KELLY AFB
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 3284

KELLY RESTORATION ADVISORY BOARD
TECHNICAL REVIEW SUBCOMMITTEE
REVISED MEETING AGENDA
Tuesday, 9 May 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 Subject Selection	6:35 -6:55	Dr Lené
III. Vinyl Chloride Vapor Testing Results	6:55 - 7:30	Mr. Gibson, CH2MHill
IV. Relative Risk Rank Review	7:30 - 7:45	Mr. Buelter
V. Administrative A. BCT Update B. Spill Summary Report C. Documents to TRS/RAB D. Agenda/Location/Time of Next TRS Meeting	7:45 - 8:05	Dr Lené
VI. Adjournment	8:25	

Note: Fuel Misting/Jettisoning/Venting expert was not available for the May meeting and will be rescheduled for a TRS meeting when his schedule permits.

MEETING MINUTES
KELLY AFB TECHNICAL REVIEW SUBCOMMITTEE (TRS)
TO THE RESTORATION ADVISORY BOARD (RAB)
9 May 00, St. Mary's University, Garni Science Hall

I. Introduction: The TRS meeting began at 6:45 p.m. Attachment 1 is the attendance report.

II. TAPP Subject Selection: Mr. Zapotek handed out draft Statements of Work (SOW) for review. (See attachment 4) The TRS will finalize the SOW 's at the next TRS meeting. Once applications actions are completed, and a contractor pricing update is conducted, the contractor selection will take place.

III. Vinyl Chloride Vapor Testing Results: Mr. Bob Goodson, CH2M Hill presented the results. See attachment 5. Testing site selections were based on the EPA- preferred Johnson-Ettinger model. The model predicts the sites that have the highest potential vapor intrusion. Each site tested was below action levels. All data collected was provided to Agency for Toxic Substance and Disease Registry. The ensuing discussion resulted in several action items listed below. (See action items 1, 2, and 3.)

IV. Relative Risk Rank Review: Mr. Don Buelter, Kelly AFB, provided a simple chart of the BRAC sites and their relative risk rank. See attachment 6. There was no discussion on the relative risk ranking of any site. Discussions focused on the RAB voting on the rankings. (See action item 5.)

V. Administrative

A. Documents to TRS/RAB: See attachment 2.
B. Spill Summary Report: There were no reportable spills during the month of April 2000.
C. Next TRS meeting: The next TRS meeting will be held 13 June 00 at 6:30 p.m. at St. Mary University's Garni Science Hall.
D. Action Items:
1. Mr. Rice requested the memoranda containing the input data used by CH2M Hill to run the Johnson-Ettinger model.
2. Mr. Quintanilla asked for data on the wells to show vinyl chloride concentrations from 1994 to the present.
3. Mr. Rice asked if the wells with the highest Vinyl Chloride were on base, in the railroad yard or in the neighborhood.
4. Mr. Quintanilla asked how "dirty land" is being transferred to Lackland AFB.
5. Ms. Brown, AFBCA, committed to providing a copy of the proposed Relative Risk site evaluation.
6. Mr. Rice asked if "misting" of unburned jet fuel had occur in the past and how it could happen. (*Fuel expert was unable to attend the meeting and presentation postponed to a date to be determined.*)

E. Other Administrative Items:
1. After the meeting Mr. Rice showed those interested a map listing testing results at a site north of the base. The information indicated a hit for chromium at 60 ppbv. It was noted the MCL is 100 ppbv.

IV. Adjournment: The TRS adjourned at 8:30 p.m.

Attachments:
1. Attendance List
2. Documents List
3. Spill Summary Report
4. TAPP Draft SOWs
5. Vinyl Chloride Vapor Testing Results Briefing
6. Relative Ranking Table
7. BCT Minutes and Handouts, Apr and May 00
8. Submitted Report's Exec. Sum.

20S
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)
9 de mayo 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 6:45 p.m. El Documento Adjunto # 1 es el reporte de asistencia. **[NOTA DEL TRADUCTOR: El documento original en inglés no tenia documentos adjuntos].**

II. Selección del Tema del Programa de Asistencia Técnica y Participación Pública (TAPP, por sus siglas en inglés): El Sr. Zapotek entregó las Declaraciones de Trabajo (SOW, por sus siglas en inglés) en Borrador para que las revisaran. (Ver Documento Adjunto # 4). El TRS finalizará los SOWs en la siguiente junta del TRS. Una vez que se hayan terminado las actividades de las solicitudes, y se haya realizado la actualización de los precios de los contratistas, se llevará a cabo la selección del contratista.

III. Resultados de las Pruebas de Vapor de Cloruro: El Sr. Bob Goodson, de CH2M Hill, presentó los resultados. (Ver Documento Adjunto # 5). La selección de los sitios para las pruebas se basó en el modelo Johnson-Ettinger preferido de la Agencia de Protección Ambiental (EPA por sus siglas en inglés). El modelo predice los sitios que tienen el mayor potencial de intrusión de vapor. Se encontró que cada uno de los sitios donde se hicieron pruebas estaba por debajo de los niveles de acción. Toda la información que se recolectó se entregó a la Agencia de Sustancias Tóxicas y Registro de Enfermedades. El diálogo al respecto dio como resultado varios puntos de acción que se listan más adelante. (Ver Puntos de Acción 1, 2 y 3).

IV. Revisión de la Calificación del Riesgo Relativo: El Sr. Don Buelter, de la Base Aérea Kelly, proporcionó una gráfica sencilla de los sitos de la Realineación y Cierre de Bases (BRAC, por sus siglas en inglés) y su calificación de riesgo relativo. (Ver Documento Adjunto # 6). No hubo ninguna discusión sobre la calificación del riesgo relativo de ningún sitio. El diálogo se concentró en la votación del RAB de las calificaciones. (Ver Punto de Acción # 5).

V. Puntos administrativos:

A. Documentos que se entregaron al TRS /RAB: (Ver Documento Adjunto # 2)
B. Informe del Resumen de Derrames: No hubo derrames reportables en el mes de abril de 2000.
C. La siguiente junta del TRS: La siguiente junta del TRS será a las 6:30 p.m. del 13 de junio de 2000 en el Garni Science Hall, de la Universidad de St. Mary.

D. Puntos de Acción:
    1. El Sr. Rice solicitó el memorando que incluye la información que usa CH2M Hill para correr el modelo Johnson-Ettinger.
    2. El Sr. Quintanilla pidió información sobre los pozos que mostraron concentraciones de cloruro de vinilo de 1994 al presente.
    3. El Sr. Rice preguntó si los pozos con las concentraciones más altas de cloruro de vinilo estaban en la base, en el patio del ferrocarril o en el vecindario.
    4. El Sr. Quintanilla preguntó que cómo se está transportando la "tierra sucia" a Base Aérea Lackland.
    5. La Srta. Brown, de AFBCA, se comprometió a proporcionar una copia de la evaluación de riesgo relativo propuesta para el sitio.
    6. El Sr. Rice preguntó si había habido "rocío" de combustible de avión no quemado en el pasado y que cómo pudo haber pasado. *(El experto en combustible no pudo estar presente en la junta y su presentación se pospuso para una fecha que se determinaría posteriormente).*

E. Otros Puntos Administrativos:
    1. Después de la junta el Sr. Rice le mostró a los que se interesaron un mapa que mostraba los resultados de las pruebas en un sitio en el norte de la base. La información indicó una concentración de cromo de 60 ppbv. Se dijo que el nivel máximo de contaminación (MCL por sus siglas en inglés) es 100 ppbv.

IV. Cierre de la Sesión: Se cerró la junta del TRS a las 8:30 p.m.

Documentos Adjuntos:

1. Lista de asistencia
2. Lista de documentos
3. Reporte del Resumen de Derrames

SOWs en borrador del TAPP

5. Presentación de los Resultados de las Pruebas del Vapor de Cloruro de Vinilo
6. Gráfica de la Calificación Relativa
7. Minutas y folletos del BCT (por sus siglas en inglés), abril y mayo, 2000
8. Resumen Ejecutivo del Reporte presentado

NOTES FROM TRS/COMMITMENTS MADE

Predictably, neither George nor Armando was satisfied with the soil vapor testing results.

- George has **requested the memoranda containing the input data** used by CH2M Hill to run the Johnson-Ettinger Model for determining the sample locations.
- Armando asked for **data on the wells to show the concentrations of vinyl chloride found each year** from 1994 to present.
- Both contend that there are **spots with higher VC levels** in the neighborhood and want us to (1) **determine if this is so**, and (2) **do test wells** at those locations. Mark Weegar agreed that it would be helpful to do so, if true.
- Bottom line – and their likely stance on the issue – is "We can have no confidence in this model if you didn't test the high areas."

The relative risk discussion still boils down to Armando's contention that the golf course is getting cleanup at the expense of the neighborhoods.

- He asked **if someone could tell the RAB how "dirty" land is being transferred** to Lackland (he contends we're cleaning it first) and how we can transfer unremediated sites.
- **Leslie committed to get a copy of the proposed rule on Relative Risk** Site Evaluation to show everyone the language regarding RAB concurrence and the nature/status of the guideline.

Fuel misting discussion was tabled until the "expert" from Tyndall AFB could attend.

- George Rice wants to know **(1) did "misting" of unburned jet fuel happen at some time in the past, and (2) how that could have happened.**
- Mr Rice and Mr Quintanilla appear determined to confuse the "misting" and the previous issue of "jettisoning fuel" to show that "the Air Force withheld information."
- Dick Walters asked how this relates to cleanup projects and the RAB. Everyone agreed it was not a cleanup issue, but a health-related concern.

In setting the next TRS meeting, **the proposed 6 June RAB date was brought up** and some discussion of the date and topic ensued, without clearly presenting what advice the RAB is being asked to provide.

- Mark Weegar made it clear that the TNRCC review of the Mitretek report will not be completed by that time and he will have nothing to discuss.
- George Rice made it pretty evident that he wants to argue the off-base source issue. As this will be germane to the court case and he is an "expert witness" we may have good reason to avoid any public debate. The DOJ attorneys may desire for the technical staff to present the data and conclusions in a way that draws out Mr Rice's arguments and allows the Air Force to answer them effectively before the court case occurs, which disarms Mr. Rice on the issue.

As the meeting ended, two further bits of information were shared.

- Mr Rice called attention to the one "high" hit for chromium in groundwater beneath the North Kelly Gardens neighborhood – 60 ppb – and Don Buelter pointed out that the MCL is 100 ppb.
- Mr. Quintanilla said he anticipates that the EPA will not release its Hazard Ranking System scoring package for Kelly and that the base should anticipate a Freedom of Information Act request for it.

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

MEMORANDUM FOR: REMEDIAL ACTION BOARD/TECHNICAL REVIEW SUBCOMMITTEE (RAB/TRS)

09 MAY 2000

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

SUBJECT: Monthly Spill Report for April 2000

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

Sincerely

BRIAN M. FITZGERALD, Capt, USAF, BSC
Chief, Environmental Compliance Division

STATEMENT OF OBJECTIVES (SOO)
REVIEW: RCRA Facility Investigation Former Building 258, Solid Waste Management Unit, Kelly AFB, Texas, Draft Final, dated March 2000.

1.0 GENERAL

Scope: This task is to review the Zone 3 RCRA Facility Investigation (RFI), Former Building 258 SWMU, Draft Final Report (Building 258 SWMU RFI) focusing on the source for building 258 SWMU (which is also the source for IRP Site MP), including a layperson's explanation of the investigation.

1.1 Background. The objectives of the Building 258 SWMU RFI are to adequately characterize source areas, determine nature and extent of contamination, identify contaminant transport mechanisms and pathways and gather data to support recommendations for future corrective actions. Interim systems, including a pump and treat system and a slurry wall, have been installed at this site to contain the source area. For the purposes of this investigation, the "source area" is defined as the area inside the slurry wall and the source media is contaminated soil and groundwater, including a dense non-aqueous phase liquid composed primarily of tetrachloroethene. An Interim Stabilization Measures Evaluation Report is also included for reference in Appendix B of this RFI report.

1.2 Objectives. The contractor shall furnish all professional non-personal service labor, management, supervision, tools, materials, equipment, transportation, mailings, and reproductions, unless specified herein, for the assigned tasks issued against this Blanket Purchase Agreement. The contractor will provide technical assistance to the RAB by interpreting and translating the data in the Building 258 SWMU RFI.

The following specific tasks may be ordered for this project:

Attend a preperformance meeting
Develop and submit a schedule for completion of the work
Conduct a technical review of the Building 258 SWMU RFI
Conduct an oral presentation of the report's conclusions
Provide a written report, either summarized or detailed (to be decided by the TRS at time of award of task)
Provide a written response to TRS comments.
Attend and present the report at a RAB meeting

1.3 Guidance, Compliance and Qualification Requirements

1.3.1 Technical Assistance for Public Participation. The contractor will be responsible for complying with the Technical Assistance for Public Participation in Defense Environmental Restoration Activities (32 Code of Federal Regulations Part 203).

1.3.2 Guidance and Compliance Documents. All assessments and recommendations shall comply with all federal, state, and local environmental laws and regulations including, but not limited to applicable portions of the statutes and regulations cited below. The contractor will be provided with the Building 258 SWMU RFI, however he is responsible for obtaining all public documents as needed based on the individual tasks issued against this agreement. Examples of the types of documents that may be required are listed.

a) Solid Waste Disposal Act (42 USC 6901, et seq.)
b) Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA) (42 USC 9601, et seq.)
c) National Oil & Hazardous Substances Contingency Plan (NCP) (40 CFR 3000)
d) Defense Environmental Restoration Program (DERP) (10 USC 2701, et seq. Emergency Planning and Community Right-To-Know Act
e) Texas Solid Waste Disposal Act (Texas Health & Safety Code Chapter 361)
f) Title 30 Texas Administrative Code Chapter 335
g) Solid Wastes Title 40 Code of Federal Regulation Subchapter I

2.0 PROGRAM MANAGEMENT

2.1 Background Data/Information Review

2.1.1 The Director of Environmental Management shall provide the contractor, if available, all pertinent and available background information concerning this task order. The contractor may be required to review/obtain additional background data information as required for the performance of the required services.

2.1.2 To accommodate the Air Force's remediation schedule the contractor and the Air Force will agree on a schedule or timeline for this task, based upon the hours agreed on between the contracting officer and the contractor at time of award of the task. The contractor shall be required to meet the required timeline. Any extension of time must be agreed to by the Director of Environmental Management, and RAB, and approved in writing by the Contracting Officer.

2.2 Meetings

2.2.1 Pre-Performance Conference - A pre-performance conference shall be held after the award of the order and prior to commencement of the work at a time, place and date specified by the Contracting Officer, as soon as the Building 258 SWMU RFI is received by the Air Force. Discussions at this meeting will include the development of a mutual understanding relative to issuing task orders, scheduling and administering the work.

2.2.2 Contractor is invited to attend RAB meetings, which are normally held quarterly.

3.0 PROJECT EXECUTION

3.1 Specific Requirements

3.1.1 Technical Review Report: This requires a review of the specific report and the applicable documents to be reviewed. The contractor is tasked with summarizing and evaluating the report with respect to current environmental actions by the Air Force, assessing the completeness of the reports and adequacy of proposed or current actions.

3.1.1.1 The written report will include a defense of the process for making the determinations and an evaluation of the levels of confidence in the recommendations. The report need not be lengthy --an executive summary format is desirable. It **must** be written in layman's terms, so the RAB will easily be able to communicate the findings to the community, if necessary.

3.1.1.2 All submittals must be double-sided, 100% post-consumer, recycled paper.

3.1.2 Technical Oral Presentation: This task order may involve presenting the findings to the members of the RAB at a regularly scheduled RAB meeting time. A firm date for this meeting will be scheduled at the time the order is placed. The RAB meetings are normally held on Wednesdays at 6:00pm, at different locations in San Antonio.

3.1.3 Response to Comments: Following the review of the written report and/or oral presentation, RAB members may have comments they wish addressed. The Contractor shall provide a written response to each question from the RAB, if so stated in this task order Comments received before the oral presentation may also be delivered verbally at the presentation.

3.2 Public Affairs

The contractor shall not make available to the news media, nor make public disclosure of any data resulting from this contract during the performance of this contract. During the performance of this contract the contractor shall refer all press or public contacts to the DoD co-chair. The documents produced and a transcription of the RAB presentation will be placed in the Administrative Record and Information Repository by the Air Force. After completion of all requirements the public disclosure restriction will be removed.

3.3 Litigation or Legal Activities

The contractor shall not make available his opinions, data, or reports produced as a result of this contract for the purpose of litigation and/or legal actions such as but not limited to assisting an attorney, preparing an expert witness, and/or serving as an expert witness at any legal proceeding regarding or affecting Kelly AFB.

4.0 Submittals/Deliverables

Each task order will specify the required deliverables, with the quantities and time frame specified. Each written submittal will include a cover letter stating the deliverable being provided and will include the Blanket Purchase Agreement number and the Task order number. The contractor shall provide a copy of the cover letter to the contracting officer. Copies of reports do not need to be provided to the contracting officer unless specified in the Task order. The details of the specific deliverables will be identified with the award of the project.

5.0 Contract Surveillance

5.1 Quality of Work: The contractor is solely responsible for the quality of the work. The Inspection of Services Clause applies to this order.

5.2 Inspection/Oversight Responsibilities and Acceptance

5.2.1 The Vice-Commander of Kelly AFB is the DoD Co-Chair of the RAB. The Contracting Officer (C.O.) will designate a C.O. Representative (COR) who will act as liaison between the Contractor and the RAB. The Contracting Officer will be notified of any conflicts and will resolve any problems that cannot be mutually resolved between the Contractor, DoD Co-Chair, and the RAB Community Co-Chair, or designated representatives. A meeting of all parties, at no additional cost to the government, may be called by the contracting officer to discuss and propose solutions to resolve discrepancies.

5.2.2 The Contractor is advised that only the Contracting Officer can obligate the government or direct the contractor. The COR and the RAB members DO NOT have this authority. The contractor SHALL NOT EXCEED the total amount of any order awarded without prior written approval of the contracting officer. All written correspondence between the contractor and the RAB must be through the COR. The contractor will not receive verbal direction from anyone other than the COR.

5.2.3 The COR, with the RAB's concurrence, shall certify acceptance at completion of the task.

6.0 Points Of Contact

A list of Points of Contact will be available with the award of this task order.

STATEMENT OF OBJECTIVES (SOO)
REVIEW: Physical and Chemical Characteristics of the Shallow Groundwater Zone and Sources of Groundwater Contamination in the Vicinity of Kelly Air Force Base, Texas, Volume I and II, dated February 2000.

1.0 GENERAL

Scope: This task is to review the Physical and Chemical Characteristics of the Shallow Groundwater Zone and Sources of Groundwater Contamination in the Vicinity of Kelly Air Force Base, Texas, Volume I and II (Characteristics of Shallow Groundwater and Contaminant Sources) including a layperson's explanation of the report.

1.1 Background. The objectives of the Characteristics of Shallow Groundwater and Contaminant Sources report are to describe the physical and chemical characteristics of the shallow groundwater zone around Kelly AFB and differentiate two chlorinated volatile organic compound (CVOC) plumes found off base from the CVOC plumes that originate on Kelly AFB. The purpose of this report is to show that Kelly AFB is not the source of either the tetrachloroethene (PCE) plume found north of the base or the 1,1 dichloroethene (1,1 DCE) plume found north of East Kelly. This report was prepared in response to a request for more information from the Texas Natural Resource Conservation Commission (TNRCC) regarding the sources for shallow groundwater contamination in the Kelly AFB area.

1.2 Objectives. The contractor shall furnish all professional non-personal service labor, management, supervision, tools, materials, equipment, transportation, mailings, and reproductions, unless specified herein, for the assigned tasks issued against this Blanket Purchase Agreement. The contractor will provide technical assistance to the RAB by interpreting and translating the data in the Characteristics of Shallow Groundwater and Contaminant Sources report.

The following specific tasks may be ordered for this project:

Attend a preperformance meeting
Develop and submit a schedule for completion of the work
Conduct a technical review of the Characteristics of Shallow Groundwater and Contaminant Sources report
Conduct an oral presentation of the report's conclusions
Provide a written report, either summarized or detailed (to be decided by the TRS at time of award of task)
Provide a written response to TRS comments.
Attend and present the report at a RAB meeting

1.3 Guidance, Compliance and Qualification Requirements

1.3.1 Technical Assistance for Public Participation. The contractor will be responsible for complying with the Technical Assistance for Public Participation in Defense Environmental Restoration Activities (32 Code of Federal Regulations Part 203).

1.3.2 Guidance and Compliance Documents. All assessments and recommendations shall comply with all federal, state, and local environmental laws and regulations including, but not limited to applicable portions of the statutes and regulations cited below. The contractor will be provided with the Characteristics of Shallow Groundwater and Contaminant Sources report, however he is responsible for obtaining all public documents as needed based on the individual tasks issued against this agreement. Examples of the types of documents that may be required are listed.

a) Solid Waste Disposal Act (42 USC 6901, et seq.)
b) Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA) (42 USC 9601, et seq.)
c) National Oil & Hazardous Substances Contingency Plan (NCP) (40 CFR 3000)
d) Defense Environmental Restoration Program (DERP) (10 USC 2701, et seq. Emergency Planning and Community Right-To-Know Act
e) Texas Solid Waste Disposal Act (Texas Health & Safety Code Chapter 361)
f) Title 30 Texas Administrative Code Chapter 335
g) Solid Wastes Title 40 Code of Federal Regulation Subchapter I

2.0 PROGRAM MANAGEMENT

2.1 Background Data/Information Review

2.1.1 The Director of Environmental Management shall provide the contractor, if available, all pertinent and available background information concerning this task order. The contractor may be required to review/obtain additional background data information as required for the performance of the required services.

2.1.2 To accommodate the Air Force's remediation schedule the contractor and the Air Force will agree on a schedule or timeline for this task, based upon the hours agreed on between the contracting officer and the contractor at time of award of the task. The contractor shall be required to meet the required timeline. Any extension of time must be agreed to by the Director of Environmental Management, and RAB, and approved in writing by the Contracting Officer.

2.2 Meetings

2.2.1 Pre-Performance Conference - A pre-performance conference shall be held after the award of the order and prior to commencement of the work at a time, place and date specified by the Contracting Officer, as soon as the Characteristics of Shallow Groundwater and Contaminant Sources report is received by the Air Force. Discussions at this meeting will include the development of a mutual understanding relative to issuing task orders, scheduling and administering the work.

2.2.2 Contractor is invited to attend RAB meetings, which are normally held quarterly.

3.0 PROJECT EXECUTION

3.1 Specific Requirements

3.1.1 Technical Review Report: This requires a review of the specific report and the applicable documents to be reviewed. The contractor is tasked with summarizing and evaluating the report with respect to current environmental actions by the Air Force, assessing the completeness of the reports and adequacy of conclusions.

3.1.1.1 The written report will include a defense of the process for making the determinations and an evaluation of the levels of confidence in the conclusions. The report need not be lengthy --an executive summary format is desirable. It **must** be written in layman's terms, so the RAB will easily be able to communicate the findings to the community, if necessary.

3.1.1.2 All submittals must be double-sided, 100% post-consumer, recycled paper.

3.1.2 Technical Oral Presentation: This task order may involve presenting the findings to the members of the RAB at a regularly scheduled RAB meeting time. A firm date for this meeting will be scheduled at the time the order is placed. The RAB meetings are normally held on Wednesdays at 6:00pm, at different locations in San Antonio.

3.1.3 Response to Comments: Following the review of the written report and/or oral presentation, RAB members may have comments they wish addressed. The Contractor shall provide a written response to each question from the RAB, if so stated in this task order Comments received before the oral presentation may also be delivered verbally at the presentation.

3.2 Public Affairs

The contractor shall not make available to the news media, nor make public disclosure of any data resulting from this contract during the performance of this contract. During the performance of this contract the contractor shall refer all press or public contacts to the DoD co-chair. The documents produced and a transcription of the RAB presentation will be placed in the Administrative Record and Information Repository by the Air Force. After completion of all requirements the public disclosure restriction will be removed.

3.3 Litigation or Legal Activities

The contractor shall not make available his opinions, data, or reports produced as a result of this contract for the purpose of litigation and/or legal actions such as but not limited to assisting an attorney, preparing an expert witness, and/or serving as an expert witness at any legal proceeding regarding or affecting Kelly AFB.

4.0 Submittals/Deliverables

Each task order will specify the required deliverables, with the quantities and time frame specified. Each written submittal will include a cover letter stating the deliverable being provided and will include the Blanket Purchase Agreement number and the Task order number. The contractor shall provide a copy of the cover letter to the contracting officer. Copies of reports do not need to be provided to the contracting officer unless specified in the Task order. The details of the specific deliverables will be identified with the award of the project.

5.0 Contract Surveillance

5.1 Quality of Work: The contractor is solely responsible for the quality of the work. The Inspection of Services Clause applies to this order.

5.2 Inspection/Oversight Responsibilities and Acceptance

5.2.1 The Vice-Commander of Kelly AFB is the DoD Co-Chair of the RAB. The Contracting Officer (C.O.) will designate a C.O. Representative (COR) who will act as liaison between the Contractor and the RAB. The Contracting Officer will be notified of any conflicts and will resolve any problems that cannot be mutually resolved between the Contractor, DoD Co-Chair, and the RAB Community Co-Chair, or designated representatives. A meeting of all parties, at no additional cost to the government, may be called by the contracting officer to discuss and propose solutions to resolve discrepancies.

5.2.2 The Contractor is advised that only the Contracting Officer can obligate the government or direct the contractor. The COR and the RAB members DO NOT have this authority. The contractor SHALL NOT EXCEED the total amount of any order awarded without prior written approval of the contracting officer. All written correspondence between the contractor and the RAB must be through the COR. The contractor will not receive verbal direction from anyone other than the COR.

5.2.3 The COR, with the RAB's concurrence, shall certify acceptance at completion of the task.

6.0 Points Of Contact

A list of Points of Contact will be available with the award of this task order.

STATEMENT OF OBJECTIVES (SOO)
REVIEW: Corrective Measures Implementation Work Plan For Site S-8, Kelly Air Force Base, Final Draft Addendum, dated September 1999.

1.0 GENERAL

Scope: This task is to review the Corrective Measures Implementation Work Plan For Site S-8, Kelly Air Force Base, Final Draft Addendum (Site S-8 CMI Work Plan), including a layperson's explanation of the report.

1.1 Background. The objectives of the Site S-8 CMI Work Plan is to describe the final groundwater corrective measures for Site S-8, including the design, construction, operation, maintenance, and performance monitoring of the system. The soil clean-up plan for Site S-8 is described in the Final Closure Plan for RCRA Site S-8, December 1998.

1.2 Objectives. The contractor shall furnish all professional non-personal service labor, management, supervision, tools, materials, equipment, transportation, mailings, and reproductions, unless specified herein, for the assigned tasks issued against this Blanket Purchase Agreement. The contractor will provide technical assistance to the RAB by interpreting and translating the data in the Site S-8 CMI Work Plan.

The following specific tasks may be ordered for this project:

Attend a preperformance meeting
Develop and submit a schedule for completion of the work
Conduct a technical review of the Site S-8 CMI Work Plan
Conduct an oral presentation of the report's conclusions
Provide a written report, either summarized or detailed (to be decided by the TRS at time of award of task)
Provide a written response to TRS comments.
Attend and present the report at a RAB meeting

1.3 Guidance, Compliance and Qualification Requirements

1.3.1 Technical Assistance for Public Participation. The contractor will be responsible for complying with the Technical Assistance for Public Participation in Defense Environmental Restoration Activities (32 Code of Federal Regulations Part 203).

1.3.2 Guidance and Compliance Documents. All assessments and recommendations shall comply with all federal, state, and local environmental laws and regulations including, but not limited to applicable portions of the statutes and regulations cited below. The contractor will be

provided with the Site S-8 CMI Work Plan, however he is responsible for obtaining all public documents as needed based on the individual tasks issued against this agreement. Examples of the types of documents that may be required are listed.

a) Solid Waste Disposal Act (42 USC 6901, et seq.)
b) Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA) (42 USC 9601, et seq.)
c) National Oil & Hazardous Substances Contingency Plan (NCP) (40 CFR 3000)
d) Defense Environmental Restoration Program (DERP) (10 USC 2701, et seq. Emergency Planning and Community Right-To-Know Act
e) Texas Solid Waste Disposal Act (Texas Health & Safety Code Chapter 361)
f) Title 30 Texas Administrative Code Chapter 335
g) Solid Wastes Title 40 Code of Federal Regulation Subchapter I

2.0 PROGRAM MANAGEMENT

2.1 Background Data/Information Review

2.1.1 The Director of Environmental Management shall provide the contractor, if available, all pertinent and available background information concerning this task order. The contractor may be required to review/obtain additional background data information as required for the performance of the required services.

2.1.2 To accommodate the Air Force's remediation schedule the contractor and the Air Force will agree on a schedule or timeline for this task, based upon the hours agreed on between the contracting officer and the contractor at time of award of the task. The contractor shall be required to meet the required timeline. Any extension of time must be agreed to by the Director of Environmental Management, and RAB, and approved in writing by the Contracting Officer.

2.2 Meetings

2.2.1 Pre-Performance Conference - A pre-performance conference shall be held after the award of the order and prior to commencement of the work at a time, place and date specified by the Contracting Officer, as soon as the Site S-8 CMI Work Plan report is received by the Air Force. Discussions at this meeting will include the development of a mutual understanding relative to issuing task orders, scheduling and administering the work.

2.2.2 Contractor is invited to attend RAB meetings, which are normally held quarterly.

3.0 PROJECT EXECUTION

3.1 Specific Requirements

3.1.1 Technical Review Report: This requires a review of the specific report and the applicable documents to be reviewed. The contractor is tasked with summarizing and evaluating the report with respect to current environmental actions by the Air Force, assessing the completeness of the reports and adequacy of proposed or current actions.

3.1.1.1 The written report will include a defense of the process for making the determinations and an evaluation of the levels of confidence in the recommendations. The report need not be lengthy --an executive summary format is desirable. It **must** be written in layman's terms, so the RAB will easily be able to communicate the findings to the community, if necessary.

3.1.1.2 All submittals must be double-sided, 100% post-consumer, recycled paper.

3.1.2 Technical Oral Presentation: This task order may involve presenting the findings to the members of the RAB at a regularly scheduled RAB meeting time. A firm date for this meeting will be scheduled at the time the order is placed. The RAB meetings are normally held on Wednesdays at 6:00pm, at different locations in San Antonio.

3.1.3 Response to Comments: Following the review of the written report and/or oral presentation, RAB members may have comments they wish addressed. The Contractor shall provide a written response to each question from the RAB, if so stated in this task order Comments received before the oral presentation may also be delivered verbally at the presentation.

3.2 Public Affairs

The contractor shall not make available to the news media, nor make public disclosure of any data resulting from this contract during the performance of this contract. During the performance of this contract the contractor shall refer all press or public contacts to the DoD co-chair. The documents produced and a transcription of the RAB presentation will be placed in the Administrative Record and Information Repository by the Air Force. After completion of all requirements the public disclosure restriction will be removed.

3.3 Litigation or Legal Activities

The contractor shall not make available his opinions, data, or reports produced as a result of this contract for the purpose of litigation and/or legal actions such as but not limited to assisting an attorney, preparing an expert witness, and/or serving as an expert witness at any legal proceeding regarding or affecting Kelly AFB.

4.0 Submittals/Deliverables

Each task order will specify the required deliverables, with the quantities and time frame specified. Each written submittal will include a cover letter stating the deliverable being provided and will include the Blanket Purchase Agreement number and the Task order number. The contractor shall provide a copy of the cover letter to the contracting officer. Copies of reports do not need to be provided to the contracting officer unless specified in the Task order. The details of the specific deliverables will be identified with the award of the project.

5.0 Contract Surveillance

5.1 Quality of Work: The contractor is solely responsible for the quality of the work. The Inspection of Services Clause applies to this order.

5.2 Inspection/Oversight Responsibilities and Acceptance

5.2.1 The Vice-Commander of Kelly AFB is the DoD Co-Chair of the RAB. The Contracting Officer (C.O.) will designate a C.O. Representative (COR) who will act as liaison between the Contractor and the RAB. The Contracting Officer will be notified of any conflicts and will resolve any problems that cannot be mutually resolved between the Contractor, DoD Co-Chair, and the RAB Community Co-Chair, or designated representatives. A meeting of all parties, at no additional cost to the government, may be called by the contracting officer to discuss and propose solutions to resolve discrepancies.

5.2.2 The Contractor is advised that only the Contracting Officer can obligate the government or direct the contractor. The COR and the RAB members DO NOT have this authority. The contractor SHALL NOT EXCEED the total amount of any order awarded without prior written approval of the contracting officer. All written correspondence between the contractor and the RAB must be through the COR. The contractor will not receive verbal direction from anyone other than the COR.

5.2.3 The COR, with the RAB's concurrence, shall certify acceptance at completion of the task.

6.0 Points Of Contact

A list of Points of Contact will be available with the award of this task order.

CH2MHILL

Soil Vapor Monitoring

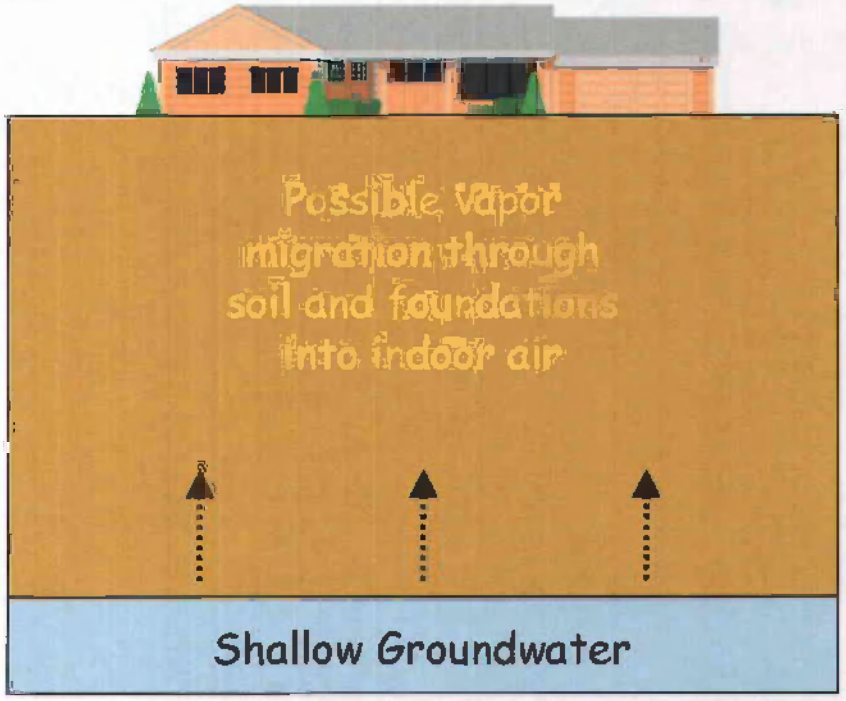
Presented to

Kelly Air Force Base
Restoration Advisory Board
Technical Review Subcommittee

May 9, 2000

Background

- Purpose: evaluate groundwater-to-indoor-air pathway
  - Volatile organic compounds
  - Is it complete?
  - Is it significant?
- Provide data to ATSDR for health assessment



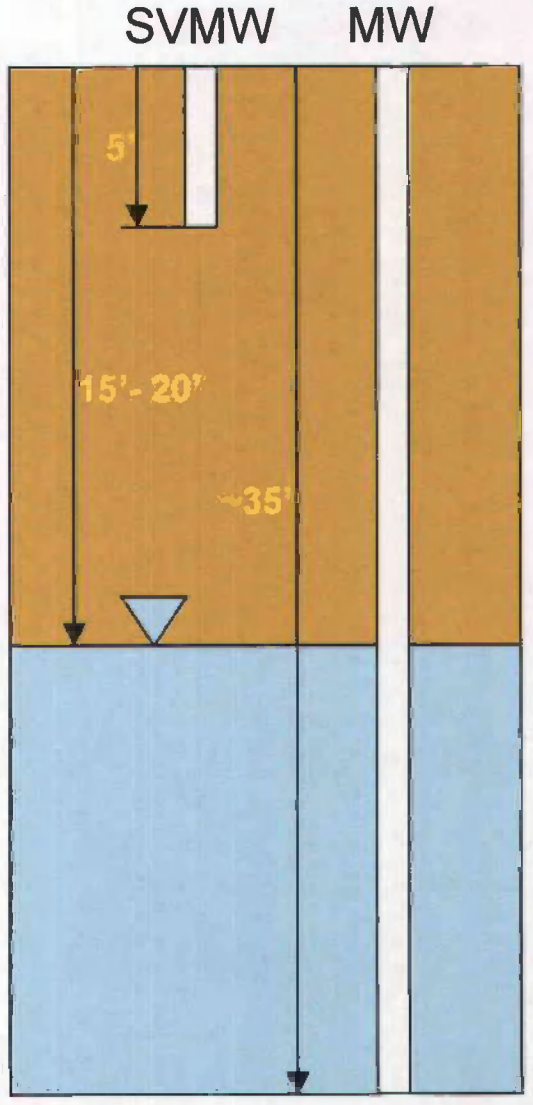
CH2MHILL

Location Selection Process

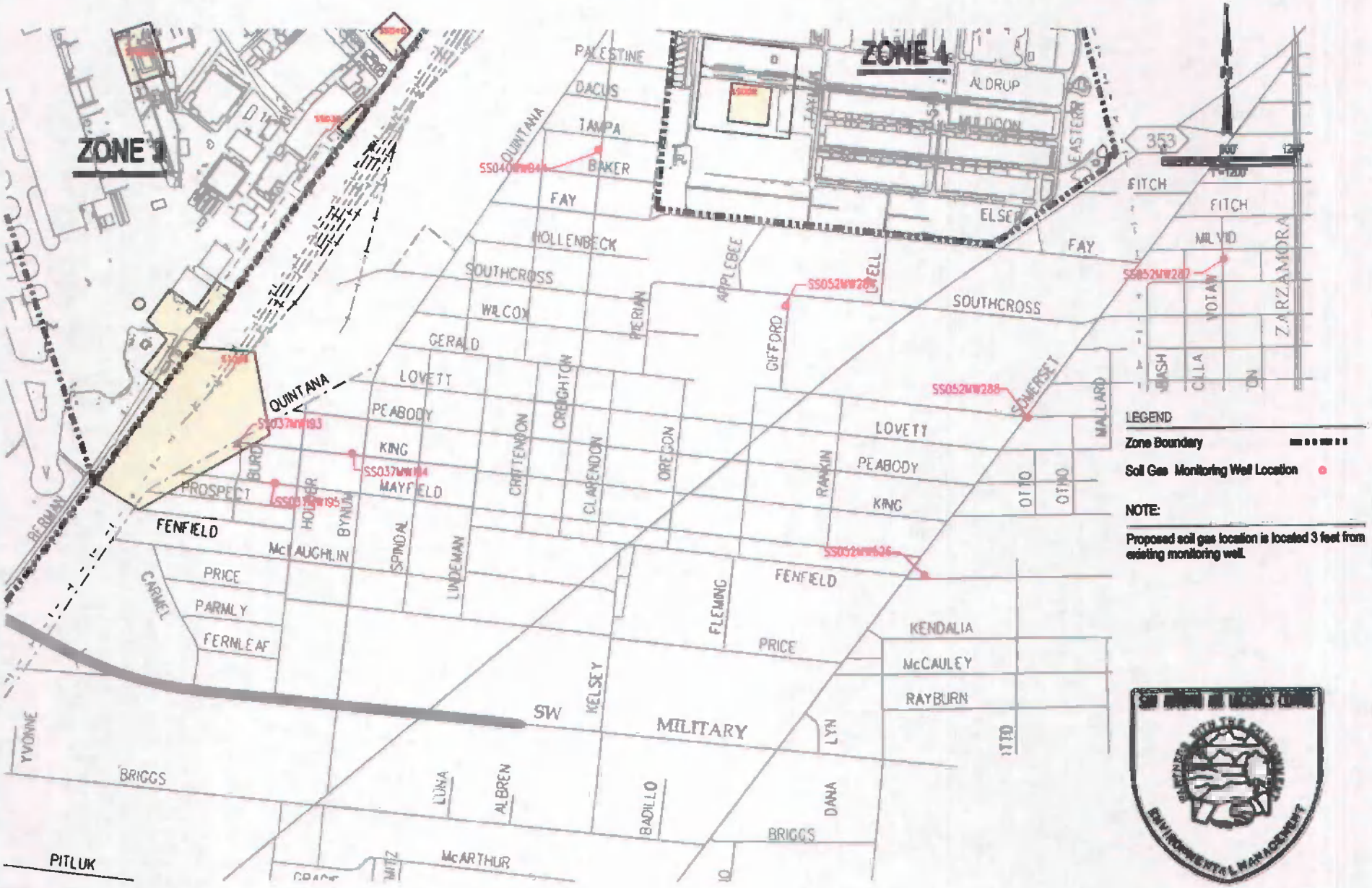
- Site screening used EPA's preferred model
  - Johnson & Ettinger model
  - Conservative estimate of indoor air concentrations
    - *Chemical concentrations in groundwater*
    - *Soil criteria (soil type, density, porosity, etc)*
    - *developed action levels for shallow soils that are protective of indoor air*
    - *based on slab-on-grade construction*
- Sites selected
  - highest potential vapor intrusion
  - presence of vinyl chloride in groundwater
  - range of concentrations in groundwater
  - included "clean" location (MW287) as control

Soil Vapor Well Installation

- Installed next to existing monitoring wells
- 8 soil vapor wells installed
- 5 feet deep



CH2MHILL



Soil Vapor Monitoring Wells

SAN\KELLY\99COM\99C2FIELD2.DGN
08-MAR-2000

Laboratory Results

- 15 Compounds detected in soil gas

Chlorinated solvents

- Cis 1,2 DCE
- 1,1,1 TCA
- 1,2 DCA
- PCE
- TCE

Gasoline components

- benzene
- toluene
- ethyl benzene
- xylenes

Trace compounds*

- Freon 113
- styrene
- HCBD
- methylene chloride
- 1,2,4 trichloro benzene

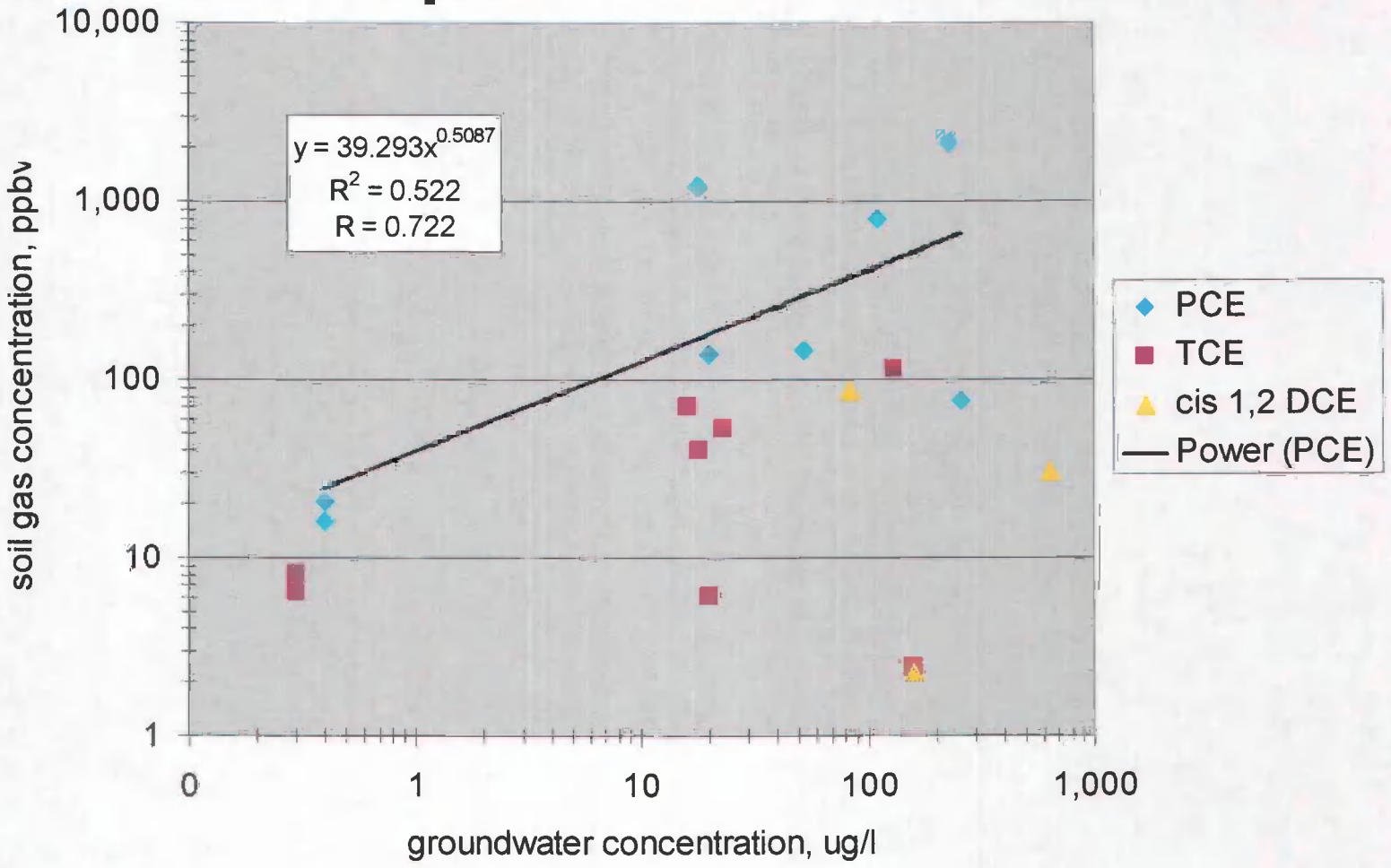
*trace compounds were detected near the instrument limits and therefore have a high degree of uncertainty

CH2MHILL

Gasoline Compounds in GW
(1999 Basewide data)

- Ethyl benzene and toluene
  - not detected at these locations
- Benzene
  - detected in one well at 0.1 J µg/l
- Xylenes
  - detected in three wells at 0.2 J - 0.3 J µg/l
- Conclusion
  - few detects in soil gas most likely from local spill or ambient air

Comparison of Chlorinated Solvents in Soil Vapor to Groundwater



CH2MHILL

Chlorinated Solvents in GW
(1999 Basewide groundwater data)

- PCE, TCE and cis-1,2 DCE
  - detected in all wells next to soil vapor probes
  - PCE from 0.4J to 260 µg/l
  - TCE from 0.1J to 160 µg/l
  - cis-1,2 DCE from 4 to 630 µg/l
  - primary groundwater chemicals of concern
  - concentration in soil gas most likely the result of volatilization from groundwater
- Vinyl chloride not detected in soil gas

CH2MHILL

Comparison to Action Levels

Compound	Action Level (ppbv)	Range of Detected Concentrations (ppbv)
PCE	90,000	76 – 2,100
TCE	32,000	2.4 – 69.9
Cis 1,2 DCE	773,000	2.3 – 86.7
Vinyl chloride	1,000	Not detected

CH2MHILL

ATSDR Contact

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

- Lt. Kimberly K. Chapman, MSEH
  Environmental Health Scientist
  Agency for Toxic Substances and Disease Registry

  Phone: (404)639-0604

Relative Risk Evaluation Table

Site Name	Site ID	Category Rating						Overall Relative Risk	Site Closed or Awaiting Closure
		Groundwater	Surface Water (Human)	Surface Water (Ecological)	Soil	Sediment (Human)	Sediment (Ecological)		
Spill Site S-1	SS003	High	NE	NE	High	NE	NE	**High**	
Site S-4	ST006	High	NE	NE	High	NE	NE	**High**	
D-1 Landfill	LF011	High	High	High	High	NE	NE	**High**	
D-3 Landfill	LF013	Medium	Medium	High	Medium	NE	NE	**High**	
D-5 Landfill	LF015	Medium	High	High	High	NE	NE	**High**	
D-6 Landfill	LF016	High	NE	NE	High	NE	NE	**High**	
D-7 Landfill	LF017	High	NE	NE	High	NE	NE	**High**	
D-10 Landfill	LF019	NE	High	High	Medium	NE	NE	**High**	
Evaporation Pit E-3	WP022	High	NE	NE	High	NE	NE	**High**	
Sludge Drying Lagoon (SA-8)	SS030	High	High	High	NE	NE	NE	**High**	
Sludge Spreading Area (SA-4)	SS032	Medium	NE	NE	High	NE	NE	**High**	
GW Contamination Zone – Leon Creek	SS035	High	High	High	NE	NE	NE	**High**	
GW Contamination Zone –2	SS036	High	High	High	NE	NE	NE	**High**	
Zone 3 Groundwater	SS037	High	NE	NE	NE	NE	NE	**High**	
Metal Plating Shops (OT-2)	SS040	High	NE	NE	High	NE	NE	**High**	
Combined Site 2	SS042	High	High	High	High	NE	NE	**High**	
Combined Site (CS-3) Ravine	SS043	High	High	High	Low	NE	NE	**High**	

NE = Not Evaluated

Site Name	Site ID	Category Rating						Overall Relative Risk	Site Closed or Awaiting Closure
		Groundwater	Surface Water (Human)	Surface Water (Ecological)	Soil	Sediment (Human)	Sediment (Ecological)		
Zone 3, IWCS	SS044	High	NE	NE	High	NE	NE	**High**	
Groundwater Zone 5	SS050	High	NE	NE	NE	NE	NE	**High**	
Zone 4 Groundwater	SS052	High	NE	NE	NE	NE	NE	**High**	
Security Hill Area	LF001	Medium	Low	Low	Medium	NE	NE	**Medium**	
Site S-3	SS005	Medium	Low	Low	Medium	NE	NE	**Medium**	
D-2 Landfill	LF012	Medium	Low	Low	Medium	NE	NE	**Medium**	
D-4 Landfill	LF014	Medium	Low	Low	Medium	NE	NE	**Medium**	
S-10 Spill Site	SS045	Medium	NE	NE	Low	NE	NE	**Medium**	
IWCS Site	SS051	Medium	Low	Low	Medium	Low	Low	**Medium**	
RD-1 RAD Disposal Area	RW026	Low	Low	NE	Low	NE	NE	**Low**	
SA-1 Sludge Spreading Area	WP029	NE	NE	NE	Low	NE	NE	**Low**	
Former IWTP	SS002								♦
S-2 Storage Yard	SS004								♦
S-5 UST/Spill Site	ST007								♦
S-6 UST/Spill Site	ST008								♦
S-7 UST/Spill Site	ST009								♦
S-9 Fuel Site	ST010								♦
D-8 Landfill	LF018								♦
E-2 Evaporation Pit	WP020								♦

NE = Not Evaluated

Site Name	Site ID	Category Rating						Overall Relative Risk	Site Closed or Awaiting Closure
		Groundwater	Surface Water (Human)	Surface Water (Ecological)	Soil	Sediment (Human)	Sediment (Ecological)		
E-1 Evaporation Pit	WP021								◆
FC-1 Fire Training Area	FT023								◆
FC-2 Fire Training Area	FT024								◆
IS-1 Spill Site	SS025								◆
RD-2 Radioactive Disposal Area	RW027								◆
S4-A Hazwaste Storage	SS028								◆
SA-4 Sludge Spreading Area	SS031								◆
SD-1 Sludge Drying Beds	WP033								◆
SD-2 Sludge Drying Beds	WP034								◆
OT-1 Liquid Waste Incinerator	SS039								◆
B-1 Salvage Lumber Burn Area	SS041								◆
Bldg. 182 UST Site	ST046								◆
Bldg. 386 UST Site	ST047								◆
Bldg. 308 UST Site	ST048								◆
Bldg. 38 UST Site	ST049								◆

NE = Not Evaluated

Executive Summaries or Conclusions from reports given to the TRS library at St. Mary's on 9 May 00.

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

FINAL

CLOSURE REPORT
FUEL SPILL AREA, SITE S-4 SOILS
ZONE 3 SOLID WASTE MANAGEMENT UNIT

SAN ANTONIO AIR LOGISTICS CENTER
PARTNERS WITH THE ENVIRONMENT
ENVIRONMENTAL MANAGEMENT

Prepared by IT/OHM

February 2000

5.0 CONCLUSIONS AND ATTAINMENT OF RRS 2

In accordance with the TNRCC Risk Reduction Standards, the following requirements have been fulfilled:

1. Removal of potential sources of contamination.
2. Removal of operating system components, i.e., USTs and associated piping.
3. Removal of the impacted media to the extent feasible/practical.
4. Attainment of cleanup levels demonstrated by appropriate sampling using EPA's SW 846 methods.
5. Proper documentation that fulfills the deed certification/recordation requirements including a metes and bounds description of the site.

Resampling results for VOC and SVOC constituents analyzed in soils offsetting borings IL18 and ILT17, respectively, indicate that past closure and corrective actions taken at Site S-4 have resulted in reduction of organic concentrations below RRS 2 cleanup criteria. SPLP analyses of inorganic constituents show that the concentrations of inorganics in the soil do not leach at levels above RRS 2 closure criteria. SPLP analyses of samples collected from the areas with the highest concentrations of inorganic analytes yielded results less than RRS 2 MSCs for groundwater except for one detection of lead slightly exceeding the RRS 2 MSC for groundwater. The metals concentrations seen are randomly distributed and appear to represent variations in naturally occurring background levels. Therefore, low concentrations of inorganics above background are left in place because removal or corrective actions to mitigate the same are considered impractical and not feasible. A majority of the site is covered by asphalt or concrete, thereby minimizing the potential exposure of workers to these inorganics and further reducing the possibility for leaching of these constituents into the groundwater. The current and future land use of this site is industrial.

The closure of Site S-4 vadose zone soils is considered to be protective of human health and the environment and meets the performance standards for closure under Risk Reduction Standard 2 (30 TAC §335.555).

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

DRAFT FINAL

IWCS Closure Plan

Prepared for: **U.S. Army Corps of Engineers**
Tulsa District and
Kelly Air Force Base
San Antonio, Texas
DACA56-97-D-0010

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

April 2000
151749.CP.BW

E022000010GNV

Executive Summary

This report documents the proposed activities for closing the Industrial Wastewater Collection System (IWCS) at Kelly Air Force Base (AFB). The IWCS conveys industrial discharges to the Environmental Process Control Facility (EPCF), and is classified as Resource Conservation and Recovery Act (RCRA) solid waste management unit (SWMU) No. 246 and Air Force Installation Restoration Program (IRP) sites SS044 and SS051 for Zones 3 and 4, respectively.

The Closure Plan has been prepared to address the requirements for closure in accordance with the Texas Natural Resource Conservation Commission (TNRCC) regulatory requirements for closure and remediation of industrial solid waste sites. Specifically, this Closure Plan pursues closure of the IWCS in accordance with Risk Reduction Standard (RRS) No. 3 of Title 30 of the Texas Administrative Code (TAC), Chapter 335, Subchapter S. The submission of this Closure Plan prior to May 1, 2000, serves as Kelly AFB's intent to close under the existing RRSs, rather than under TNRCC's newly promulgated Risk Reduction Program rules.

In pursuit of an RRS No. 3 closure and in accordance with 30 TAC 335.553(b), this Closure Plan summarizes the remedial investigation field efforts conducted either solely for or in the vicinity of the IWCS, presents the baseline human health risk assessment for the media and receptors of concern, and documents the corrective measures study for abandonment of the IWCS. However, because regulatory closure of the Zone 4 segment of the IWCS will be conducted as part of the closure of Zone 4 Operable Unit #1 for soil and groundwater on East Kelly, no discussion or presentation of data, information, or evaluation is presented for Zone 4 in this Closure Plan. Rather, this Closure Plan specifically addresses Zone 3, and only regulatory-required information relevant to Zone 3 is presented. In an effort to achieve a consistent approach to physical abandonment of the IWCS, however, and to ensure the protection of human health, the analytical data summaries and evaluation of risk along the IWCS in Zones 2 and 5 are included in this Zone 3 Closure Plan.

The overall approach for closure of the IWCS is to physically abandon the IWCS in place and to document that the subsurface soils associated with the IWCS pose no unacceptable risk to human health, while ensuring the containment and treatment of contaminated groundwater through the ongoing groundwater remediation efforts under TNRCC Compliance Plan No. CP-50310.

An RRS evaluation was performed on all available data in the vicinity of the IWCS in Zones 2, 3, and 5. The evaluation indicated exceedances of RRS No. 2 industrial soil-to-groundwater cross-media (GWP-Ind) criteria at several stations. A limited subset of synthetic precipitation leaching procedure (SPLP) data, however, indicated that the majority of constituents and concentrations detected passed the RRS No. 2 SPLP evaluation (that is, the leachate concentrations did not exceed the RRS No. 2 groundwater criteria). Nonetheless, site-specific GWP-Ind criteria were developed for comparison with site data. Eight stations have been identified as exceeding the site-specific (RRS No. 3) GWP-Ind criteria. However, the contaminant exceedances at all eight stations are 1) located

upgradient of existing groundwater recovery systems, 2) present at concentrations not expected to readily leach to groundwater, or 3) being addressed as part of other zone-specific IRP projects.

On the basis of the current understanding of future land use conditions along the IWCS, a baseline human health risk assessment was conducted to evaluate potential health risks to current and future trench workers exposed to the contaminants of potential concern. The risk assessment indicated no exceedances of RRS No. 3 target risk levels for current and future trench workers for industrial exposure to the subsurface soils.

The proposed in-place closure alternative, therefore, involves severing the IWCS permanently from service through a methodical abandonment and plugging process. On the basis of the data evaluation and baseline human health risk assessment, with the exception of minimal excavation identified as required to completely sever certain IWCS connections, the only active soil removal proposed is at a single, potential tetrachloroethylene (PCE) source location (near Building 361).

Because the baseline risk assessment indicates that the subsurface soils surrounding the IWCS do not pose unacceptable risk to human health, and existing groundwater recovery systems are in place to contain and treat contaminated groundwater, post-closure care of the closed IWCS specifically is not addressed in this Closure Plan. Inspection and maintenance of the corrective action and groundwater monitoring systems are considered integral components of Kelly AFB's compliance with TNRCC Compliance Plan No. CP-50310. Care of these systems, therefore, will be implemented as part of the ongoing groundwater remediation efforts.

Final IWCS
Abandonment/Closure Plan
Soil Sampling Report

Contract No. DACA56-97-D-0010

Prepared for

U.S. Army Corps of Engineers
Tulsa District, and
Kelly Air Force Base
San Antonio, Texas

Prepared by

CH2M HILL
Montgomery, Alabama

March 2000
151749.SS.SR

4. Conclusions and Recommendations

On the basis of the results of the most recent soil sampling effort, it is recommended that Kelly AFB continue to pursue an RRS No. 3 closure of the IWCS soils, as outlined in the *Final Evaluation and Closure Strategy* (CH2M HILL, January 1999). Specifically, the data indicate that at those locations identified as having the highest potential to be a continuing source of groundwater contamination (originating from an IWCS release), no evidence of a continuing source was found. In addition, only one constituent (tetrachloroethene) was found to exceed the RRS No. 2 GWP standards in only 1 of the 50 samples collected. It remains a sound strategy that the existing groundwater recovery systems, as well as the presence of a concrete cover in the area of the exceedance and deed restrictions to be implemented as part of closure, will serve as the necessary controls to achieve an RRS No. 3 closure of the IWCS.

This data set will be merged with the existing IWCS soil data for the preparation of a baseline risk assessment. The baseline risk assessment will be included in the IWCS Closure Plan and will be used to further support the proposed closure activities.

EXECUTIVE SUMMARY

Roy F. Weston, Inc. (WESTON®) was contracted by Kelly Air Force Base to construct a slurry wall around the dense non-aqueous phase liquid (DNAPL) source at Site MP, also referred to as Building 258 solid waste management unit (SWMU), located at Kelly Air Force Base (AFB) in San Antonio, Texas. The site consisted of soils and groundwater contaminated by releases of solvents and other wastes from former Building 258, which housed metal plating and degreasing operations from the 1940s until the 1970s. Leakage from the industrial waste collection system (IWCS) was also a suspected source.

Previous evaluations of remedial alternatives were performed at the site, including Phase I of the Interim/Stabilization Measures (ISM) Work Plan dated September 1998. Based on the results of these evaluations, a soil-bentonite continuous slurry wall to contain the DNAPL was selected as the preferred remedy, as discussed in Phase II of the ISM Work Plan, dated January 1999.

The following remedial action was carried out by WESTON at Site MP, Kelly AFB, under DO 0010:

- Construction and installation of a continuous soil-bentonite slurry wall approximately 1,088 linear feet in length.

The soil-bentonite slurry wall was constructed using two methods: conventional and jet grouting. As discussed in the ISM Work Plan, the conventional method used a large backhoe. Due to the high density of underground utilities located during the pretrenching activities, an in situ method (jet grouting) was selected to complete the slurry wall construction in these specific areas. Jet grouting was also used at the corners of the slurry wall due to difficulties associated with excavating a continuous trench in the corners.

The purpose of this document is to present the results of the activities associated with construction of the soil-bentonite slurry wall. The purpose of this wall is to contain the contaminant source in soil and groundwater at the site and to assist in the reduction of contaminant concentrations in the shallow groundwater downgradient of this site.

Closure Report, Building 3096

Prepared for

Kelly Air Force Base
San Antonio, Texas

Prepared by

CH2M HILL

April 2000
146419.A0.01
Revision 1

SECTION 7.0

Summary and Conclusions

The major data summary conclusions for the Building 3096 closure are as follows:

- The wipe samples showed no exceedances for the criteria specified in the Closure Plan. Therefore, washing of the building surfaces was not required.
- The soil and concrete samples showed closure criteria exceedances of two VOCs in two soil samples below the concrete, barium in three concrete samples, and a few PAHs in one concrete sample. The VOC exceedances do not exceed the current risk-based concentrations published by the TNRCC and EPA Region III. The SVOC detections probably are from the joint compound collected in the concrete sample. The barium exceedances are based on a comparison of a concrete sample to soil background concentrations. The barium detections marginally exceed the background concentration and are within the range of barium found naturally at Kelly AFB.

The closure of Building 3096 appears to be complete.

REPORTS FOR ST MARY'S

	REPORTS LISTED BELOW WERE TAKEN TO THE ST. MARY'S LIBRARY - BCT On 8 MAY 2000	Date	Status	ADM
370A	Fuel Spill Area, Site S-4 Soils, Zone 3, Solid Waste Management Unit	Feb-00	Final	Inf
372A	Industrial Wastewater Collection System (IWCS) Closure Plan	Apr 00	Final Draft	Inf
375A	IWCS Abandonment Closure Plan Targeted Soil Sampling Report	Mar 00	Final	Inf
376A	Interim/Stabilization Measures Final Report for Bldg 258 SWMU, Phase 2	Jan 00	Final	Inf
449	Infomal Technical Info Report for Zone 4 OU-2 and Site S-4 Vapor Monitoring	Mar 00		Inf
450	Closure Report for Building 3096 (Revision 1)	Apr 00	Final	Inf
620B	Plate 5 MAP for the Report on the Shallow Aquifer (2 Vols)	Feb 00		Inf
770	RCRA Facility Investigation in 300 Area Phase 3 Source Invest Tech Memo	Mar 00	Final	Inf

Date: 5/9/2000

Signature:

X

BCT Meeting
11 April 2000

The meeting was held on Tuesday, 11 April 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	
Sassaman, Captain Brian	AFBCA/DK	X	
Stankosky, Laura	EPA	X	
Underwood, Tim	BCA (KPMG)	X	
Weegar, Mark	TNRCC	X	
Wehner, Ellie	TNRCC	X	

Dates for upcoming meetings:

May 9, 2000
June 13, 2000
July 11, 2000
August 8, 2000
September 12, 2000
October 10, 2000
November 14, 2000
December 12, 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. The Greater Kelly Development Authority has authorized the design of a new Boeing hanger. GKDA has submitted a letter requesting transfer of the Environmental Process Control Facility (EPCF). AFBCA and Kelly Environmental Management are working to eliminate process flow to the EPCF.
2.	Sassaman, B.	SAIC	Shallow Aquifer Assessment	Provide an update on the status of the shallow aquifer assessment.	Team receives update.	Closed. Provided an overview of the shallow aquifer assessment to date. Discussed the objective, methodology, sampling and results from assessment phases I, II, III, and IV. Based upon the four phases of the assessment, it has been determined by the Air Force that there is limited use of the shallow aquifer wells for irrigation and no use of the shallow aquifer wells as a drinking water source.
3.	Landez, N.	Meshako, C.	Environmental Factors Database	Provide an update on the status of the environmental factors database.	Team receives update.	Open. Discussed the strategy for assessing sites that are non-IRP, non-SWMU, non-334, and non-Rad but are identified in the EBS. The Air Force will provide another update on the environmental factors database at the May BCT meeting.
4.	Landez, N.	SAIC	SWMU Closure Activities in Zones 2, 3, and 5	Discuss the results of closure activities at several SWMUs including actions taken to date, sampling results, data evaluation and next steps to be taken.	Team receives update and the next steps to be taken at the SWMUs are agreed upon.	Closed. Team received an update of on-going SWMU closure activities. Team discussed closure strategies regarding background values for soils and requirements of closure at specific units.
5.	Hampton, R.	SAIC	Site S-3 and B522 RFI Reports	Discuss draft responses to RFI Report comments.	Team reaches agreement on the draft responses.	Closed. Discussed regulatory comments and Air Force response to comments on the Site S-3 and Building 522 RFI draft final reports. Kelly AFB will submit responses to EPA and TNRCC comments as discussed at the BCT for these two sites. Additional field work will be completed and a revised RFI report will be submitted for Site S-3 and a Final report will be submitted for Building 522.
6.	Ryan, W.	Buelter, D. Sassaman, B. Rohne, R.	Zone Updates	Provide team with update of current activities in Zones 2, 3, 4 and 5.	Team receives updates.	Closed. Zone status reports were distributed. In Zones 2 and 3, EPCF Phase II work will begin in late April, the IWCS Final Draft Closure Plan is in production, and work has begun on the Zone 2 and 3 CMS. In Zone 4, the Shallow Aquifer Assessment-Phase IV has been completed and the draft report submitted for comments. The Zone 4 horizontal wells have been completed and the treatment plant is on schedule for a May completion. The East Kelly soil-gas sampling has been completed, PCE and TCE were detected but vinyl chloride was not detected, the data has been forwarded to ATSDR for their review of health concerns. In Zone 5, the SVE system installation at Site S-1 is on-going and scheduled to be complete by 19 April.
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. Distributed the list of documents to be submitted to the EPA and TNRCC over the next 60 days.
8.	Ryan, W.	BCT Members	BCT Teleconference Scheduling	Each month, establish the coming schedule of teleconferences.	Teleconference schedule adopted by the team.	Closed. The following teleconference was scheduled: • Peer Review discussion 25 April @ 10:00

Item #	Lead	Support	Discussion Topic	Comments	How will we know it's done?	Disposition
9.	Ryan, W.	BCT Members	Begin May Agenda	Each month, begin to establish the next month's agenda at the end of the BCT meeting.	Team approves agenda items.	Closed. Proposed agenda items for the May BCT meeting are: • Environmental Factors Database Update • B522 Response to Comments Update • IWCS Closure Plan • Zone 4 Overview • EPA J-lock Update • QA/QC Discussion
10.	Hampton, R.	SAIC	B258 Draft Final RFI Report	Present and discuss the B258 Draft Final RFI.	Discussion is complete.	Closed. Provided an overview of the Draft Final RFI report. The EPA, TNRCC, and Air Force agreed to advance and sample five additional soil borings along the northwest and southwest boundary of Building 258 to define extent. The Air Force will also re-sample 2-4 feet below ground surface northeast of the site boundary. The Draft Final RFI report will be submitted in late summer 2000.

BCT Meeting
9 May 2000

The meeting was held on Tuesday, 9 May 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:

June 13, 2000
July 11, 2000
August 8, 2000
September 12, 2000
October 10, 2000
November 14, 2000
December 12, 2000

BCT MINUTES
9 May 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. Kelly redevelopment sales tax proposition was voted down on 6 May. However, Boeing is still interested in constructing a new hangar on Kelly AFB. A final decision regarding the transfer or closure of the EPCF has not been made. All Air Force process flow to the EPCF will be stopped by June 2000. GKDA has a community relations plan and has posted newspaper spots and will be airing television announcements informing the public of the potential transfer of the EPCF and the associated firewall projects. GKDA is modifying Building 171 for tenants to move into. An auctioneer is appraising equipment in Building 301. The Air Force is also looking into potential environmental implications with this equipment. Building 301 itself may be dismantled for salvage at a later date. GKDA has a new CFO, Pat Monahan, a new Deputy Director, Bob Rasmussen (former Senior Manager at KPMG), and a new lobbyist.
2.	Buelter, D.	CH2M Hill	IWCS Closure Plan	Provide an overview of the IWCS Closure Plan, which has been submitted for regulatory review.	Discussion is complete.	Closed. The Air Force provided an overview of the strategy to close the IWCS. The IWCS Closure Plan separates the IWCS into pre-1988 lines and post-1988 lines. All of the lines will be abandoned, decontaminated and plugged and the soil around the IWCS is proposed to be closed under Risk Reduction Standard 3. The Air Force has evaluated human health risks using a trench worker scenario. The TNRCC suggested that the Air Force might want to consider closure under RRS 2.
3.	Rohne, R.	CH2M Hill	Ecological Risk Assessment	Provide an update on the status of the ecological risk assessment.	Team receives update.	Open. The Air Force responded to comments on the Tier I Addendum, Tier II work plan, and the Technical Memo. A comment resolution meeting has been scheduled for 17 May in San Antonio. Norma Landez will schedule a meeting the week of 5 June to discuss the baseline risk assessment approach for Zones 2 and 3. An ecological risk assessment update will be provided at the June BCT meeting.
4.	Hampton, R.	SAIC	B522 RFI Report	Review the historical information packages provided by the Air Force and discuss the implications of the historical data on the B522 RFI final Report.	Discussion is complete.	Open. Presented historical information regarding past activities at Building 522. Based upon the historical records, several shops were housed at Building 522 but only three primary chemicals were used at Building 522, mercury, zinc and chromium. The Air Force is going to conduct additional investigations at Building 522 to better define the source area. Based upon the findings of the investigation, an interim remedial action will be selected for the site. The Air Force will present changes from the draft final RFI to the final RFI at the July BCT meeting.
5.	Buelter, D.	Stough, M.	Semiannual Compliance Plan Sampling Update	Provide an update on the status of the semiannual and annual sampling events. Discuss QA/QC and well locks.	Team receives update.	Closed. Dedicated tubing and pumps are being installed at wells basewide. Approximately 90% of the wells will be sampled using low-flow sampling methods. Approximately 10% of the wells are poor producing wells and cannot be sampled using low-flow methods. Mark Weegar suggested that the Air Force should review the EPA low-yield sampling protocol to determine the appropriate sampling method for poor producing wells. The Air Force will also re-evaluate the effectiveness of sampling the poor producing wells. Regarding QA/QC issues, the Air Force stated that the Kelly QAPP requires detection to MDLs, which can result in "noise" at such low levels. Regarding well locks, the Air Force will ensure that the wells are properly secured.

Item #	Lead	Support	Discussion Topic	Comments	How will we know it's done?	Disposition
6.	Peck, W.	Courtney, S.	Zone 4 Overview	Discuss the overall strategy for closing Zone 4 SWMUs and addressing soil and groundwater cleanup on and off base.	Discussion is complete.	Closed. The Air Force is investigating SWMUs in Zone 4 to identify SWMUs that can be closed with no further action and SWMUs that require additional investigation to achieve closure. A soil and groundwater CMS is scheduled for Zone 4. The CMS will address on base and off base groundwater contamination and will evaluate remediation alternatives to clean up the groundwater. Monitored natural attenuation was discussed as a potential alternative. The EPA informed the Air Force that they should have trend data to support MNA. The Air Force has historical trend data for chemical concentrations over time. The horizontal well installation is complete and two additional IRAs are planned, one for Yard 13 and one for SS051 soils.
7.	Rohne, R.	CH2M Hill	Zone 5 Overview	Discuss the selected remedies for each plume in Zone 5 and the rationale behind selecting each remedy.	Discussion is complete.	Closed. Reviewed the selected remedies for each plume and provided the rationale behind selecting each remedy. Mr. Weegar stated that the TNRCC would like to see containment of Plume A on the northern base boundary. The Site S-1 treatment plant will be expanded to handle flow from other plumes in Zone 5. Additional sampling will conducted off base to delineate plume B to determine if the source is on or off base.
8.	Buelter, D.	Landez, N. Hampton, R.	Zone 2 and 3 Source Areas	Present data to the team to show source area delineation within Zones 2 and 3.	Presentation is complete.	Closed. The Air Force presented the results of the installation and sampling of 44 additional wells which further verified the smaller, higher concentration plume areas within the large Zone 2 and 3 plume. Additionally, 9 more monitoring well locations were presented for installation and sampling to assist in defining the interior of the plumes and gather degradation pathway information. Seismic investigations, installation of 4 tests wells and pump tests for these wells, additional soil borings, and groundwater sampling will be moved from the Zone 2 & 3 CMS report to the Zone 2 & 3 RFI, phase III report. This change in scope will move the submission date of the Zone 2 & 3 RFI Phase III from July 2000 to the Fall of 2000. The Air Force presented a map with the proposed sampling locations for the Zone 2 & 3 CMS and discussed rationale for these locations. These wells will be sampled for MNA parameters, using the EPA recommended MNA protocol, as well as COCs across Zones 2 & 3.
9.	Landez, N.	Meshako, C.	Environmental Factors Database	Provide an updated list of locations of concern (LOCs) not covered under an IRP, SWMU, or Rad project.	Team receives list.	Closed. The Air Force provided a revised Environmental Factors database list that only included the locations of concern not associated with other projects. The Air Force will work with the BCT to close the LOCs and will start with the inactive sites first.
10.	Ryan, W.	Buelter, D. Sassaman, B. Rohne, R.	Zone Updates	Provide team with update of current activities in Zones 2, 3, 4 and 5.	Team receives updates.	Closed. Handouts distributed.
11.	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. Handout distributed.
12.	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.
13.	Ryan, W.	BCT Members	Begin June Agenda	Each month, begin to establish the next month's agenda at the end of the BCT meeting.	Team approves agenda items.	Closed. Agenda items for the June BCT meeting are: • Site D-10 update • Ecological risk update • Zone 4 Horizontal well and GWTP update • Rad-site update

Table 1
Simulated Time (years) for the Maximum Concentration To Reach the MCLs at Plume A

Alternative	Time to MCL (years)					
	TCE (5 ppb)		DCE (70 ppb)		VC (2 ppb)	
	On Base	Off Base	On Base	Off Base	On Base	Off Base
Baseline (e.g. MNA)	26	20	13.5	0	29	26
Source-Area Trench	20.5	20	10.5	0	22	26
Perimeter Trench	26	17	13	0	28	18
Perimeter Wells	26	18	13	0	27	18
Off-Base Wells	26	18	13	0	28	20
Source-Area Trench and Perimeter Wells	20	19	10.2	0	21	21
Source-Area Trench, Perimeter Wells, and Off-Base Wells	20	19	10.2	0	21	21

Table 2
Simulated Time (years) for the Maximum Concentration To Reach the MCLs at Plumes D, H, and J

Plumes	PCE	TCE	DCE	VC
Ambient Conditions (e.g. MNA)				
D	26	28	13.5	26
H	-	6.5	<1	<1
J	6.5	<1	<1	2.5
Pumping Conditions				
D	21	22.5	<1	19
H	-	5	<1	<1
J	5	<1	<1	2

*MNA – Monitored Natural Attenuation

MAY 9, 2000, BCT ZONE 2 AND 3 STATUS REPORT

PROJECT	STATUS	DELIVERABLE DATE
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.	
Zone 2 RFI	The TNRCC and EPA have submitted comments on RFI Reports for Site S-3 and Building 522. Site E-1 required additional information (discussed at previous BCT). Response to comments submitted on 8 May 00.	Draft Final RFI Report: TBD
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 being prepared, date to be established 14 Apr. Site SA-2: Final Report Submitted 11 Feb 00. Site S-8: System operational. Site E-3: System operational.	Comments to Site SD-1 Closure Report: Resp. TBD. Site SA-2 Final Closure Report: 11 Feb 00
Zone 2 Site Closures	Data is undergoing analysis. An analysis of the data has taken longer than expected as efforts have been placed on other sites. Contractor is currently writing report. Decision point may be necessary to determine whether closure will be RRS 2 or 3.	Draft Final Closure Report: TBD
Soil Remedial Actions	Kelly AFB is in the process of looking at the entire data set from Sites S-9, FC-2 and OT-1 to determine final closure actions. Contractor will provide closure method at subsequent BCT meeting.	Draft Final Closure Report: TBD
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 will be submitted 21 Apr. Phase II work has begun.	
GW Optimization Projects	Site E-3 Optimization Upgrade: Apr 00 Site CS-2 NB Optimization Upgrade: Jul 00	
Building 258 RFI	Additional field sample collection per BCT discussion in April	Draft Final RFI Report: July 00
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	Field Data Summary Report: 30 Nov 99 Draft Final 300 Area RFI Report: Jul 00 Bldg 362 RFI Report: TBD Bldg 375 Trailer Holding Area Release Assessment:

	encompass groundwater throughout the 300 Area. Data being reviewed and discussed for No Further Action Sites. Bioaugmentation pilot study progressing near Building 360.	31 May 00
Zone 2 and 3 CMS	Project has begun.	Draft Final CMS: Late CY 00
Site S-4 CMS	Public comment period on CMS ended on 5 Nov 99. Waiting for comments from the TNRCC.	Final CMS Report: TBD
Building 367 Hydrant System	Tanks have been removed. Submitted information to TNRCC UST program. Path forward developed to achieve closure.	Draft Final Tank Closure Report: TBD
Quintana Road Culvert	3,080 feet of culvert has been installed (75% complete).	
Site S-4 Closure Report (Soil)	Final Report submitted.	
IWCS Closure Project	Final Draft of Report submitted. All field work and risk assessment support RRS 3 closure outlined in approved closure strategy documentation. Service reroutes completed. Plugging of interior floor drains to be completed in early May 00. Cleaning and abandonment of lines, manholes and lift stations will begin May/June.	Final Draft IWCS Closure Plan: Submitted 20 Apr 00.
"RCRA" 51 Project	Part of BCT discussion.	Draft Final Closure Reports: TBD.
Site S-8 CMI-Work Plan	Hearing was requested. Submittal currently under review by TNRCC.	
Building 348 Release	Project is to investigate near surface calibration fluid releases in the Building 348 Area. Air Force is reviewing draft report. Optimizing existing bioslurper project. Sizing, procuring and installing the new blower system. Bio-Slurper system start-up.	Draft Final Investigation Report: TBD Startup of system: 1 Jun 00

ZONE FOUR
RECENT PROGRESS/DEVELOPMENTS UPDATE
09 MAY 2000

ZONE-WIDE ACTIVITIES:

OU-1 RI - Due to regulator comments on previous RFI effort, investigation of two areas of concern near MW125 and MW160 will also be required as will further investigation of the metals concentrations in Yard 68, near the now closed SS009 site. The associated field sampling effort was begun on 06 April 00 and is now complete and under evaluation. A revised RFI report is expected in Aug 00.

OU-2 RI - The final item of field work, the soil/vapor pathway sampling, has been completed. Test results were sent to ATSDR on 31 March for evaluation. Preparation of the RFI report, which is currently delayed due to funding/contracting considerations, is expected to resume in May, with submission in Aug or Sep 00.

IRA Boundary Control. The installation of all ten horizontal wells has been completed. Work on the treatment plant continues toward a May completion. Installation of the collector pipe system is also completed, as is the installation of 12 additional monitoring wells. These wells are being used for the pump tests of the recovery wells and will also be used to monitor the effectiveness of the containment system. The specific capacity pump tests began on 03 May 00, and will continue through the third week of May 00. Start up of plant operation is expected in late May 00.

Shallow Aquifer Assessment - Response to comments on SAA Phase III Final were forwarded to regulators. SAA Phase IV Draft completed--expected in March 2000 from contractor. Report will forwarded to appropriate agencies.

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. Once comments received and reviewed, reports can go final. Available comments will be sent forward for inclusion NLT May 00.

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.

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.

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

Bldg 3065 - Approval of Closure report received in November. Survey and deed recordation was accomplished and submitted to the TNRCC in January 00.

Lot Z04 - Final Closure Report submitted to the TNRCC on 23 Nov 99. Awaiting approval.

Yard 13 - The review of the draft data study has been conducted and the final report is now due. Award of the CMS effort is now expected in Jun 00.

MAY 9, 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. Installation of SVE system began 28 Feb.	*System should be started up the week of May 15.*
1500 Area Bioventing	*Gathering data for shutting off system. Will propose 6 month shutdown, then sampling/analysis. Need to discuss Compliance Plan requirements.*	
Warehouse Area SWMUs	B1420: Closure report submitted 15 Nov 99. Pending regulator review. B1501 OWS: work ongoing. 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: Additional investigation ongoing. 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. USACE has submitted a New Contract Solicitation SOW dated 26 Jan 00 to contractor. B1147 OWS (removal/replacement): RRS2. Pending contract mod. B1151 OWS (removal/replacement): RRS2. Pending contract mod. B1418 Lift station: work ongoing B1418 OWS: Removal and assessment report submitted 17 Feb 00.	3 Dec 99 *(We have not received approval. Need to check on this closure)* 23 Feb 00 10 Jan 00 *(Have had no response)* Further investigations at this building will be combined into one report. *Start date tentatively scheduled for the week of 15 May 00.*

ZONE 5 CMS RECOMMENDED ALTERNATIVES

BRAC Cleanup Team Meeting
9 May 00

RECOMMENDED ALTERNATIVES

PLUME	Source	Perimeter	Off Base
A	P&T	Monitoring	Monitoring
C	P&T/SVE	N/A	N/A
D	P&T	MNA	N/A
F	MNA	MNA	N/A
H	MNA	MNA	N/A
J	MNA	MNA	N/A
K	MNA	MNA	N/A

PLUME A

- COCs: TCE, 1,2-DCE
- RECOMMENDED ALTERNATIVES
  - Source area control (pump & treat)
  - [Perimeter control (pump & treat)]
  - Off base monitoring
- RATIONALE
  - Presumptive remedy
  - If source area is controlled, plume is controlled
  - Modeling shows off base wells won't decrease time to reach MCLs

PLUME C

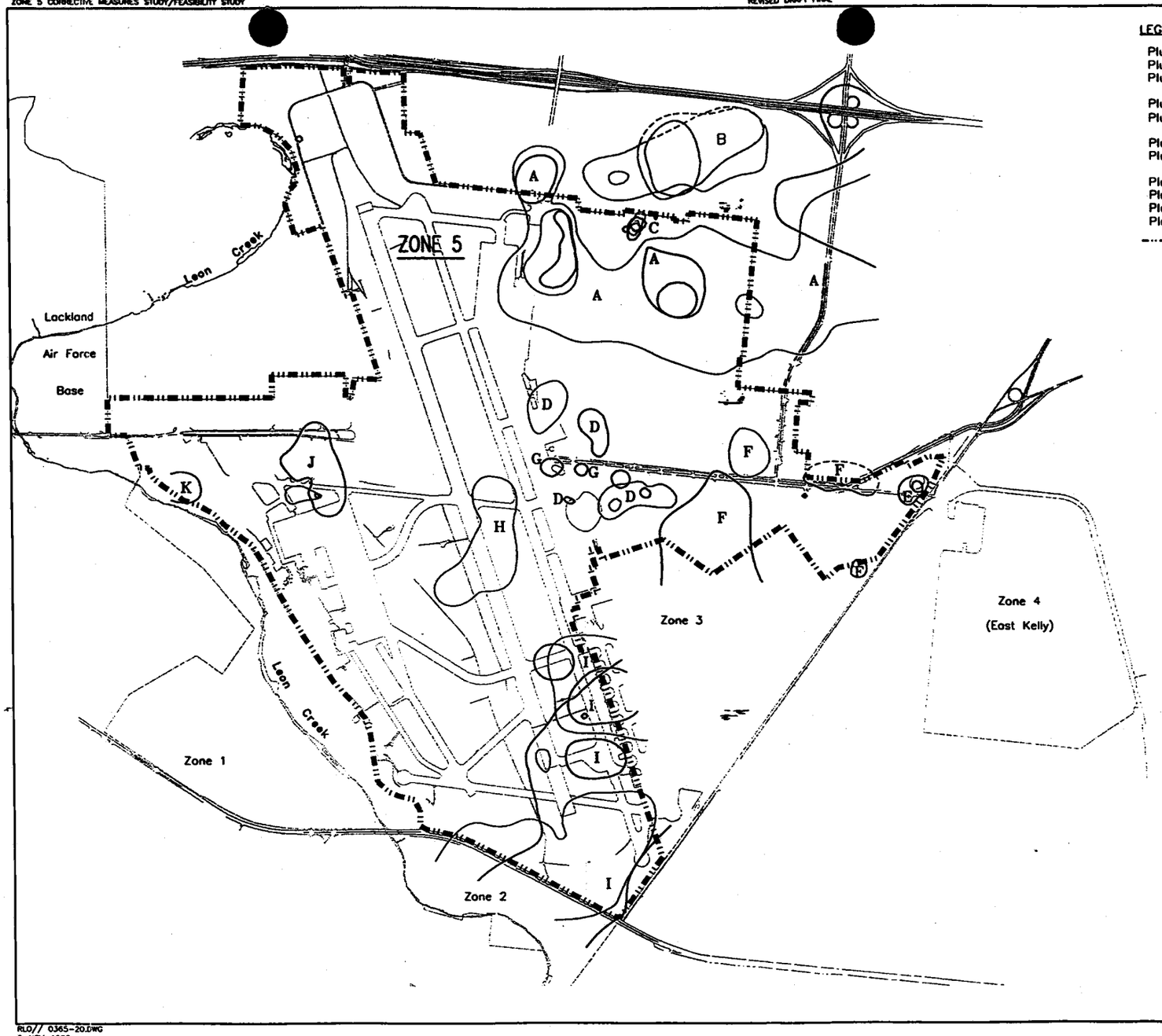
- COCs: Chlorobenzenes
- RECOMMENDED ALTERNATIVES
  - Sump area soil - source removal
  - Smear zone soil - SVE
  - Groundwater - pump & treat
- RATIONALE
  - Existing interim actions
  - Removal of contaminated soil prevents leaching to groundwater
  - Groundwater recovery system will reduce CB plume
  - Plume already decreasing in size

PLUME D

- COCs: PCE, TCE, 1,2-DCE
- RECOMMENDED ALTERNATIVES
  - Source area control (pump & treat)
- RATIONALE
  - Presumptive remedy
  - If source area is controlled, plume is controlled
  - Recovery wells in areas of higher concentrations

PLUMES F, H, J, K

- COCs: PCE, TCE, 1,2-DCE, Chlorobenzene
- RECOMMENDED ALTERNATIVES
  - Monitored Natural Attenuation
- RATIONALE
  - On base
  - Stable plumes
  - Modeling shows 6.5 years to reach MCLs



LEGEND

Plume A – On and Offbase TCE
Plume B – Offbase PCE (Not addressed by this CMS)
Plume C – Chlorobenzene, Arsenic (Locotion of S-1 [SS003] Treotment System)
Plume D – SS045 (S-10) ond 1600 Areo TCE, PCE, 1,2-DCE
Plume E – Civil Engineering Motor Pool Benzene, Arsenic (To be closed under PST Progrom)
Plume F – Low Concentrotion PCE/TCE
Plume G – ST007 (S-5) Benzene Spill, Arsenic (To be closed under PST Progrom)
Plume H – Centrol Runwoy TCE
Plume I – PCE, TCE, DCE
Plume J – KY028 (1100 Areo) PCE, TCE
Plume K – West Chlorobenzene
Zone 5 Boundory

N

0 1000' 2000' 3000'
Scale in Feet

SAN ANTONIO AIR LOGISTICS CENTER
PARTNERS WITH THE ENVIRONMENT
ENVIRONMENTAL MANAGEMENT

Figure 3.16
Zone 5 Groundwater Plumes
Kelly Air Force Base
Zone 5 Corrective Measures Study–1998

CH2MHILL

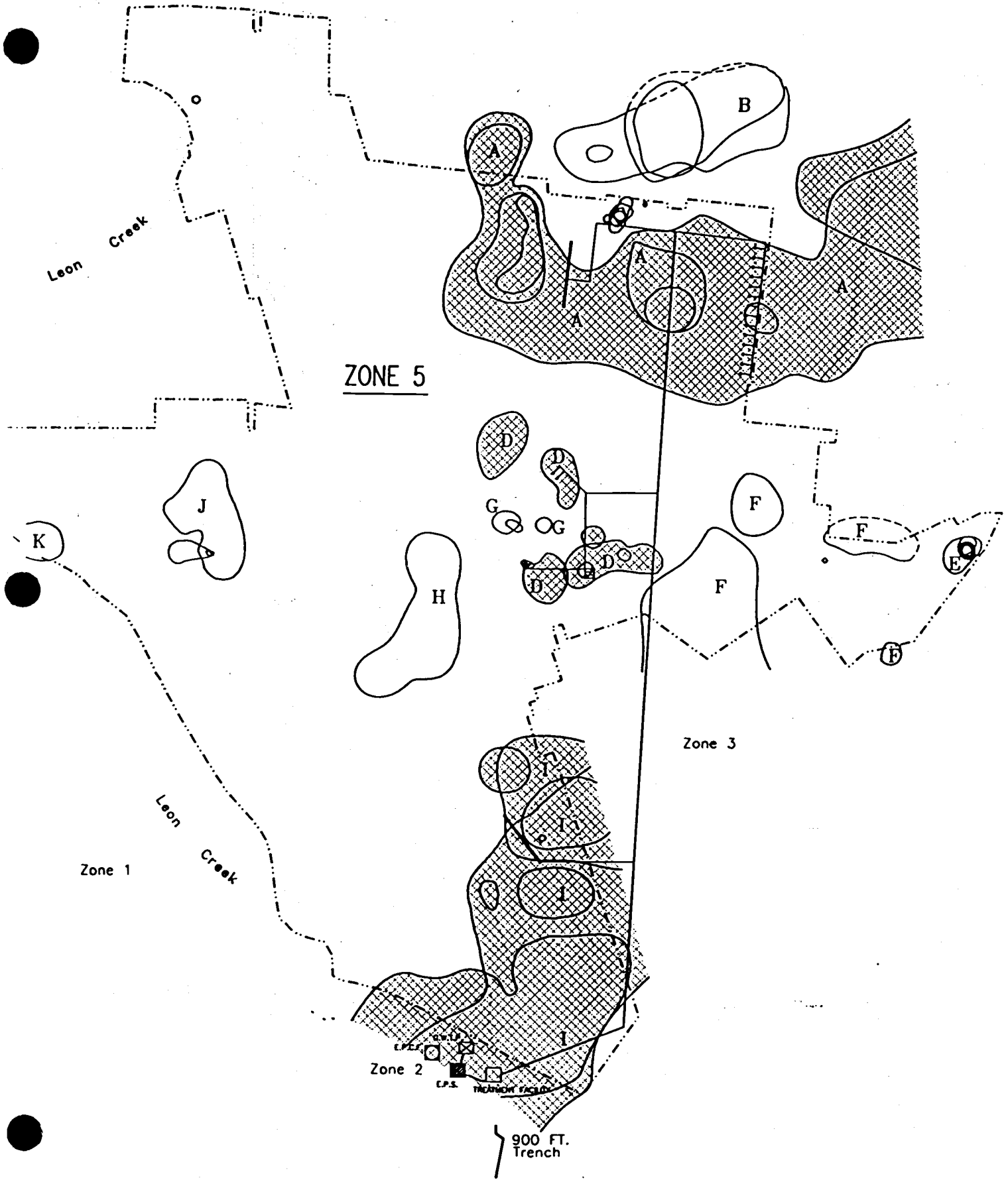

ZONE 5
Leon Creek
Leon Creek
Zone 1
Zone 2
Zone 3
A
B
D
F
G
H
I
J
K
900 FT.
Trench

EXHIBIT A
Summary of Findings
Research of Chemical Usage and Waste Generation at Former Building 522

The processes and activities associated with shops in former Building 522 were researched to determine specifically whether the operations stored materials, utilized materials, or generated waste that may have contained specific inorganic chemicals. This paper briefly outlines the findings of the research.

CHEMICALS OF INTEREST

The specific chemicals of interest for the research included the following inorganic chemicals:

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium (total)
- Cobalt
- Copper
- Lead
- Mercury
- Nickel
- Selenium
- Silver
- Thallium
- Vanadium
- Zinc

DATA SOURCES

Research included gathering and reviewing information from the following sources:

- Hazardous material issue data from the Environmental Management Information System (EMIS) for former shops in the building.
- Hazardous waste generation data from EMIS for former shops in the building.
- Records of Industrial Hygiene and Safety Inspections and associated records maintained by the Kelly AFB Bioenvironmental Engineer (BEE) office.

FORMER SHOPS IN BUILDING 522

According to BEE records, several shops occupied former Building 522 intermittently from the early 1970's through 1997, including:

- Wingtip Assembly/Disassembly Shop
- Fuel Cell Door Shop
- T-38 Fuel Bladder Shop
- Water Jet Cutter Shop
- Radome Repair and Plastic Repair Shop

RESULTS OF REVIEW OF AVAILABLE RECORDS

General

According to BEE records, the Water Jet Cutter Shop, an operation for cutting plastic using high-pressure water, did not utilize any hazardous materials or generate hazardous waste. The Fuel Cell Door Shop, Wingtip Assembly Shop, and T-38 Fuel Bladder Shop did utilize hazardous materials, including low-quantity acids, bases, alcohols, adhesives/sealants, and solvents (e.g., MEK), which BEE records & MSDSs showed did not contain any of the chemicals of interest. No records for these shops were available in the EMIS system.

Radome Repair and Plastics Repair Shop

Initial review of EMIS hazardous materials issues and hazardous waste generation data revealed that the Radome Repair and Plastics Repair Shop (Shop Codes K0037 and K0040) utilized minor quantities of materials with mercury, zinc, and chromium. Mercury and zinc were present in alkaline batteries (Energizer, Eveready, etc.) that were issued in small quantities at periodic times from 1992 through 1997. Chromium was present as Chromium Oxide (0.3 percent by weight) in Sealing Compound, of which a total of about 18 pounds (as 2-pound kits) was issued from 1992 through 1997. Review of EMIS records for hazardous waste at these shops were inconclusive (i.e., not specific enough) to determine if any waste containing the chemicals of interest were generated from the shop.

Available EMIS records were supplemented with research of BEE records for the Radome Repair and Plastics Repair Shop. BEE records showed that the shop conducted mechanical stripping (sanding), repairing, and coating of aircraft radomes and plastic parts. The shop utilized solvents, adhesives, sealants, coatings, and blasting materials to accomplish their mission. The only chemical of interest noted in the shop records was chromium. Chromium was identified in the following products:

Material	Present As	Percentage (by wt)	Max Amt. Authorized
Epoxy Primer	Strontium Chromate	20 %	220 gal/year (2 gal unit)
Plastisol Liquid Vinyl	Chromium Oxide	3 %	220 gal/year (1 gal unit)
1434-G Sealant	Strontium Chromate	5 %	240 oz/year (tube)

According to BEE records, the dust generated from sanding operations was placed into containers for disposal during normal shop operation up to 1990. In 1990, Environmental Management evaluated the waste with laboratory analytical procedures and determined that chromium was present above EPA standards. The shop was required to begin handling/disposing the dust waste as a controlled hazardous waste. The EMIS records for the shop show hazardous sanding waste and debris generated at the shop, although the descriptions are not specific enough to determine if the waste described in the records contained chromium.

SUMMARY

- The Radome Repair and Plastics repair shop is the only shop identified at former Building 522 with any hazardous material or waste containing any chemical of interest.
- The size, nature, and quantities issued of the batteries and sealing compounds noted from the EMIS records and/or BEE records for this shop make it unlikely that these materials were a source of any significant releases.
- Chromium was present in two liquid materials (Epoxy Primer and Plastisol Liquid Vinyl), both of which were authorized to be used in quantities of up to 220 gallons/year. However, storage containers of 1-gallon size or less were maintained at any given time (no drums).
- Drumming and manifesting of chromium-containing waste (sanding dust) as hazardous waste was begun in 1990, although BEE records imply that it was generated prior to this date but not disposed as a hazardous waste. No record of the disposition of the waste prior to this time was discovered in BEE records.

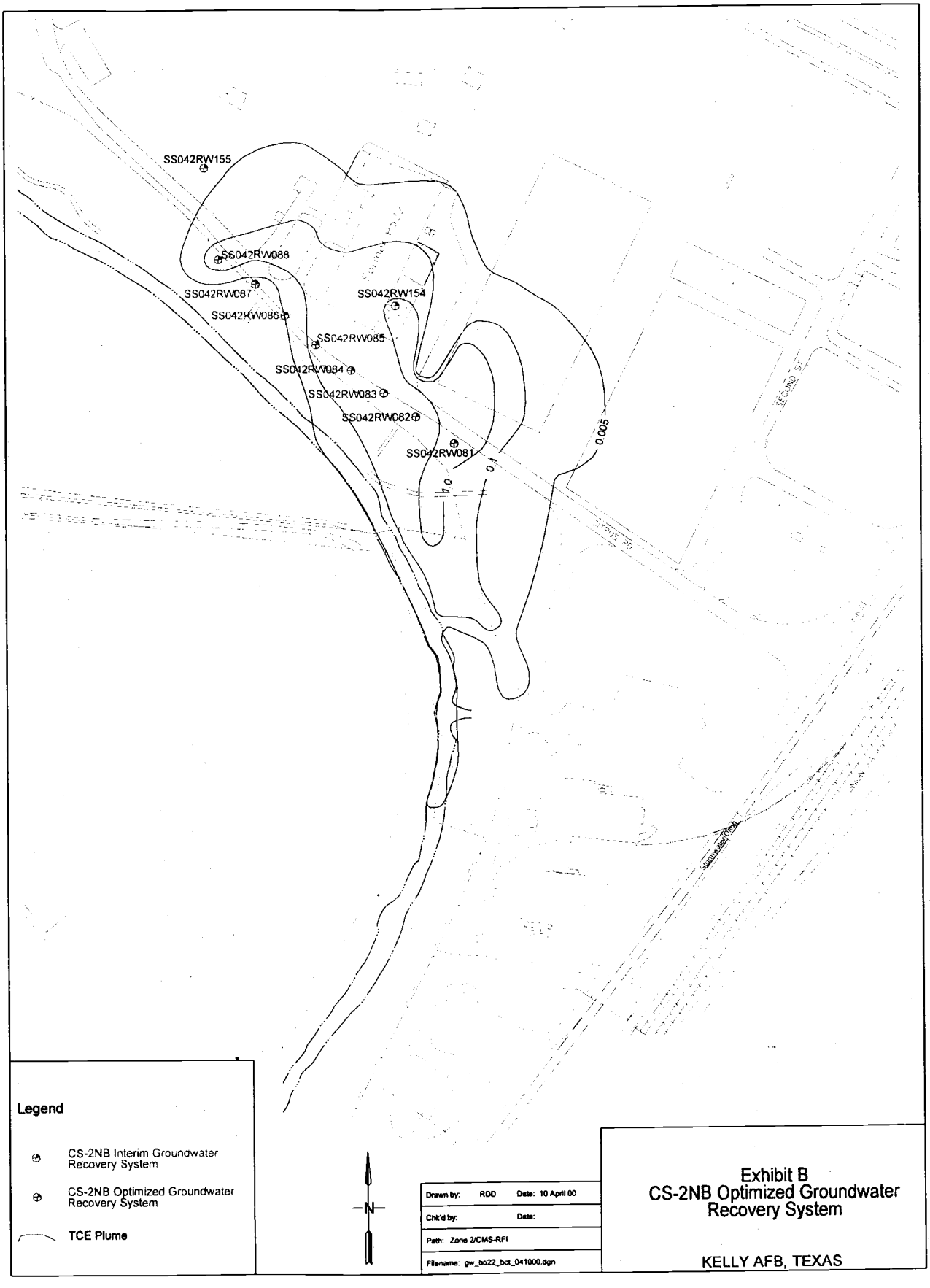
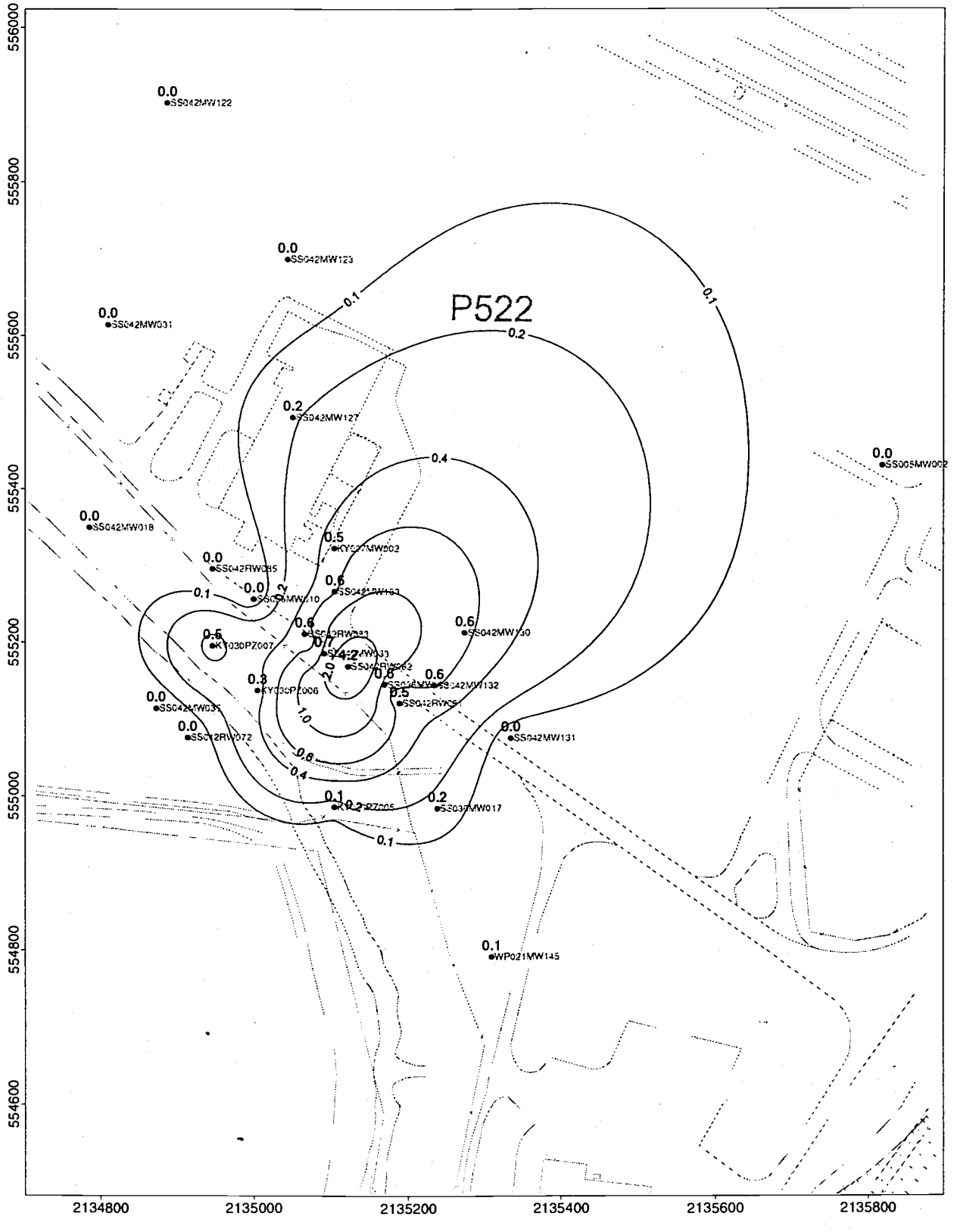

SS042RW155
SS042RW088
SS042RW087
SS042RW154
SS042RW086
SS042RW085
SS042RW084
SS042RW083
SS042RW082
SS042RW081
0.005
0.1
1.0
Legend
CS-2NB Interim Groundwater Recovery System
CS-2NB Optimized Groundwater Recovery System
TCE Plume
N
Drawn by: RDD Date: 10 April 00
Chk'd by: Date:
Path: Zone 2/CMS-RFI
Filename: gw_b522_bct_041000.dgn
Exhibit B
CS-2NB Optimized Groundwater Recovery System
KELLY AFB, TEXAS

Exhibit C Contour of Drawdown, Pumping Test at SS042RW082 (at 34 gpm)



Groundwater elevation contour in feet

Exhibit D Contour of Drawdown at End of Pumping Test at SS042RW154 at 64 gpm, CS2NB

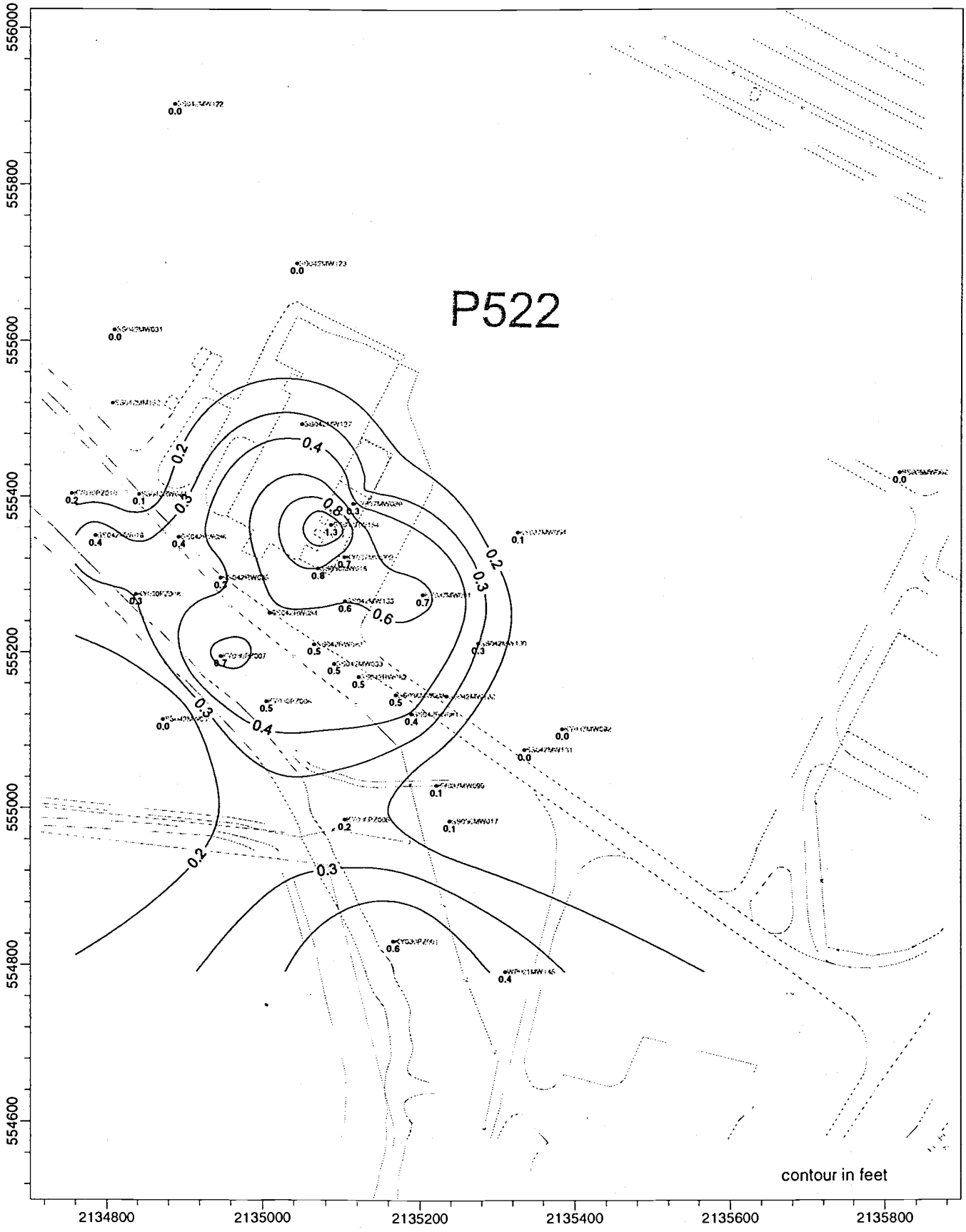
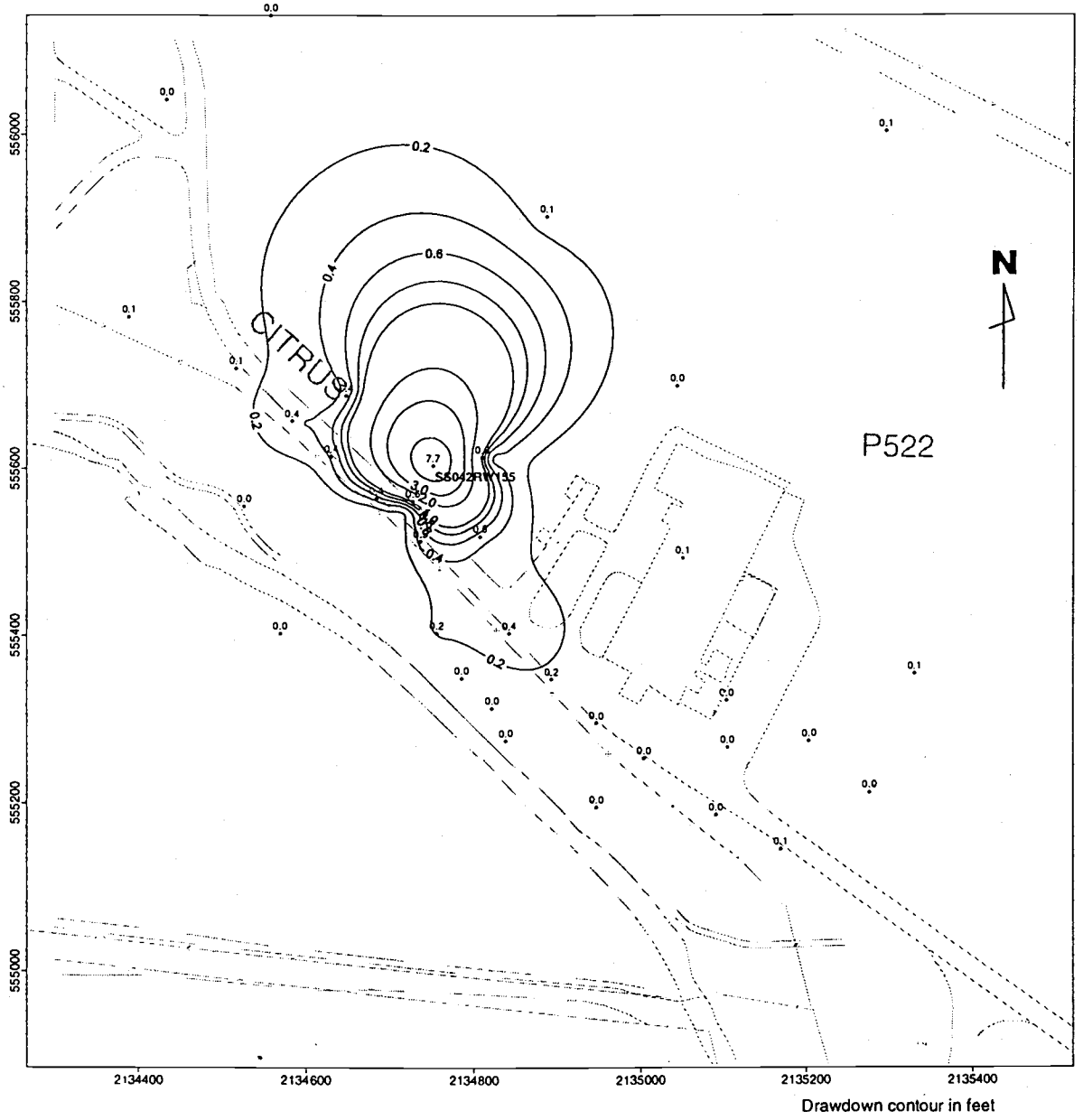
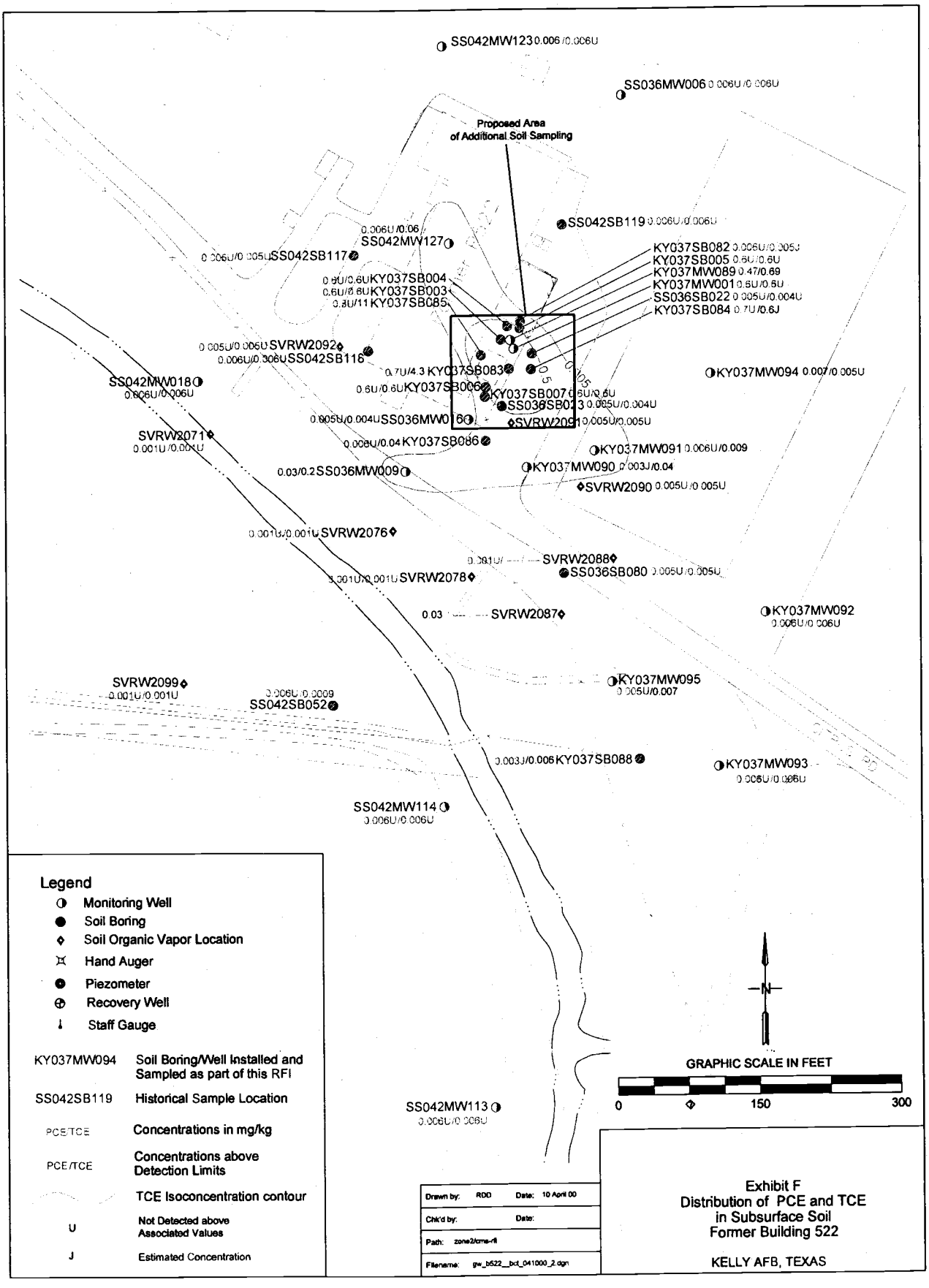
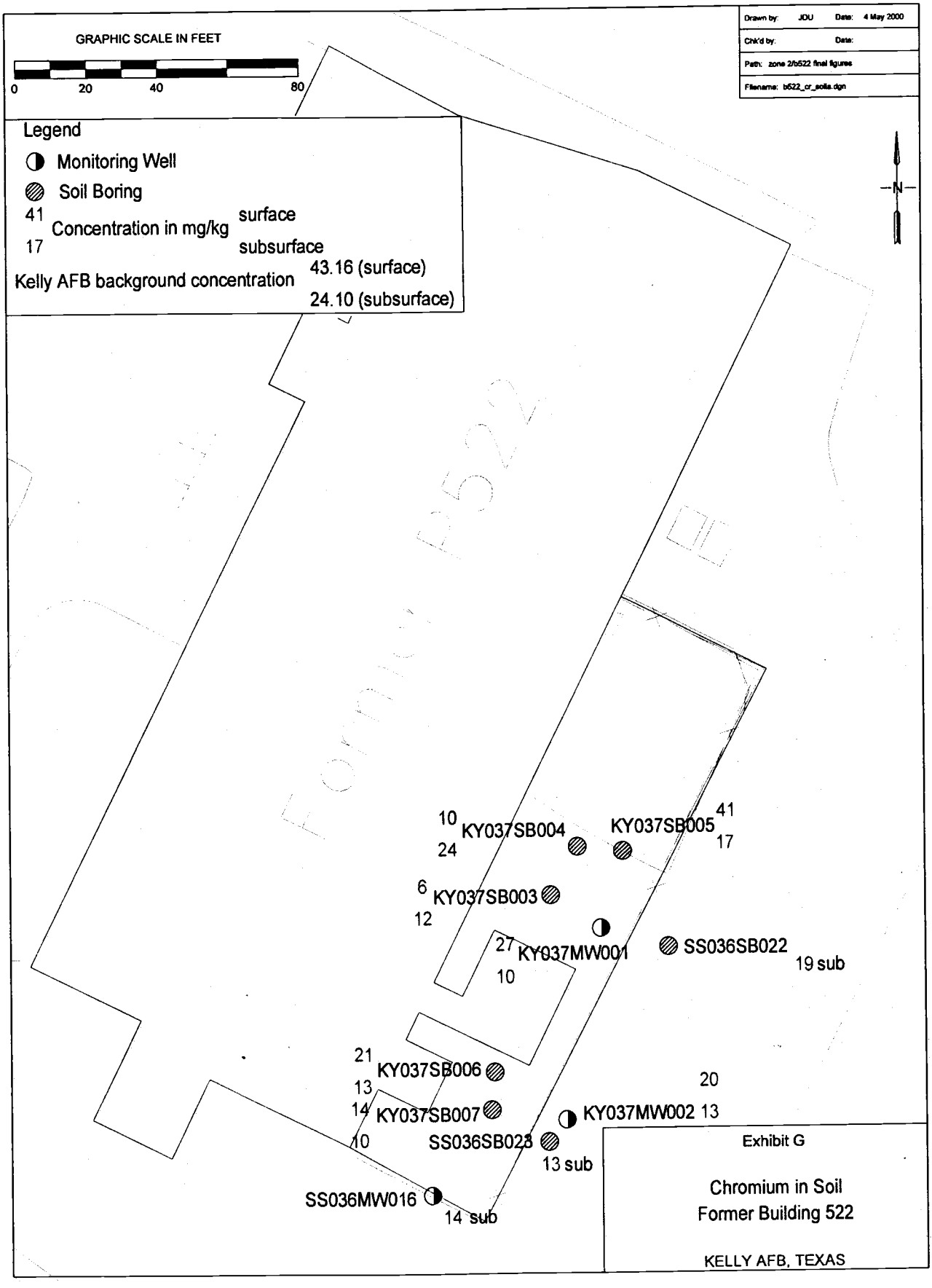
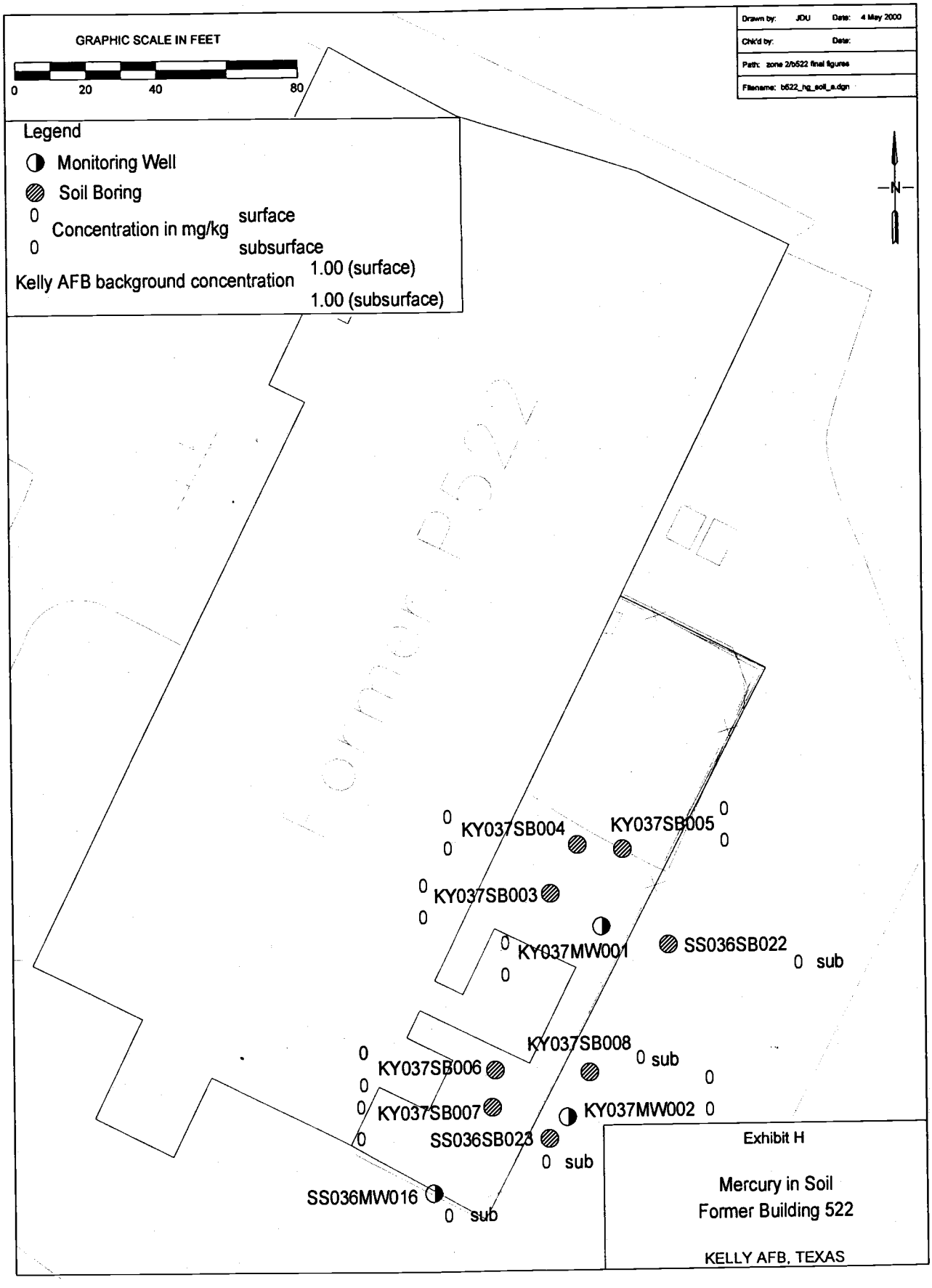


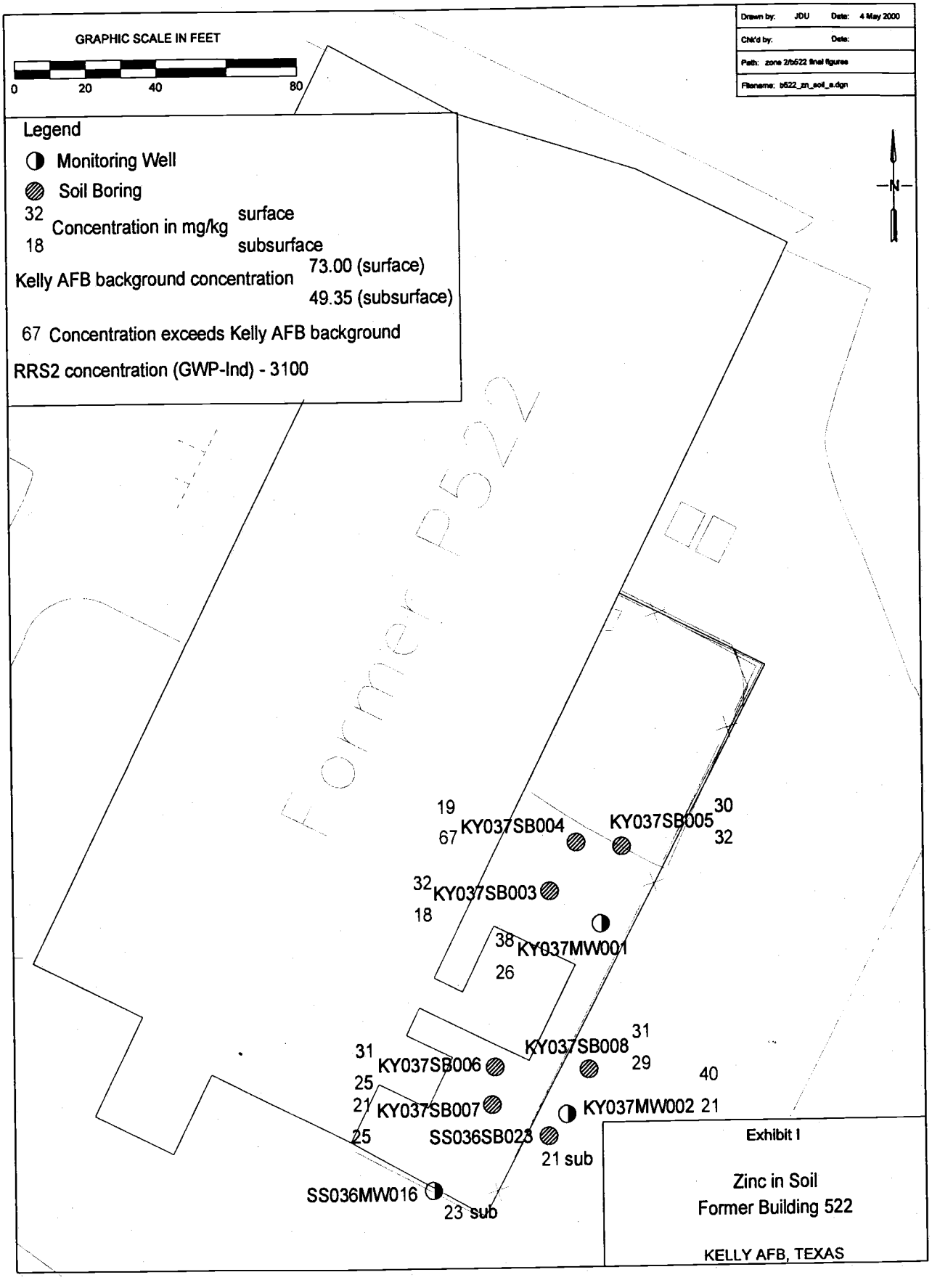
Exhibit E Drawdown Countour Before the End of Pumping Test at SS042RW155, Site CS2NB




SS042MW123 0.006 /0.006U
SS036MW006 0.006U /0.006U
Proposed Area of Additional Soil Sampling
SS042SB119 0.006U/0.006U
0.006U /0.06
SS042MW127
0.006U/0.005U SS042SB117
KY037SB082 0.006U/0.005J
KY037SB005 0.6U/0.6U
KY037MW089 0.47/0.69
KY037MW001 0.6U/0.6U
SS036SB022 0.005U/0.004U
KY037SB084 0.7U/0.6J
0.9U/0.6U KY037SB004
0.6U/0.6U KY037SB003
0.8U/11 KY037SB085
0.005U/0.006U SVRW2092
0.006U/0.006U SS042SB116
0.7U/4.3 KY037SB083
KY037MW094 0.007/0.005U
SS042MW018
0.006U/0.006U
0.6U/0.6U KY037SB006
KY037SB007 0.6U/0.6U
SS036SB013 0.005U/0.004U
0.005U/0.004U SS036MW016
SVRW2091 0.005U/0.005U
SVRW2071
0.001U/0.001U
0.006U/0.04 KY037SB086
KY037MW091 0.006U/0.009
KY037MW090 0.003J/0.04
0.03/0.2 SS036MW009
SVRW2090 0.005U/0.005U
0.001U/0.001U SVRW2076
SVRW2088
SS036SB080 0.005U/0.005U
0.001U/0.001U SVRW2078
0.03 SVRW2087
KY037MW092
0.006U/0.006U
SVRW2099
0.001U/0.001U
0.006U/0.009
SS042SB052
KY037MW095
0.005U/0.007
0.003J/0.006 KY037SB088
KY037MW093
0.006U/0.006U
SS042MW114
0.006U/0.006U
SS042MW113
0.006U/0.006U
Legend
Monitoring Well
Soil Boring
Soil Organic Vapor Location
Hand Auger
Piezometer
Recovery Well
Staff Gauge
KY037MW094 Soil Boring/Well Installed and Sampled as part of this RFI
SS042SB119 Historical Sample Location
PCE/TCE Concentrations in mg/kg
PCE/TCE Concentrations above Detection Limits
TCE Isoconcentration contour
U Not Detected above Associated Values
J Estimated Concentration
N
GRAPHIC SCALE IN FEET
0 150 300
Drawn by: RDD Date: 10 April 00
Chk'd by: Date:
Path: zone2/crne-rfi
Filename: gw_b522__bct_041000_2.dgn
Exhibit F
Distribution of PCE and TCE
in Subsurface Soil
Former Building 522
KELLY AFB, TEXAS


GRAPHIC SCALE IN FEET
0 20 40 80
Drawn by: JDU Date: 4 May 2000
Chk'd by: Date:
Path: zone 2/b522 final figures
Filename: b522_cr_soils.dgn
Legend
Monitoring Well
Soil Boring
41 Concentration in mg/kg surface
17 subsurface
Kelly AFB background concentration 43.16 (surface)
24.10 (subsurface)
N
Former B522
10 KY037SB004 24
KY037SB005 41 17
6 KY037SB003 12
27 KY037MW001 10
SS036SB022 19 sub
21 KY037SB006 13
20
14 KY037SB007 10
KY037MW002 13
SS036SB023 13 sub
SS036MW016 14 sub
Exhibit G
Chromium in Soil
Former Building 522
KELLY AFB, TEXAS


Drawn by: JDU Date: 4 May 2000
Chk'd by: Date:
Path: zone 2/b522 final figures
Filename: b522_hg_soil_a.dgn
GRAPHIC SCALE IN FEET
0 20 40 80
Legend
Monitoring Well
Soil Boring
0 Concentration in mg/kg surface
0 subsurface
Kelly AFB background concentration 1.00 (surface)
1.00 (subsurface)
N
Former B522
0 KY037SB004
KY037SB005 0
0
0 KY037SB003
0
0 KY037MW001
SS036SB022
0 sub
0
KY037SB008
0 sub
0 KY037SB006
0
0 KY037SB007
KY037MW002 0
0 SS036SB023
0 sub
SS036MW016
0 sub
Exhibit H
Mercury in Soil
Former Building 522
KELLY AFB, TEXAS


GRAPHIC SCALE IN FEET
0 20 40 80
Drawn by: JDU Date: 4 May 2000
Chk'd by: Date:
Path: zone 2/b522 final figures
Filename: b522_zn_soil_a.dgn
Legend
Monitoring Well
Soil Boring
32 Concentration in mg/kg surface
18 subsurface
Kelly AFB background concentration 73.00 (surface)
49.35 (subsurface)
67 Concentration exceeds Kelly AFB background
RRS2 concentration (GWP-Ind) - 3100
N
Former B522
19
67 KY037SB004
KY037SB005 30
32
32 KY037SB003
18
38 KY037MW001
26
31
KY037SB008
29
40
31 KY037SB006
25
21 KY037SB007
KY037MW002 21
25 SS036SB023
21 sub
SS036MW016
23 sub
Exhibit I
Zinc in Soil
Former Building 522
KELLY AFB, TEXAS

IWCS Closure Plan

Presentation to the Base Closure Team
May 9, 2000

Introduction

- The IWCS is classified as RCRA SWMU No.246 and as IRP Sites SS044 (Zone 3) and SS051(Zone 4)
- Due to Air Force policy on transferring SWMUs, the Air Force will abandon the IWCS piping system
- The Closure Plan was prepared to address closure of the IWCS in accordance with TNRCC regulatory requirements

IWCS Closure Strategy Was Presented to the BCT in December 1998

- Obtain a RRS 3 Closure
- Leave some soils that exceed GWP-Ind in place
- Remove the potential source through cleaning and abandonment of the IWCS — See if we can get this done prior to the end of June.
- Address groundwater separately through containment/treatment via the Zone 3 remedial program

The IWCS is Located Throughout Kelly AFB

- Kelly AFB is divided into 5 Zones (1 through 5)
- IWCS is primarily located within the boundaries of Zone 3
- Portions of the IWCS are located within the boundaries of Zones 2, 4, and 5 - we will abandoned the line in Zone 4.
- The IWCS consists of piping constructed prior to and after 1988

Sections of the IWCS are Subject to Regulatory Closure as a SWMU

- Compliance Plan No. CP-50310 identifies the IWCS SWMU/IRP site as those portions in Zones 3 and 4
- Sections of the IWCS constructed after the IWCS SWMU/IRP sites were identified are not part of the SWMU

Purpose of the Closure Plan

- Obtain regulatory approval of closure process for the IWCS in Zone 3 under RRS 3
- Communicate the intent to obtain regulatory closure of the IWCS in Zone 4 under closure of Zone 4, Operable Unit #1 for soil and groundwater
- Document the abandonment of entire IWCS

Kelly AFB Pursuing Closure Under Existing RRSs

- Closure in accordance with 30 TAC 335, Industrial Solid Waste and Hazardous Solid Waste, 1987, as amended
- Closure complies with RRSs of Title 30, TAC, Chapter 335, Subchapter S
- Kelly AFB is pursuing closure under the existing RRS No. 3, rather than the Texas Risk Reduction Program

Overall Approach to Closure Plan Development

- Evaluate existing RI relative to the IWCS
- Conduct additional RI as needed (Zone 3)
- Evaluate data relative to RRS for protection of groundwater (in Zones 2, 3 and 5)
- Evaluate data to determine human health risk (in Zones with available data)

Remedial Investigations (Zone 3)

- A goal presented in the IWCS Closure Strategy was to maximize the use of existing investigations
- Relevant existing analytical data was reviewed to support the baseline HHRA and to evaluate if additional sampling was required
- On the basis of available data, two supplemental investigations were conducted in Zone 3

Supplemental Zone 3 Investigations

- The first supplemental investigation (July/August 1999) installed 22 borings adjacent to buried IWCS lines in Zone 3 to the top of the Navarro Clay.
- The second supplemental investigation (January 2000) installed an additional 15 soil borings adjacent to buried IWCS lines in Zone 3.

Historical and Recent Data Were Targeted for Data Evaluation

- Subsurface soil samples collected by CH2M HILL, data from the RI(s) conducted in Zone 3, and historical data obtained from the Kelly AFB's IRPMS were considered
- Available data for Zones 2, 3 and 5 were evaluated
- Sample location and depth(s) were the criteria used to determine if samples could be considered representative of conditions beneath the IWCS

RRS No. 3 Exceedances (Zones 2 and 3)

- Zone 3 Exceedances of GWP-Ind
  - Two metals (selenium and thallium)
  - Four VOCs (acrylonitrile, 1,2-Dibromoethane, TCE, PCE)
  - One SVOC (1,4-Dichlorobenzene)
  - Petroleum hydrocarbons
- Zone 2 Exceedances
  - Two metals (cadmium and chromium) for GWP-Ind
  - Lead for RRS No. 3 Trench worker criteria

HH Risk Assessment Basis

- An HHRA was submitted as required under RRS 3.
- Potentially exposed populations include current and future trench workers.
- Potential routes of human exposure include incidental soil ingestion, dermal contact, and inhalation of dust and VOCs during excavation activities.

HHRA Indicates No Unacceptable Risk

- A total of 118 samples were evaluated at the IWCS; however, only 68 of these samples had measurable concentrations of COPCs.
- ELCR estimates and noncancer HIs were calculated for all COPCs
- All cancer and noncancer risk estimates were below the target risk levels of $1x10^{-6}$ and a HI=1, respectively

Closure of the IWCS In-Place Achieves RRS No. 3

- The IWCS and the majority of the associated soils will remain in-place.
- Of the nine stations indicating exceedances,
  (1) all located upgradient of an existing IM system
  (2) comparable SPLP evaluation, or
  (3) exceedance addressed with Zone 2 600 Area RFI
- The only exception is that Kelly AFB proposes to address the singular location that indicated an elevated total and SPLP PCE concentration as a separate RRS No. 2 closure project.

The IWCS will be Permanently Isolated From Service

- The evaluation of abandonment options was documented in the *Engineering Evaluation & Abandonment Plan* (CH2M HILL, August 1998).
- Only in-place abandonment was considered
- The selected abandonment process will sever the system permanently from service through a methodical abandonment and plugging process.

What does the clean water act say?

"Decomantate to best ability"

Selected IWCS Abandonment Process

- An inventory was prepared of all FD, TD, MH and pipes associated with the IWCS
- Physical abandonment is occurring from the inside of buildings working out to the yard piping
- Concrete plugs in all FD, TD or other IWCS connection
- Spot excavation, cut and plug of any service or lateral connections deemed necessary
- Hydraulically clean IWCS piping
- Place concrete plug into all connections which terminate in MHs
- Fill MH and identify as abandoned IWCS

Physical IWCS Abandonment is in Progress

- Due to the schedule for closure and realignment of Kelly AFB, the Local Redevelopment Authority has been actively leasing many of the facilities to various industries.
- Because industries are currently operating within the facilities, Kelly AFB initiated the physical abandonment of the IWCS.

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE