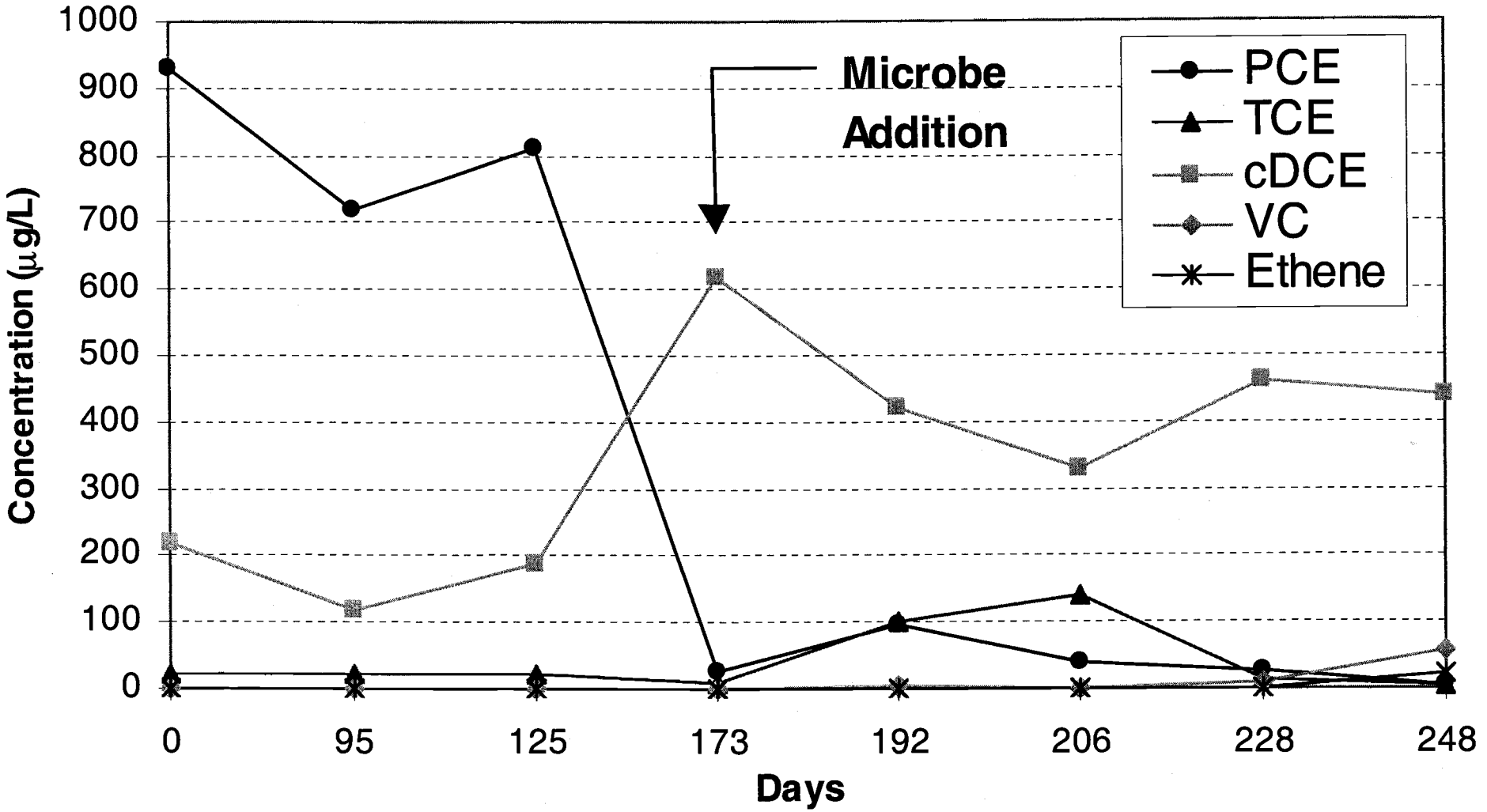
- Primary Objective - Evaluate the ability to achieve, sustain and optimize complete dechlorination of chlorinated ethenes using bioaugmentation.
- Reductive pathway for contaminants of interest: PCE -- TCE -- DCE -- VC -- Ethene
- Utilizing microbial consortium (KB-1) with methanol/acetate as electron donors.

Pilot Test

- 20' x 30' Plot
- 1 Injection Well,
  5 Monitoring Wells,
  3 Extraction Wells
- Closed loop,
  re-circulation system
  with electron donor
  addition.



Preliminary Pilot Test Results, Well B2



Pilot Test Preliminary Observations

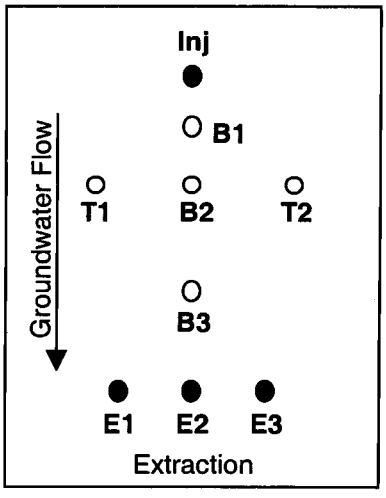
- Indigenous microbial population at test site appear to degrade contaminants to a limited extent in presence of electron donor alone.
- Addition of test culture prompts further degradation of daughter products.
- Most recent round of sampling reported ethene production, indicating some complete degradation occurring at test site.

Schedule

- Pilot Test
  - Continues through October 2000 (as required).
- Analysis and Report of Results
  - December 2000 - Draft Report
  - January 2001 - Final Report

VOC Results from Bioaugmentation Test Plot 1
Kelly Air Force Base, Texas

Sample Location	Sample Date	Day	PCE	TCE	cis-12DCE	VC	Ethene
B1	12-Nov-99	0	930	16	210	<30	<2
before acetate	9-Feb-00	89	650	21	84	<30	<2
	15-Feb-00	95	590	19	82	<30	<2
	16-Mar-00	125	790	22	190	<10	<2
average duplicate	3-May-00	173	310	32	610	0	<2
	22-May-00	192	150	95	350	2.6	<2
	5-Jun-00	206	99	140	340	<2	<2
average duplicate	27-Jun-00	228	13	5.65	505	12.4	<2
	17-Jul-00	248	3.9	1.2	430	43	35
B2	12-Nov-99	0	930	18	190	<30	<2
duplicate	12-Nov-99	0	930	21	220	<30	<2
	15-Feb-00	95	720	22	120	<30	<2
	16-Mar-00	125	810	24	190	<10	<2
	3-May-00	173	28	10	620	<1	<2
	22-May-00	192	96	100	420	2.8	<2
average duplicate	5-Jun-00	206	39	140	330	0	<2
	27-Jun-00	228	27	15	460	8.1	<2
	17-Jul-00	248	5.6	2.4	440	58	20
B3	12-Nov-99	0	880	11	180	<30	<2
	15-Feb-00	95	730	15	170	<30	<2
	16-Mar-00	125	710	22	190	<10	<2
	3-May-00	173	29	2	610	<1	<2
	22-May-00	192	62	100	410	2.3	<2
	5-Jun-00	206	39	160	340	<2.0	<2
	27-Jun-00	228	18	21	460	3.6	<2
average duplicate	17-Jul-00	248	8.55	2.95	440	37.5	<2
E1	12-Nov-99	0	1080	20	200	<30	<2
average duplicate	15-Feb-00	95	695	0	195	0	<2
average duplicate	16-Mar-00	125	710	22	180	0	<2
	3-May-00	173	230	11	370	<1	<2
	22-May-00	192	240	67	300	<2	<2
	5-Jun-00	206	290	120	280	<2	<2
	27-Jun-00	228	220	27	350	<3	<2
	17-Jul-00	248	170	8.3	370	20	<2
E2	12-Nov-99	0	1120	21	220	<30	<2
	15-Feb-00	95	660	<12	160	<30	<2
	16-Mar-00	125	850	24	200	<10	<2
	3-May-00	173	580	14	160	<1	<2
	22-May-00	192	500	12	160	<2	<2
	5-Jun-00	206	450	21	160	<2	<2
	27-Jun-00	228	390	22	210	<3	<2
	17-Jul-00	248	440	15	260	5.3	<2
E3	12-Nov-99		1110	17	230	<30	<2
T1	12-Nov-99	0	1040	20	220	<30	<2
	15-Feb-00	95	650	<12	120	<30	<2
	16-Mar-00	125	790	24	190	<10	<2
	3-May-00	173	33	7.5	610	<1	<2
	22-May-00	192	87	96	420	2.4	<2
	5-Jun-00	206	57	130	310	<2.0	<2
	27-Jun-00	228	26	13	460	4.2	<2
	17-Jul-00	248	6.2	2.3	480	28	<2
T2	12-Nov-99	0	970	18	220	<30	<2
	3-May-00	173	49	3.1	470	<1	<2
average duplicate	22-May-00	192	135	98	370	3	<2
	5-Jun-00	206	79	170	350	2.3	<2
	27-Jun-00	228	30	22	500	9.6	<2
	17-Jul-00	248	9.7	4.5	370	20	<2



Hydrant System Decomissioning Update

AFBCA/DK

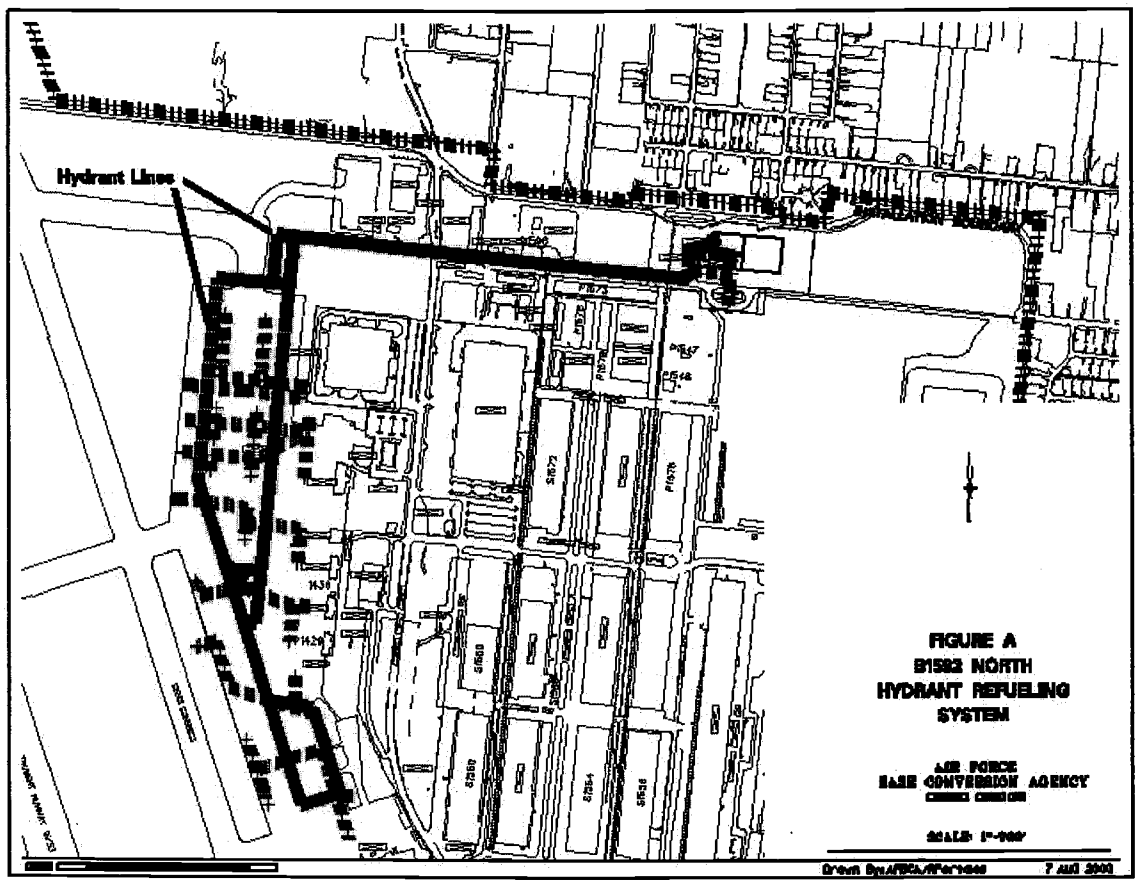
Kelly Air Force Base

8 August 2000

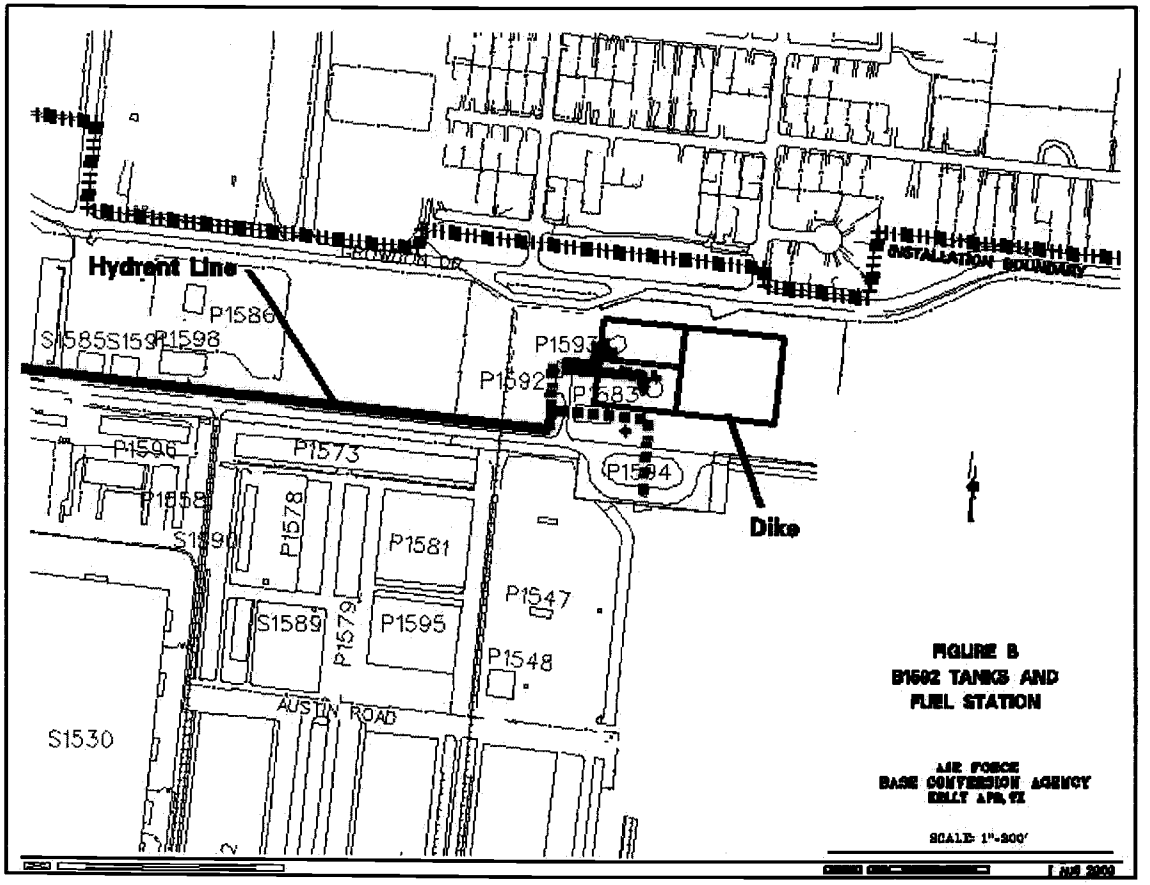
Outline

- Introduction
- Update
- Remaining Activity
- Conclusion

North Hydrant (1592)



North Hydrant (1592)



Transition Update

C/Y 00 C/Y 01

M A M J J A S O N D J F M A M J J A S

SYSTEM 1592

Hydrant

Contractor Begins Hydrant Decontamination & Plugging 1 July 00

Decontamination of the Hydrant Complete 1 Aug 00

Investigation Subsurface for Contamination Complete 24 Oct 00

LG Pumps System Dry 9 June 00

All Closure Documentation Complete 19 Dec 00

LG Ends Use of Hydrant 5 Jun 00

Plugging of N. Hydrant Complete 15 Aug 00

Data Assembly and Evaluation Complete 21 Nov00

TODAY 8 Aug 00

Tanks 72 & 73

CE Decontamination of Tanks Complete 30 Sep 00

Estimated Demolition Completion 15 March 01

Demolition Contractor On Site 21 Oct 00

LG Starts to Draw Down Tanks 26 Jul 00 (980 Dependent)

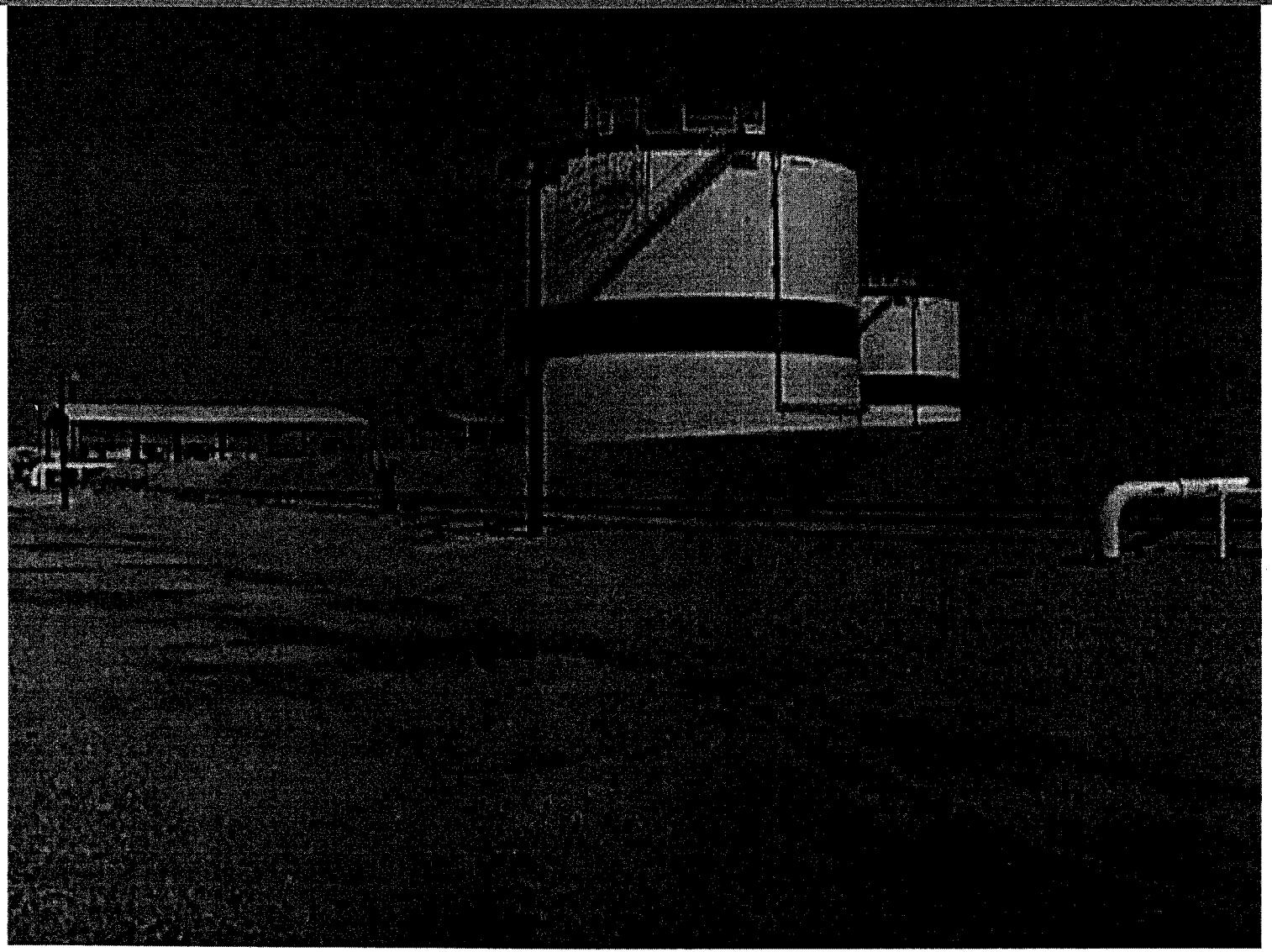
Boeing Stops Using Tanks Not-Later-Than Date for 1 Sep 00

COMPLETED

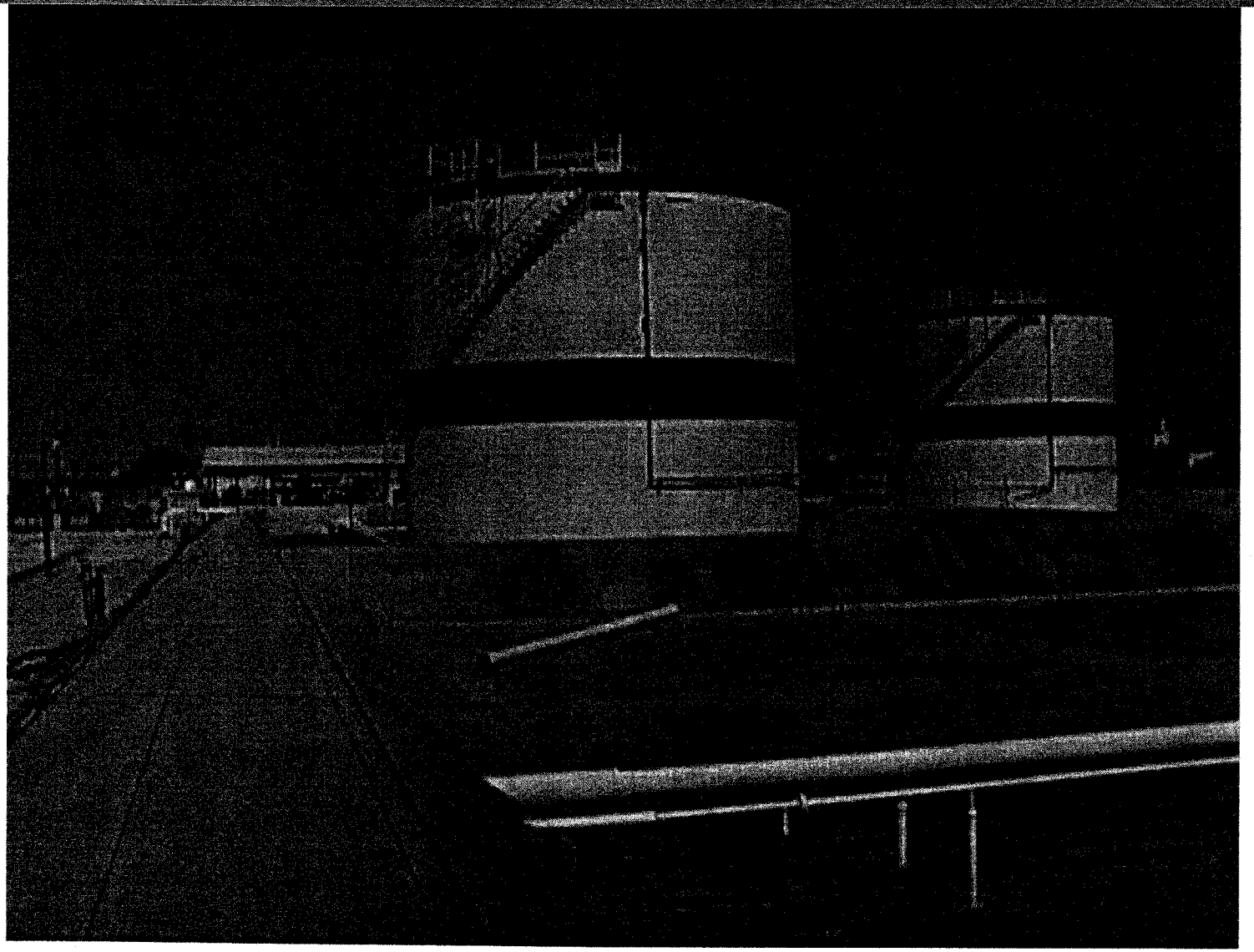
MILESTONE

PENDING

System 1592 (Tanks 72/73 & Fill Station)



System 1592 (Tanks 72/73 & Fill Station)



Remaining Activity

- Remove Fill Station And Associated Piping
- Demolition And Removal Of Tanks
- Demolition And Removal of Dikes
- Grade And Seed Area

Summary

- N. Hydrant Decomissioning Nears Completion Allowing B1592 Tanks Removal Contractor To Proceed
- B1592 Tanks/Fill Station/Dikes Demolition Activity Will Begin 21 Oct 00
- Anticipate Completion 15 March 01

Conclusion

Questions/Discussion

BCT Meeting
8 August 2000

The meeting was held on Tuesday, 8 August 2000 at 9:00 am in the WPI Office, 12th floor conference room.

Members Present and Support Personnel:

Name	Organization	Present	Absent
Brown, Leslie	AFBCA/DK		X
Buelter, Don	AFBCA/DK	X	
Callaway, Laurie	BCA (KPMG)	X	
Carrillo, Mike	EPA		X
Farrell, Philip	GKDA	X	
Landez, Norma	AFBCA/DK	X	
Meshako, Chuck	AFBCA/DK	X	
Neff, Richelle	UNITEC	X	
Power, Abigail	TNRCC		X
Price, Lisa Marie	EPA	X	
Rohne, Russell	AFBCA/DK	X	
Ryan, William	AFBCA/DK	X	
Stankosky, Laura	EPA	X	
Underwood, Tim	BCA (KPMG)	X	
Weegar, Mark	TNRCC	X	
Wehner, Ellie	TNRCC	X	

Dates for upcoming meetings:

September 26, 2000
October 10, 2000 (tentative)
November 14, 2000
December 12, 2000

BCT MINUTES
8 August 2000

Item #	Lead	Support	Discussion Topic	Comments	How will we know it's done?	Disposition
1.	Underwood, T.	BCT Members	Redevelopment Update	Update the BCT regarding redevelopment status at Kelly AFB.	Team receives update.	Closed. GKDA is settling issues with the San Antonio Water System (SAWS) on transfer of the water systems. Transfer should be complete by the end of August or early September. SAWS has agreed to the transfer of Building 375 since the Air Force has agreed to repair the sanitary sewer line. GKDA is in discussion with the Salvation Army to build an adult center on base. Boeing is considering expanding their current hanger instead of building a new hanger. A decision regarding the transfer of the EPCF is still pending. A groundwater public forum is planned for 28 August.
2.	Hampton, R.	SAIC	S-4 On Base Optimization Phase II	Discuss on base optimization of the S-4 system, including the use of wells vs. trenches for hydraulic contaminant.	Discussion is complete.	Closed. The optimized system will consist of 5 wells and 2 trenches. The trenches will be placed in the southern portion of site S-4 where the gravel layer is more clayey and not conducive to recovery wells. The optimized recovery wells and trenches will be placed in areas with deep Navarro and high contaminant concentrations to increase the capture zone and provide containment at the base boundary. Recovery well number 149 has already been installed and the pump tests indicate a large linear capture zone along the base boundary. The design packages will be complete by October 2000 and construction is scheduled to begin November 2000.
3.	Hampton, R.	SAIC	Building 258 CMS Alternatives	Discuss Building 258 CMS Alternatives.	Discussion is complete.	Closed. The Building 258 CMS addresses the source area inside of the slurry wall. The groundwater outside of the slurry wall will be addressed in the Zone 4 CMS. The Building 258 CMS presents alternatives for soil, groundwater, and DNAPL. The objective is to close Building 258 under RRS3. As part of the interim stabilization measure, 4 additional recovery wells are going to be installed at this site in August. The recovery wells will pump out free phase DNAPL to the extent practicable.
4.	Buelter, D.	Chapa, M.	Hydrant System Update	Discuss how the Air Force plans to proceed with closure of the hydrant system.	Discussion is complete.	Open. The Air Force has structurally decommissioned the north portion of the hydrant system. The Air Force will evaluate data to determine if co-mingling contamination is present in areas where the south hydrant system crosses IRP sites. The data evaluation will be presented at the September BCT meeting. TNRCC PST representatives will be invited to attend the September BCT meeting to discuss the closure of the hydrant system and determine if the system should be closed under PST rules or under the Corrective Action Program.
5.	Peck, W.	Courtney, S.	Zone 4 RFI/CMS	Provide an update of the status of the RFI/CMS reports.	Team receives update.	Closed. The Air Force presented the strategy for preparing the RFI/CMS. The Air Force also presented recent findings indicating that detections near AOC MW125 are not related to Air Force activities. The Air force will conduct additional sampling in the area.
6.	Ryan, W.	Buelter, D. Peck, W. Rohne, R.	Zone Updates	Provide team with update of current activities in Zones 2, 3, 4 and 5.	Team receives updates.	Closed. Handouts distributed.
7.	Ryan, W.	Weegar, M. Carrillo, M.	List of Future Deliverables (Regulators/RAB)	Each month, provide a list of upcoming documents for review.	Team receives list of upcoming documents for review.	Closed. Handouts distributed.

Item #	Lead	Support	Discussion Topic	Comments	How will we know it's done?	Disposition
8.	Ryan, W.	BCT Members	BCT Teleconference Scheduling	Each month, establish the coming schedule of teleconferences.	Teleconference schedule adopted by the team.	Closed. A teleconference was not scheduled prior to the next BCT meeting.
9.	Ryan, W.	BCT Members	Begin September Agenda	Each month, begin to establish the next month's agenda at the end of the BCT meeting.	Team approves agenda items.	Closed. The September BCT meeting has been rescheduled for 26 September. Agenda items for the September BCT are: Zone 4 RFI/CMS update Hydrant System update EPCF RFI 300 Area RFI Zone 5 Off base Investigation RCRA Basewide Sampling Site E-1 RFI Site CS2 RFI Site MP RFI Site S-3 RFI

ZONE FOUR
RECENT PROGRESS/DEVELOPMENTS UPDATE
08 AUG 2000

ZONE-WIDE ACTIVITIES:

OU-1 RI - Additional field sampling required and scheduled for late Aug 00. Submission of the report is expected by 31 Oct 00.

OU-2 RI - Additional monitoring well and soil boring locations req'd for extent determination and for modeling data were selected – installation expected late Aug 00. Preparation of the RFI report continues with submission scheduled by 31 Oct 00.

IRA Boundary Control. - The system has been completed and is operational. Official opening of the system was conducted 06 Jul 00. Some minor punch-list type items are being addressed.

Shallow Aquifer Assessment - Response to comments on SAA Phase III Draft Final were forwarded to regulators. SAA Phase IV Draft Final completed and forwarded to regulators for comment in April 00. Comments received from EPA.

San Antonio River Sampling – USGS and SARA fieldwork completed during June 1999. The final ITIRs have been received. ITIRs forwarded to regulators and are awaiting any comments. EPA has provided comments; awaiting comments from TNRCC. The revised SARA report containing the second phase sampling was provided to the TNRCC on 08 Jun 00. Once comments received and reviewed, reports can go final.

ATSDR -- Provided information to Historical Air Emissions Report and Informal Technical Information Report, Zone 4 OU-2 and Site S-4 Soil Vapor Monitoring. ATSDR plans to release several documents as part of the PHA in 2000.

SWMU Assessment -- Historical survey and research of aerial photographs completed. Additional site specific evaluations scheduled through Dec 2000.

Oil Water Separator Removal -- Contract for removal of three East Kelly OWS initiated using Performance Based Contracting. Award complete and work has begun.

DRMO FACILITIES:

Bldg 3096 - Revision 1 to the Closure report, including comment responses from previous submissions, completed and forwarded 20 Apr 00. Currently awaiting final review and concurrence on unit closure from TNRCC. The TNRCC letter regarding this closure request has been received and referred for action.

Yard N - No change. Closure requested, Oct 98. TNRCC review date projected as 30 Sep 99.

Bldg 3065 - TNRCC letter confirming final closure was received.

Lot Z04 - Final Closure Report submitted to the TNRCC on 23 Nov 99. Approval received from TNRCC. Survey and deed recordation documents prepared. Deed recordation in progress.

Yard 13 - The review of the draft data study has been conducted and the draft final has been received. Comments and discussion is in progress with a final document expected later this month. Data gap sampling is expected to be accomplished late Aug or early Sep, with an IRA removal action to follow in Dec 00 or Jan 01.

AUGUST 8, 2000, BCT ZONE 2 AND 3 STATUS REPORT

PROJECT	STATUS	DELIVERABLE DATE
"RCRA" 51 Project	Closure reports for nine sites in Zones 2, 3 & 5 are being prepared. Additional fieldwork must be accomplished to determine extent of contamination and deed recordation boundaries.	Draft Final Closure Reports: TBD.
300 Area RFI	Fieldwork for Phase 1 has been completed. Fieldwork for Phase 2 began in January. Phase III sampling will be completed near high concentration areas within the 300 Area. By including these areas, the RFI report will encompass groundwater throughout the 300 Area. Expect data back from 9 additional monitoring wells by July BCT. Data being reviewed and discussed for No Further Action Sites. Bioaugmentation pilot study progressing near Building 360.	Field Data Summary Report: 30 Nov 99 Draft Final 300 Area RFI Report: Nov 00 Bldg 362 RFI Report: TBD Bldg 375 Trailer Holding Area Release Assessment: 30 Sep 00
600 Area RFI	Tank holding area will be completed w/EPCF RFI data. OWSs are in the process of being removed. ITIR will not be submitted; data will be incorporated into closure reports.	
Building 258 RFI	Additional field sample collection per BCT discussion in April	Draft Final RFI Report: Sep 00
Building 348 Release	*Comments have been submitted for Draft Investigation. Information to be included in Zone 3 RFI. No deliverable for this site.* *Bioslurper operational..*	Startup of system: 1 Aug 00
Building 367 Hydrant System	Tanks have been removed. Submitted information to TNRCC PST program. Samples have been collected for closure of PST..	Draft Final Tank Closure Report: TBD
Building 522 Soil Vapor Extraction System	Funding received from AFBCA. 30% design expected by 30 Sep 00. System installation to be complete by 30 Dec 00	
EPCF RFI	Met on 18 Oct 99 to discuss sampling locations and rational to complete the investigation in the EPCF	

	area. EPCF Phase II WP was submitted 21 Apr. Phase II work **will be completed in August.**	
GW Optimization Projects	Site E-3 Optimization Upgrade: Fieldwork started 25 May 00 Site CS-2 NB Optimization Upgrade: Planned to start 30 Jul 00 Site S-4: Completing investigation and modeling for supplemental optimization on base (to supplement 4 well recovery system installed 15 Nov 00 and to replace the abandoned 10 UPRR recovery wells). Evaluating Upgrades for IWTP/CS2-SB	
IWCS Closure Project	Final Draft of Report submitted. All field work and risk assessment support RRS 3 closure outlined in approved closure strategy documentation. *Comments received from EPA.* *Cleaning of lines has been completed. Rinsate sampling has begun.* Abandonment of lines, manholes and lift stations will be completed in fall.	Final Draft IWCS Closure Plan: Submitted 20 Apr 00.
Petroleum Storage Tank Removals	Tank systems have been removed at Building 643 (test cell), Building 376 and Building 1512. PST closure reports to be submitted. *Funding expected shortly to remove two ASTs at Building 1592 system.*	
Quick Closure Project	Waste tanks at Building 360 have been removed. *Removal of sumps in building 360 begin 14 Aug 00.* Currently removing OWS at building 303, 348 and 652.	
Quintana Road Culvert	4,225 feet of culvert has been installed (100% complete). Street work and associated surface work all that remains. King Street extension insitu soil characterization completed.	

AUGUST 8, 2000, BCT ZONE 2 AND 3 STATUS REPORT

RCRA Regulated Units	Site SD-1: Final Report Submitted. Kelly AFB received comments on the final document from the TNRCC dated 19 Nov 99. Comment response prepared and submitted to TNRCC 9 Jun 00. Site SA-2: Final Report Submitted 11 Feb 00. Comments received from TNRCC dated 1 Jun 00. *Kelly AFB requested an additional 120 days to submit response to comments.*	Comments to Site SD-1 Closure Report: 11 Jun 00. Site SA-2 Final Closure Report: 11 Feb 00
Site S-4 Closure Report (Soil)	Final Report submitted.	
Site S-4 CMS	Public comment period on CMS ended on 5 Nov 99. Received comments from TNRCC 16 May 00. Response submitted to TNRCC/EPA comments on 24 July 00.	Final CMS Report: TBD
Site S-8 CMI-Work Plan	Hearing was requested. Submittal currently under review by TNRCC.	
Zone 2 and 3 CMS	Project underway.	Draft Final CMS: Mar 01
Zone 2 RFI	The TNRCC has approved our response to comments letter for Sites S-3 and 522 RFIs. Additional data is being collected for both sites, and digging permits have been started for fieldwork. The S-3 RFI and 522 Final report will be submitted by September 8, 2000. Site E-1 Draft Final report will be submitted Sept 8, 2000 also.	Site E-1 Draft Final Report – 8 Sept 00 Sites 522 and S-3 Final RFI Reports – 8 Sept 00
Zone 2 Site Closures	*Surface samples need to be taken for Site S4-A. Additional soil samples need for sites FC-2, S-9, OT-1 to meet RRS2 requirements. Scoping is in progress Sites CS-2, SD-2, IWTP, SA-3 and SA-4 meet the closure standard.*	Draft Final Closure Report: TBD

AUGUST 8, 2000 BCT ZONE 5 STATUS REPORT

PROJECT	STATUS	DELIVERABLE DATE
Zone 5 RFI	Revised pages completed IAW regulator comments.	11 Jan 00
Zone 5 CMS	Draft CMS for Zone 5	22 Feb 00
Site S-1 (SS003) IRA	Excavation/backfill completed 1 Dec 99. SVE system completed. SVE wells being developed in case needed for groundwater recovery. *Noise suppression system to be installed.*	
1500 Area Bioventing	*Preparing closure report. Mark Weegar checking with PST folks to see if we can shut down system.*	
Warehouse Area SWMUs	B1420: Closure report submitted 15 Nov 99. Pending regulator review. B1501 OWS: *Draft report received and is being reviewed internally.* B1501 vaulted oil tank: pending contract mod. B1519 wash rack: TNRCC concurs with NFA.	15 Nov 99 (We have not received approval. Need to check on this closure)
SWMU Closures	B50 OWS: Closure report (RRS2) submitted 3 Dec 99. Request regulator concurrence. B70 OWS: *Final addendum received – Appendix L in closure report.* B894 OWS: Closure report (RRS2) submitted 3 Dec 99. TNRCC approved report on 23 Dec 99. Certificate of remediation has been filed with Bexar County. Certificate of Deed recordation mailed to regulators 23 Feb 00. B914 OWS: Timeline Building 914 demo changed from 2002 to 2001. Kelly plans to close site at time of building demolition (2001). Letter was sent 10 Jan 00. Pending regulator response. B920 OWS (removal/replacement): RRS2. Pending contract mod. B946 OWS (removal/replacement): RRS2. Pending contract mod. B966 OWS: Additional investigation required for closure. Installed one soil boring and one monitor well per TNRCC comments. *Sheen on water – extent not defined. Additional work to be required.* B1147 OWS (removal/replacement): RRS2. Pending contract mod. B1151 OWS (removal/replacement): RRS2. Pending contract mod. B1418 Lift station/OWS: Drainlines have been removed and 4 soil borings completed. Trench and boring samples were ND. Trench backfilled and lines plumbed to new lift station. *Report being prepared.*	3 Dec 99 (We have not received approval. Need to check on this closure) (Also need to check on Bldg. 3003, SWMU 73. It was sent in at the same time.) 23 Feb 00 10 Jan 00 (Have had no response)

Site S-4/300 Area Optimized System Evaluation

- Anticipated Capture Zone
- ST006RW149
  - Aquifer Testing
  - Capture Area
  - Data Evaluation
- Additional Investigation Recommendations

Site S-4/300 Area Soil Borings

- Historical Data
- Installation of Soil Borings
- Data Evaluation

Site S-4/300 Area Optimization Conclusions

- Isolated Groundwater Conditions
- Current Plume Orientation
- Groundwater Collection Trenches
  - Groundwater Modeling Results

Site S-4/300 Area Optimization Proposed Collection System

- Proposed Optimized System
  - Recovery Well and Trench Locations
  - Estimated Capture Zone
  - Design Packages
    - Trench Design (August 2000)
    - Infrastructure Design (October 2000)
  - Construction
    - Trench (November 2000)
    - Infrastructure (February 2001)

Building 258 CMS Objectives and Alternatives

BCT Meeting

08 August 2000

Purpose and Objective

- Purpose: Present conceptual model, remedial objective, and alternatives for evaluation
- Objective: Obtain BCT input and consensus on remedial objectives and alternatives for evaluation

Background

- Discussed RFI findings during April BCT and initial CMS approach during January BCT.
- Agreed to install additional borings for extent purposes. Draft Final will be submitted Sept 00.

Discussion Points

- Site Map
- Conceptual Cross Section
- Remedial Objective
- Preliminary Alternatives for Evaluation

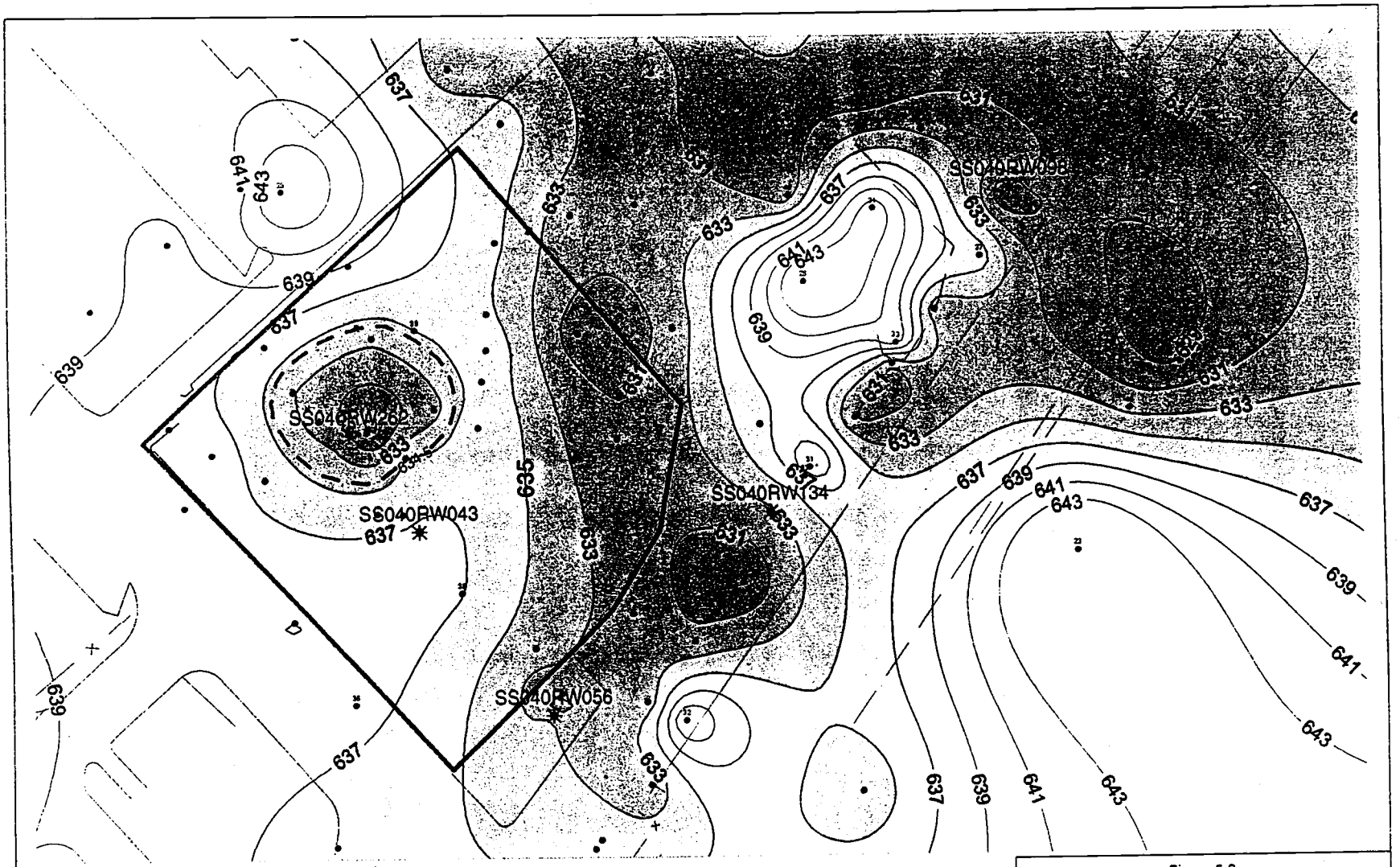
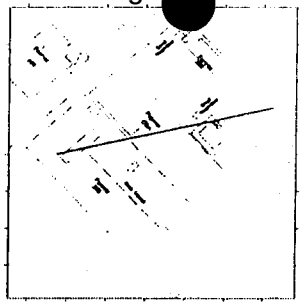


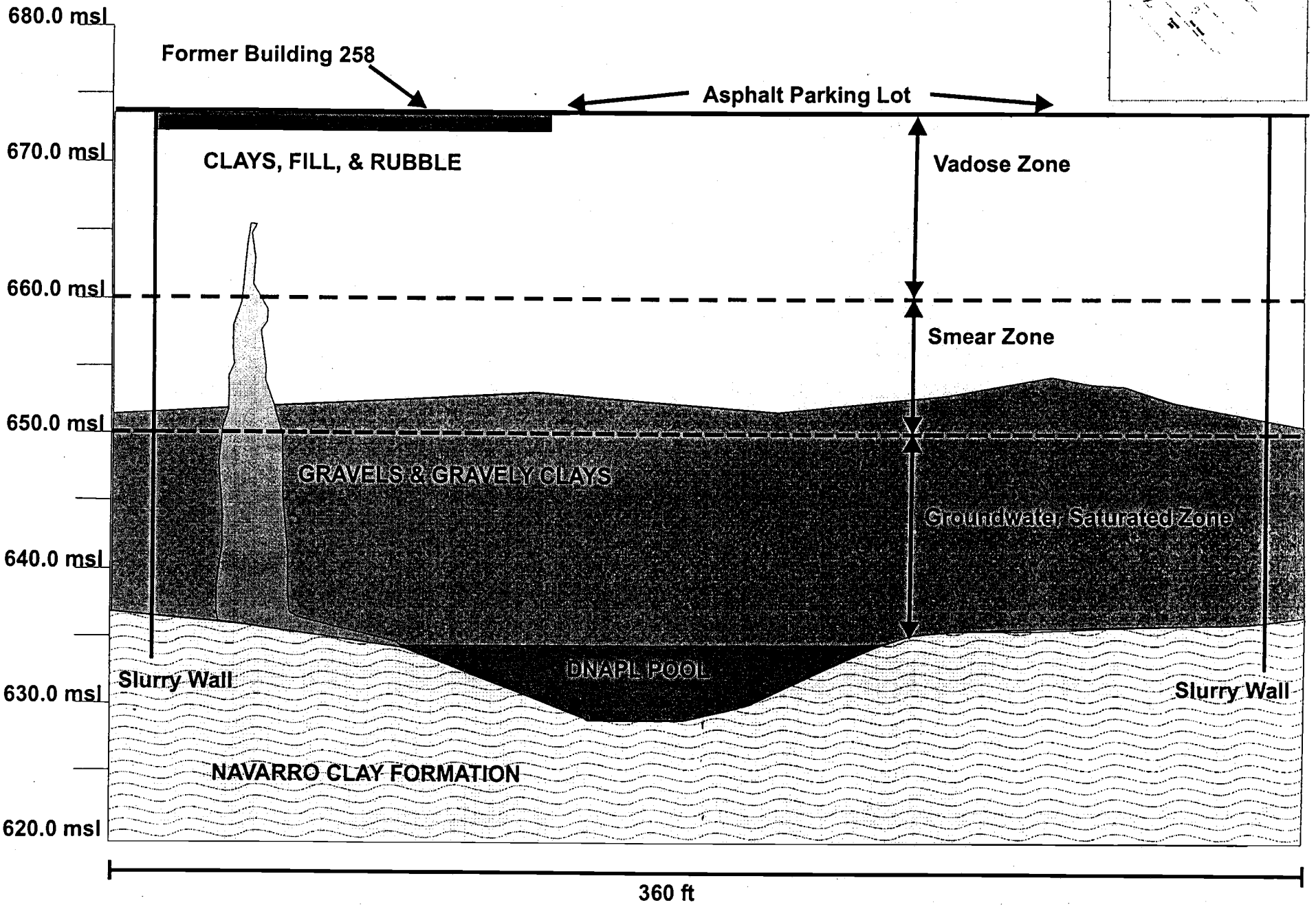
Figure 5-2

Building 258 Area
Aquitard Map

KELLY AFB, TEXAS

Conceptual Model of Building 258
SWMU DNAPL Contamination





Alternative	Media		
	DNAPL	Soil	Groundwater
1	-Extraction by Pumping	-Containment by slurry wall, surface cap	-Pump and Treat
2	-Extraction by Pumping -Extraction of residual by surfactant flooding	-Containment by slurry wall, surface cap	-Pump and Treat
3	-Extraction by Pumping -Extraction of residual by surfactant flooding	-SVE or Excavation of hot spots depending on RRS 3 -Containment by slurry wall, surface cap	-Pump and Treat
4	-Extraction by Pumping -Extraction of residual by surfactant flooding -Polishing remaining mass with chem-ox flooding	-SVE or Excavation of hot spots depending on RRS 3 -Containment by slurry wall, surface cap	-Pump and Treat
5	-Extraction by Pumping	-Excavation with off-site disposal	-
6	-Extraction by Pumping -Extraction of residual by thermally enhanced soil vapor extraction with local dewatering	-SVE or Excavation of hot spots depending on RRS 3 -Containment by slurry wall, surface cap	-Pump and Treat

Zone 4 RFI/CMS Status

Walter Peck, AFBCA/EM
Scott Courtney, BAH
Bob Goodson, CH2M Hill
Mark Stoker, CH2M Hill

CH2MHILL

Zone 4 RFI/CMS

- Project sequence
- RFI-RA-CMS
- Review technical status, site closure strategies and deliverable schedules

CH2MHILL

Zone 4 RFI/CMS Background

- Draft Final RI for OU-1 submitted June 1998
- EPA/TNRCC comments received by April 1999
- Comment resolution meeting May 1999
- Contract for additional data collection awarded January 2000
- Additional OU-1 data collected in April 2000
- Contract to complete RFI/CMS awarded June 2000

CH2MHILL

Zone 4 Operable Units

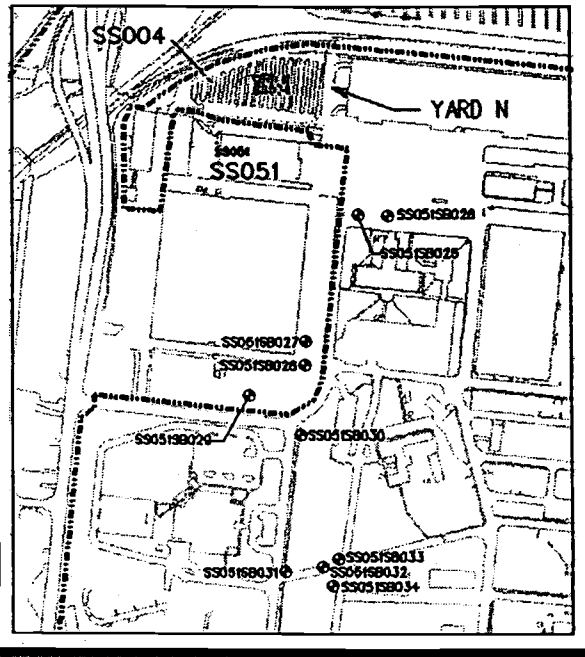
- Operable units defined primarily for data presentation and interpretation
  - OU-1 ~ 400 ac
  - OU-2 ~16,500 ac
- What is OU-1?
  - Soil within East Kelly and IWCS on college property
  - Does not include DRMO sites (closed under RCRA permit)
  - Today's update primarily on Site SS051, AOC MW125, AOC MW160 and AOC Yard 68
- What is OU-2?
  - Groundwater impacted primarily by Kelly sites SS051 and SS040 extending to the east and southeast of those sites

CH2MHILL

RFI OU-1: Site SS051

- IRP Site SS051 (IWCS)
  - Little to no residual soil contamination
  - No point source
  - Data gap analysis performed and new data collected around the storm sewers
  - RFI will "beef up" the site characterization
- Goal: RRS #2 closure (subject to groundwater remediation)

CH2MHILL



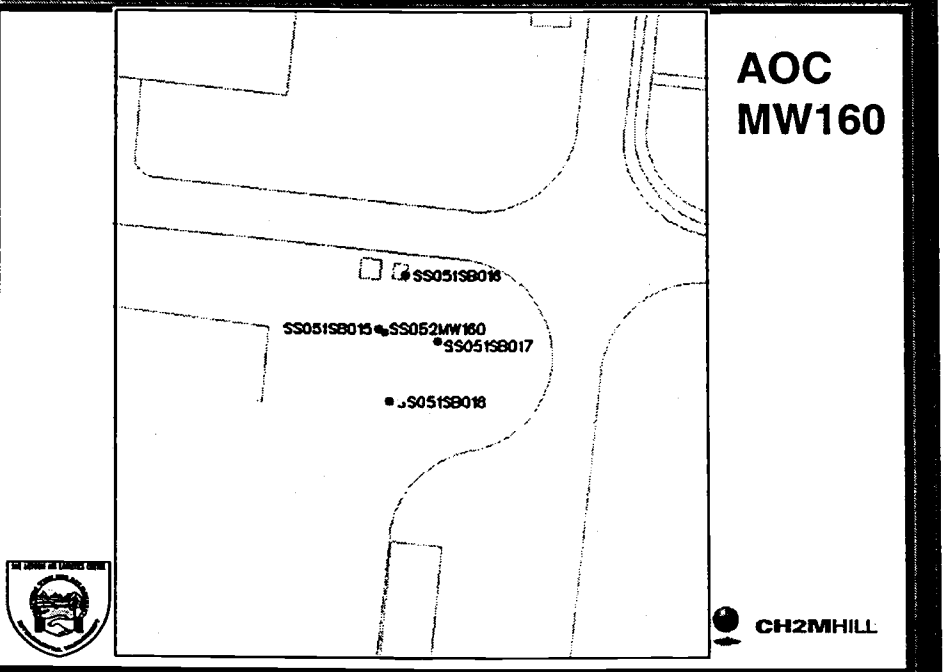
Site SS051

CH2MHILL

RFI OU-1: AOC MW160

- Area of concern around well MW160
  - Site of former OWS/UST (closed)
  - CVOCs detected in soil during closure investigation
  - MW160 installed in 1994 as a result of OWS/UST closure
    - ▲ *found higher concentrations in surface soil*
  - Additional soil samples collected to provide more detail on vertical and lateral extent
    - ▲ *source believed to be shallow from spills*
    - ▲ *concentrations not as high as 1994 data, but need a few more samples for lateral extent*
- Goal: RRS #2 closure, may require local corrective action on soil
  - SVE or dig and haul

CH2MHILL

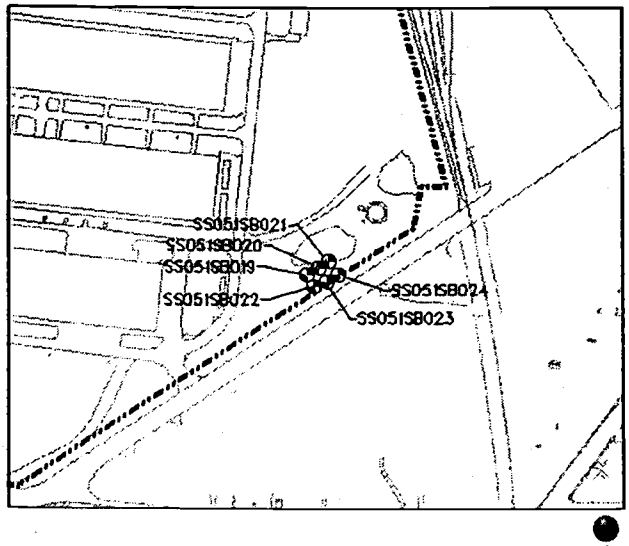


RFI OU-1: AOC MW125

- Area of concern around well MW125
  - Deep soils impacted by BTEX, PAHs and CVOCs
  - Additional soil samples collected to provide more detail on vertical and lateral extent
  - Data from TXDOT and potential Superfund site(s)
- We will present characterization data showing that the most likely source of the this contamination is located offsite and is not from activities on the base.

CH2MHILL

AOC MW125



CH2MHILL

RFI OU-1: AOC Yard 68

- Area of concern at Storage Yard 68
  - Area used for outdoor storage for about 60 years
  - During closure of IRP Site SS009 metals were detected in caliche/asphalt that were not related to herbicide spill at SS009
  - Closure of SS009 included soil removal, closure to RRS #2 and deed recordation of an area (32 acres) much larger than SS009 and included Yard 68
  - Concentrations above Black Clay background, but below SAI and GWP (by SPLP)
  - TNRCC comments from 1998 RI requested extent of metals
  - Soil disturbed by recent construction (rail car rehab facility)
- Recommend no further action

CH2MHILL

RFI OU-1: Verification Samples

- Verification sampling of pesticide hit
- Results showed concentrations highest at the surface
- Pesticide residual the result of application of pesticides as intended
- Recommend no further action

CH2MHILL

RFI OU-1

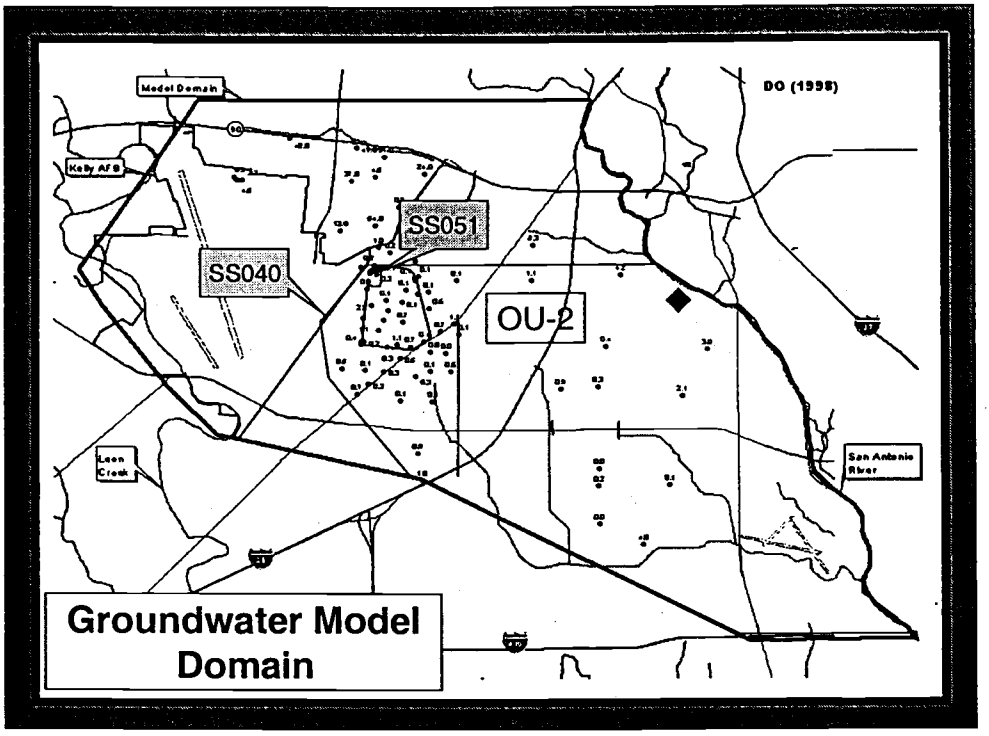
- Report will address comments from review of 1998 version
- Additional detail:
  - DRMO sites
    - ▲ *detail provided in RCRA permit-required closure documents*
  - Potential for sites to be current/past sources of groundwater contamination

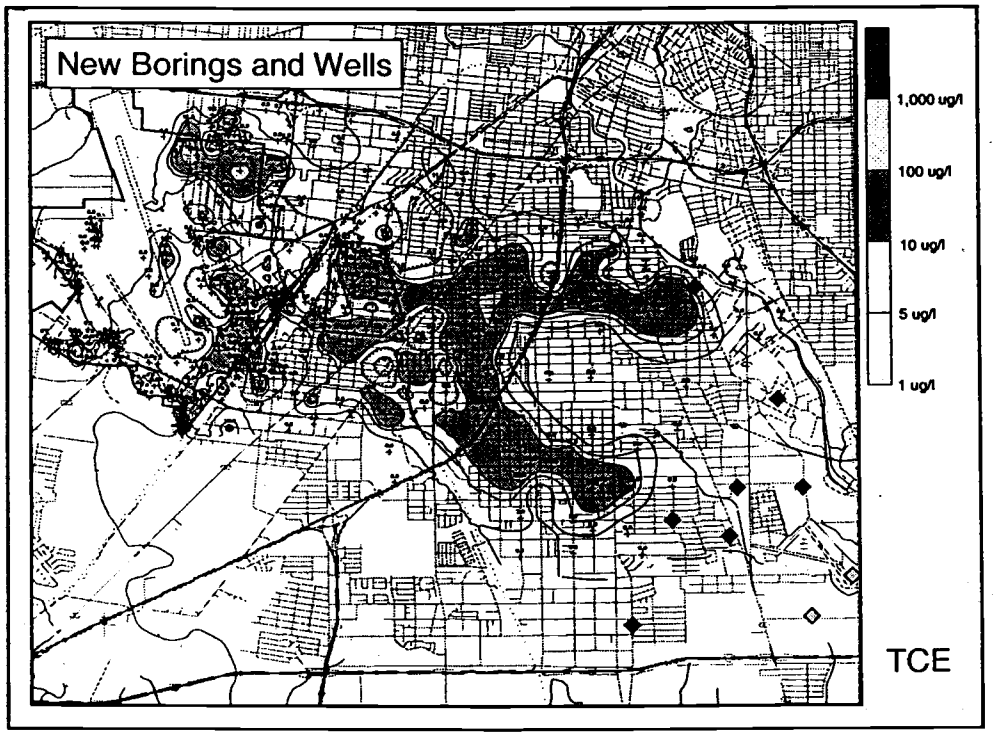
CH2MHILL

RFI OU-2

- Data collection effort in planning stage
  - OU-2 groundwater model support
- Groundwater flow and transport model being prepared by HGL
  - model extends to the San Antonio River
  - 2 soil borings and 7 monitoring wells will be drilled/installed to fill data gaps in model construction
    - ▲ *primarily between southern lobe of plume and the river*
    - ▲ *also to place an additional monitoring point on the northern lobe of the plume just upgradient of the river*

CH2MHILL


Model Domain
DO (1998)
Kelly AFB
SS051
SS040
OU-2
Leon Creek
San Antonio River
Groundwater Model Domain


New Borings and Wells
1,000 ug/l
100 ug/l
10 ug/l
5 ug/l
1 ug/l
TCE

RFI OU-2

- Extent of contamination
  - the RFI will present the extent of contamination from all data collected through August 2000 including new wells for this project and other AF projects
    - ▲ *north of US 90*
- Impact to the San Antonio River
  - the RFI will incorporate the river data collected by the USGS and SARA
  - Navarro/Midway outcrop in streambed and banks
  - plume discharges to the river primarily through seeps
  - in-stream concentrations are non-detectable
  - biological impacts, if any will be discussed in the ERA for Zone 4

CH2MHILL

RFI OU-2

- Groundwater data sets
  - complete plume maps only available for 1999 and 2000
  - additional wells, particularly along the plume centerlines, will have time series plots of all data to evaluate plume stability (increasing, stable or decreasing concentrations)
- Natural attenuation data collected in OU-2
  - will be used to support modeling efforts in the evaluation of remedial alternatives in the CMS
  - 20 wells sampled in and around the plumes using EPA 1998 protocols

CH2MHILL

RFI OU-2

- Pump test and slug test data
  - data and analyses will be included
- Water levels and potentiometric surface maps from 1999 and 2000
- Soil vapor analysis data included
  - impacts to indoor air will be in the human health risk assessment

CH2MHILL

Human Health Risk Assessment

- HHRA for OU-1
  - included in RFI report only if RRS #3 becomes necessary
- HHRA for OU-2
  - current and future exposure scenarios
  - groundwater exposure scenarios
    - ▲ *current may include gardening, car washing, lawn irrigation and exposure at the river*
  - groundwater to indoor air
- Recommend meeting to discuss approach with technical experts from each agency

CH2MHILL

Ecological Risk Assessment

- Team members from the "basewide" ERA
  - use the same processes
- OU-1 and OU-2 combined into one report
- Impacted habitat appears to be limited to the San Antonio River
- SARA study critical to this effort
- Recommend meeting to discuss approach with technical experts from each agency

CH2MHILL

CMS

- Combined for OU-1 and OU-2
- Standard CMS approach
  - screen technologies
  - assemble, screen and evaluate remedial alternatives
  - includes evaluation of IRAs, in particular the MP slurry wall and boundary extraction systems for Zones 3 and 4
- RRSs & TRRP to be evaluated
  - for example, alternatives will be prepared that will include a plume management zone
- Potential technologies
  - scale of impacted medial greater for groundwater than soil
  - pump and treat, reactive walls, enhanced insitu biodegradation, and natural attenuation

CH2MHILL

CMS

- Public participation is critical to project
- An interim deliverable will be prepared that presents 3 or 4 realistic alternatives
- Public forum held in December to discuss and gain input

CH2MHILL

Delivery Dates to TNRCC/EPA

- RFIs for OU-1 and OU-2 along with the HHRA and ERA will be delivered in November 2000
- Interim CMS deliverable to be provided for prior to the public forum at the end of November 2000
- Draft Final CMS is due to the agencies in March 2001.

CH2MHILL

UNITED STATES AIR FORCE
INSTALLATION RESTORATION PROGRAM
KELLY AIR FORCE BASE
SAN ANTONIO, TEXAS

FINAL

July 2000 Semiannual Compliance Plan Report (January - June 2000) for RCRA-Regulated Units and Leon Creek

Volume I

Prepared for: **Kelly Air Force Base**
San Antonio, Texas
F41624-97-D-8019-0113

Prepared by: **CH2MHILL**
Spectrum Building
613 Northwest Loop 410, Suite 200
San Antonio, Texas 78216

July 2000
155728.02.13

E052000019GNV

Executive Summary for RCRA-Regulated Units

Semiannual monitoring of four Resource Conservation and Recovery Act (RCRA)-regulated sites is being conducted at Kelly Air Force Base (AFB), San Antonio, Texas, to fulfill the requirements of the Compliance Plan that was issued on 12 June 1998 along with the Closure/Post-Closure Care Permit by the Texas Natural Resource Conservation Commission (TNRCC). Compliance monitoring also evaluates whether the ongoing corrective action activities have attained the groundwater standards.

The Compliance Plan listed 48 monitoring wells to be sampled semiannually as part of the RCRA monitoring program. This list of monitoring wells was modified, with TNRCC approval, to 42 monitoring wells. During this event, only 38 wells were sampled for all parameters, while 39 were sampled for VOCs. Three wells of these 42 have either been abandoned or damaged and are being proposed to be replaced.

Site E-3/SD-1

E-3 and SD-1 are regulated as one per the Compliance Plan based on their proximity to each other. Quarterly and semiannual monitoring results suggest that installing and operating the groundwater recovery system surrounding Site E-3, as well as high rates of degradation, has greatly reduced volatile organic compound (VOC) concentrations in the shallow groundwater. In 1992, the chlorobenzene plume extended 1,600 feet downgradient of the source. The 1995-2000 data confirm results of the 1996-1998 capture zone modeling, which indicate that the recovery system is effectively intercepting groundwater flow. The downgradient extent of the plume has dramatically decreased by about 1,000 feet. In addition, the plume morphologies for chlorobenzene and arsenic indicate that the current monitoring network adequately evaluates the extent of these constituents. This site (E-3/SD-1) is not yet in compliance with the requirements of the Compliance Plan.

Site SA-2

Reduced levels of contamination found adjacent to Site SA-2 indicate removal actions at this site effectively removed the primary source of contamination. Groundwater monitoring at Site SA-2 indicates the site has minimally affected the shallow aquifer. This site is in compliance with the requirements of the Compliance Plan, with the exception of one parameter in one well, which is a common laboratory and field contaminant.

Site S-8

The results of the groundwater monitoring indicate that Site S-8 has contributed both inorganic compounds and organic hazardous constituents to the shallow aquifer. The current monitoring well network sufficiently defines the extent of the constituents. This site is not yet in compliance with the requirements of the Compliance Plan.

Recommendations

An assessment of the January 2000 semiannual RCRA monitoring network with respect to groundwater elevations, flow directions, contaminant concentrations, and migration rates confirmed that the current monitoring well network (even though additions may be made to the network in the future) adequately evaluates the nature, rate, and extent of contaminant plumes associated with the four RCRA-regulated sites. It is recommended that any wells in the network that are damaged, abandoned, or inaccessible be replaced with other current modeling wells.

CLOSURE REPORT
FOR BUILDING 1516 OIL/WATER SEPARATOR
SOLID WASTE MANAGEMENT UNIT NO. ---/120

KELLY AIR FORCE BASE
SAN ANTONIO, TEXAS

DRAFT FINAL

Prepared for

San Antonio Air Logistics Center
Directorate of Environmental Management
Kelly Air Force Base
San Antonio, Texas

Prepared by

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
San Antonio, Texas

Contract No. F41650-95-D-2004-5027

June 2000

EXECUTIVE SUMMARY

This report documents closure assessment of a former SWMU at Building 1516, Kelly AFB, San Antonio, Texas. The subject unit is not registered in the Kelly AFB Notice of Registration but is known as SWMU No. ---/120, where No. 120 is the designation given to the unit by EPA in its 1988 RFA Report. The constituents of wastes managed in the unit included petroleum, oil, and lubricants, hydraulic oil, volatile organic compounds, and semivolatile organic compounds. Review of Kelly AFB Spill Reports indicated that there were no reported spills associated with Building 1516.

The oil/water separator was excavated and removed in approximately 1994 when Building 1516 was demolished. Field activities associated with this closure assessment included (1) removal and disposal of the concrete pavement, (2) collection of screening samples to assess medium-specific concentrations in the unit cavity, (3) soil assessment to evaluate potential risk to human health and to groundwater, (4) collection and analysis of closure verification samples, (5) backfilling of the tank cavity, (6) resurfacing with asphalt pavement; and (7) surveying of excavation boundaries for deed recordation. The OWS at Building 1516 was not found during excavation. After further inquires, it was determined that the OWS was excavated and removed in approximately 1994 when the building was demolished. Sampling at the assumed location of the OWS was conducted at the direction of the TNRCC BCT representative.

Due to the former location of unit drainage pipes, chemical concentrations and closure criteria were evaluated for subsurface soils only. Groundwater was not encountered during the assessment. Exposure scenarios for other potentially impacted media (e.g., surface soils, groundwater, surface water, air, fauna) were evaluated and eliminated from further consideration for this report.

Samples collected from the excavation floor, north wall, south wall, east wall, and west wall at depths of 5 to 6 feet below ground surface were analyzed for volatile organic compounds (USEPA Method SW-846 8260B), semivolatile organic compounds (USEPA Method SW-846 8270C), and total metals (USEPA Methods SW-846 6010B, 7471A, and 9010B/9014). Volatile and semivolatile compounds, and total metals concentrations for antimony, arsenic, cadmium, cyanide, selenium, silver, thallium, and mercury were below detection limits. Total metals concentrations for barium, beryllium, chromium, cobalt, copper, nickel, vanadium, and zinc were less than Risk Reduction Standard No. 2 limits.

Building 1516 SWMU-associated chemical constituent concentrations pose no threat to human health as defined by 30 TAC Chapter 335, Subchapter S. Based upon medium-specific soil sampling and exposure pathway analysis, conditions for closure of the Building 1516 SWMU under Risk Reduction Standard 2 have been met.

REPORTS
FOR
ST MARY'S

	REPORTS LISTED BELOW WERE TAKEN TO THE ST. MARY'S LIBRARY - BCT On 8 Aug 2000	Date	Status	ADM
627B	Semiannual Compliance Plan Rpt for Jul 2000 (Jan-Jun 00) RCRA Reg Units & LC (	July 00	Final	Inf
909A	Closure Report for Bldg 1516 Oil Water Separator SWMU No.---/120	July 00	Final Draft	Inf

Date: August 8, 2000
Signature: [signature]

x

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE