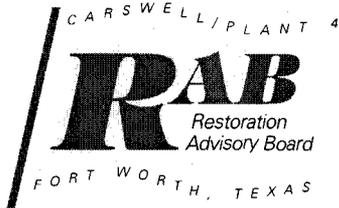




CARSWELL AFB TEXAS

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 762



**Carswell/Plant 4
Restoration Advisory Board Meeting
August 8, 2002
6:00–8:00 pm**

Agenda

| | |
|---|------------|
| Welcome/Introductions/Minutes | 5 minutes |
| Westworth Redevelopment Authority Update | 10 minutes |
| Air Force Plant 4/George Walters Project Update | 20 minutes |
| Carswell Off-Base/Charles Pringle Project Update - Weapons Storage Area FOST - Sanitary Sewer System | 10 minutes |
| Carswell On-Base/Mike Dodyk Project Update | 10 minutes |
| Southern Plume Area Risk Assessment | 10 minutes |
| Next Meeting Agenda | 5 minutes |
| Open Discussion/Questions | 5 minutes |

**CARSWELL/AIR FORCE PLANT 4
RESTORATION ADVISORY BOARD MEETING**

*FINAL
Summary Minutes of August 8, 2002
Regular Quarterly Meeting*

A regular meeting of the Carswell/Air Force Plant 4 Restoration Advisory Board (RAB) was held August 8, 2002 at the Westworth Village Council Chamber, 311 Burton Hill Road. The RAB meeting began at 6:00 p.m.

Agenda

Welcome/Introductions/Minutes

Westworth Redevelopment Authority Update (Leland Clemons)

Air Force Plant 4 (George Walters)
Project Update

Carswell Off-base (Charles Pringle)
Project Update

- Weapons Storage Area FOST
- Sanitary Sewer System

Carswell On-Base (Mike Dodyk)
Project Update
Southern Plume Area Risk Assessment

Open Discusison/Questions

Welcome and Introduction of Attendees

Mr. Don Yates filled in for Chairperson Ms. J'Nell Pate. Mr. Yates called the meeting to order and asked if everyone was in favor of approving the minutes from the previous RAB Meeting. Everyone agreed to approve the minutes.

Westworth Redevelopment Authority

Mr. Yates introduced Leland Clemons to discuss the Westworth Redevelopment Authority activities. Mr. Clemons noted that the reuse properties had probably undergone the most dramatic changes in a comparable 60-90 day period.

The 100 lot residential development, Westworth Park, has gone through a lot of dirt work and cutting of the streets. Mr. Clemons was very gratified that 29 of the 100 lots have been pre sold. Of the lots sold most are the larger, more expensive lots.

Mr. Clemons stated that the golf course had been reopened preliminarily. Because of the dangers of overstressing the course during the summer months rounds of play had to be limited. He noted that there have been very favorable comments about the course. He stated that they are close to all they can handle on the weekends and about 75 percent of what they are capable of handling during the weekdays. He hopes to have the course open full time in September. Mr. Clemons stated that there was a great management team at the golf course.

A question was posed about any drainage problems on the course. Mr. Clemons replied that there is one minor problem involving drainage down the fairway at one of the holes, but they are currently trying to resolve who is responsible for fixing the problems.

Mr. Clemons discussed the 50 acre tract next to the site that Lowe's currently occupies. The existing contract for the site has terminated. There are two new interested parties, both are retail developers. They have two slightly different strategies both involving a grocery store, however they are waiting on formal proposals before deciding.

Introduction of Captain Paul Payne

On July 13th there was a change of command at Carswell Naval Air Station. The new commander is Captain Paul Payne. This is his fourth tour in the Dallas/Fort Worth area. Captain Payne expressed how happy he is to be in Fort Worth and meet everyone.

Air Force Plant 4

Mr. George Walters from Wright Patterson AFB in Dayton, OH stated that he is going to give updates on three projects at Air Force Plant 4. These projects include: Electrical Resistance Heating, USGS sediment sampling, and Passive Diffuse Bag Sampling/Long Term Monitoring.

Building 181, Electrical Resistance Heating

Mr. Walters explained that the historical trichloroethylene (TCE) contamination occurred at Building 181 prior to 1990, and in 1991 there was a large release from a leaking tank. Mr. Walters described the mechanism of how the TCE has moved through the soil and into the groundwater and bedrock. He described the complex migration behavior of the contamination and how hard it is to find and treat. Mr. Walters described the remediation technique, Electrical Resistive Heating, presently being employed to treat the contamination. After successful completion of a small scale (1/2 acre) pilot test, a full scale system was installed within Building 181. Mr. Walters described the difficulty the contractors had installing the electrode within an existing building that is currently being utilized. Mr. Walters described the heating process where 62 electrodes are

utilized to heat up the ground to approximately 72 and 87 degrees Celsius. The heat causes the TCE to change from liquid to gas where 92 extraction wells remove the vapors from the ground. The electrodes extend down to approximately 32 feet below ground surface. The water table is at approximately 28 feet below ground surface. The system has been operating for 12 weeks. It was originally scheduled to last only 11 weeks. However, the deeper soils are not heating up enough to treat the lower portion of the contamination. To date the treatment system has removed approximately 800 pounds of TCE. The system will be run for an additional 6 weeks to treat the lower source of TCE.

USGS Sediment Sampling, Phase II

Mr. Walters discussed the sediment sampling conducted by the USGS during the Phase I sampling. Shallow sediment samples and deep core samples were taken in Lake Worth to test for elevated PCB levels. Three deep samples were taken and the hottest spot found was 139 microgram per kilogram. We have obtained funding from USGS to take more samples (Phase II) and do more studying along the inlet. A few years ago some studies were done on fish tissue in the lake. Some species had elevated PCB levels that caused the Texas Department of Health to advise against eating any fish from the lake. The bottom line is that 139 micrograms per kilogram is still considered relatively low but they are going back to see if there are any hotter areas of concern.

Passive Diffuse Bag Samplers/Long Term Monitoring

Mr. Walters discusses the long term monitoring that is going on at Carswell. He talked about the two different ways to sample groundwater; conventional pumping (currently being utilized) and Passive Diffuse Bag Sampling (PDBS). The USGS is conducting a study comparing the two sampling methods. If it can be demonstrated that the PDBS sampling results compare well with the conventional sampling technique the government may switch to the PDBS. The PDBS cost less to use than conventional sampling. Mr. Walters discussed the how the PDBS worked and why the Base is monitoring the concentration in the groundwater. Data from the laboratory results from the PDBS were presented along with the results of the conventional sampling. The results were similar but not exact. The discussion continued about why the values were not exactly the same.

Mr. Walters then discussed the long term monitoring being conducted at the Base. Long term monitoring allows the Base to track the performance and effectiveness of the remediation systems. Data is showing that concentrations of contaminants are decreasing over time due to the existing remediation systems. Mr. Walters discussed the USGS optimization modeling to determine the effectiveness of the existing remediation systems. By optimizing the systems, remediation costs can be spent where the most benefit is occurring. The optimization exercise will also help determine where additional remediation systems could be more effective.

Carswell Off Base

Mr. Pringle introduced himself from the Air Force Base Conversion Agency. His primary mission is do the clean-ups of the off base sites including the golf course, the stables, housing, and the Weapons Storage Area and then transfer the land. Mr Pringle is responsible for 19 sites, 18 of which are closed. He has done investigations on the

sanitary sewer line and found 12 sites that are considered to be hot spots. He is currently waiting for the money before doing the clean-up. Most of the land he is responsible for has already been transferred. The two areas that are left are the golf course and the Weapons Storage Area.

The golf course has a plume running across it and as long as there is a plume there the land won't be transferred. Mr. Pringle is thinking about transferring some of the golf course land up to that point.

The Weapons Storage Area is probably going to be closed in September or shortly thereafter. The Finding of Suitability Transfer is currently being reviewed by The Environmental Protection Agency and the Texas Natural Resource Conservation Commission, as well as AFBCA. If everything goes well then the transfer will happen on time. Mr. Pringle stated that he has had four or five people interested in the site, however one individual that owns the land next door is capable of knocking the igloos down and building a residential site.

Mr. Pringle stated that he has picked up Landfill 6 to cleanup. Originally it was supposed to be part of the Naval Air Station, but when they realized you can not build on top of it they turned it over to be transferred. It is now part of the golf course.

Carswell On-Base

Mr. Dodyk, the resident engineer at Carswell, was introduced. He works for AFCEE at Brooks, AFB, but is on-site at Carswell. To date, the Air Force has received closure on 56 of the 88 sites. Since the last meeting several sites have been submitted for closure to the TNRCC.

During June, the first round of performance monitoring on the newly installed permeable reactive barrier was completed. From the results thus far he thinks it is going to work real well.

The groundwater remediation system at the base gas station is going to be installed in the fall. Ten years ago the gas station has underground tanks that leaked. The fuel is still in the ground and it needs to be cleaned before it goes into the river.

After taking soil and groundwater samples hot spots were found at SWMUs 54 and 55 and Landfill 1. These spots will need to be excavated. These hot spots will be excavated in October and November.

The base is conducting an ongoing risk assessment to evaluate the risks to humans.

Open Discussion

Allison Thompson, City of White Settlement was nominated and voted to replace J'Nell Pate as the chairperson for the RAB.

Next Meeting

The next RAB meeting will be November 14th.

In Attendance

Carswell DERA (On-Base)

Don Ficklen, HQ AFCEE/ERD
Mike Dodyk, AFCEE, Resident Engineer
Rich Wheeler, Ellis Environmental Group
Rick Levin, Ellis Environmental Group
Mark Webster, Ellis Environmental Group
Miquette Rochford, HydroGeoLogic, Inc.
Lynn Morgan, HydroGeoLogic, Inc.
Greg McGraw, Shaw Group
Audrie Medina, Booz Allen Hamilton
Robert Myer
Andrea Linder, Booz Allen Hamilton

Carswell AFBCA (Off-Base)

Charles C. Pringle, HQAFCEE/ERD

Air Force Plant 4

Don Yates, Wright Patterson Air force Base
Sonja. A. Jones, U.S. Geological Survey
Sachin Shah, U.S. Geological Survey
George Walters, AFP 4 Project Manager, Wright Patterson Air force Base
Melvin Alli, HQ AFCEE

United States Navy

J.D. Davids, USN

Texas Natural Resource Conservation Commission

Ray S. Risner
Tim Sewell

U.S. Environmental Protection Agency

Gary Miller
Ruben Moya

Lockheed Martin

Fred Novak
Norman Robins
Elizabeth Rowls

Others (Off-Base)

Leland Clemons, Westworth Redevelopment Authority

Ed VonKohn, Westworth Village
W.F. Olshefski, Lake Worth Civic Club
Jim Scanlan, City of Fort Worth Water Department
Ms. Chris Baack, Community Member
D.W. Owens, River Oaks
Greg Hendrickson, River Oaks
Allison Thompson, City of White Settlement
I. Mike Gross, Community Member

Comments regarding the meeting minutes should be sent to:

Mr. Rick Levin
Ellis Environmental Group, LC
414 SW 140th Terrace
Newberry, FL 32669
Phone: (352)-332-3888
Fax: (352)-332-3222
e-mail: Rick.Levin@ellisenv.com



Carswell/Plant 4

FINAL

BASELINE RISK ASSESSMENT FOR THE FOCUSED FEASIBILITY STUDY

Restoration Advisory Board Executive Summary #36 • August 8, 2002

INTRODUCTION

The Former Carswell Air Force Base (AFB) is in the process of conducting a Focused Feasibility Study (FFS). The FFS is being conducted through the combined efforts of the Air Force Center for Environmental Excellence (AFCEE), the Air Force Base Conversion Agency (AFBCA), and Aeronautical Systems Center (ASC). The objective of the FFS is to develop and evaluate remedial options that would allow the transfer of Federal land (i.e., surrounding Carswell Golf Course). Currently, this property is controlled by the Base Realignment and Closure (BRAC) program, which transfers land for suitable public use. To support the FFS and the transfer of property, a Baseline Risk Assessment was conducted so that the appropriate remedial action objectives can be established.

BACKGROUND

The Risk Assessment covers the property currently operated by the golf course as depicted in Figure 1. A portion of the property contains groundwater contaminated with trichloroethene (TCE) emanating from upgradient source areas. The risks involved with the TCE plume along with any other contaminants on site were evaluated through a Human Health (HHRA) and Ecological Risk Assessment (ERA).

The following HHRA exposure scenarios were evaluated in the Risk Assessment:

- Residents possibly exposed to groundwater through ingestion, inhalation of volatiles released by tap water, dermal contact, and inhalation of soil gas vapors trapped in basements
- Construction workers possibly exposed to groundwater through dermal contact, inhalation of volatiles in an excavation, and incidental ingestion
- Recreational users possibly exposed to surface water and sediment by incidental ingestion and dermal contact, and to fish by ingestion
- Trespassers possibly exposed to surface water and sediment by incidental ingestion and dermal contact
- Maintenance workers possibly exposed to surface water and sediment by incidental ingestion and dermal contact

HHRA evaluate two types of threats to human health:

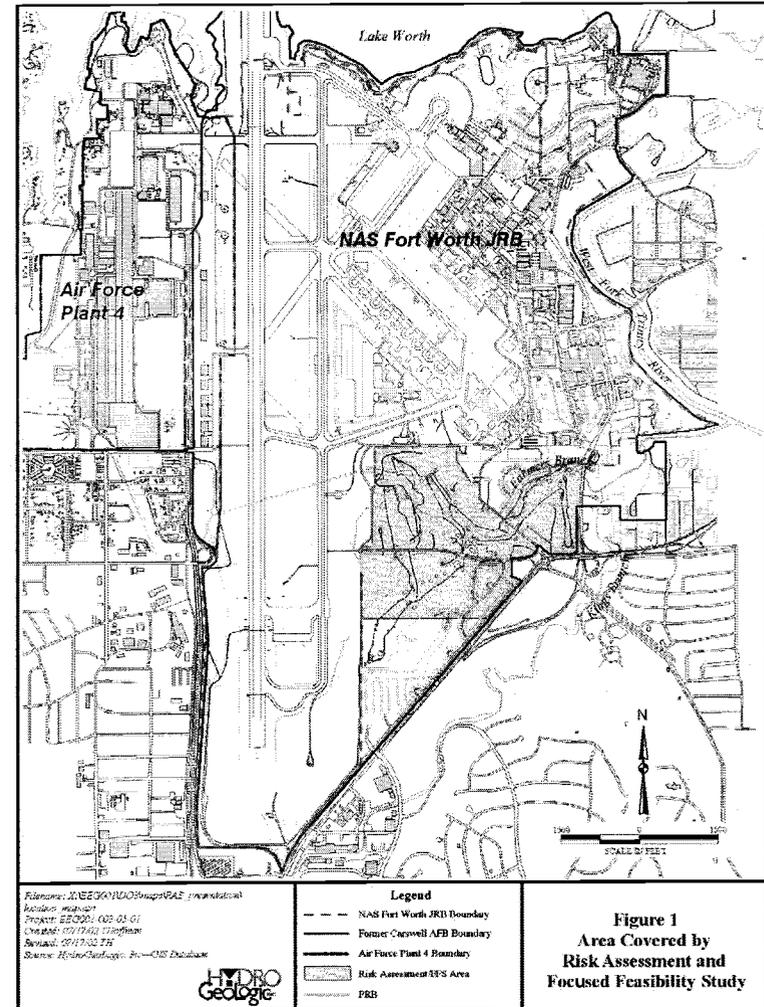
- Non-cancer Hazards (example: irritation of eyes and lungs from inhalation of acetone)
- Carcinogenic Risks (potential for exposure to a carcinogen, such as TCE, to cause cancer)

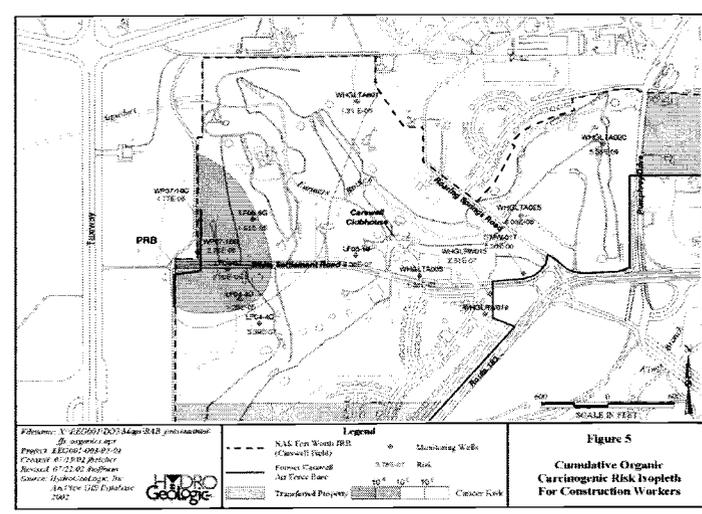
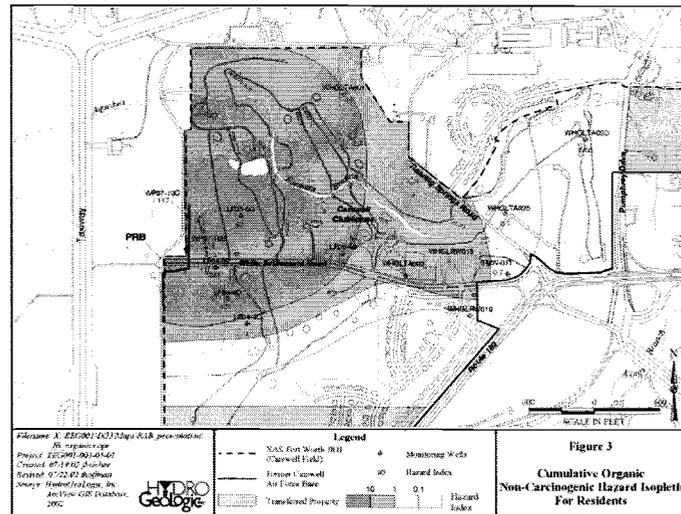
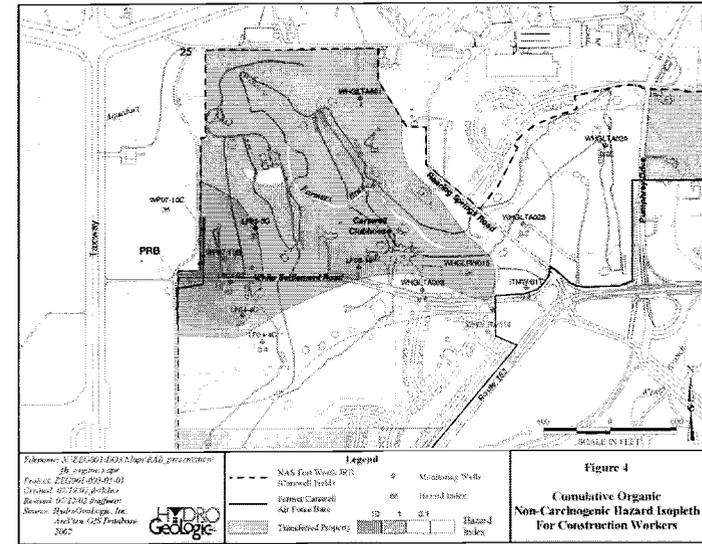
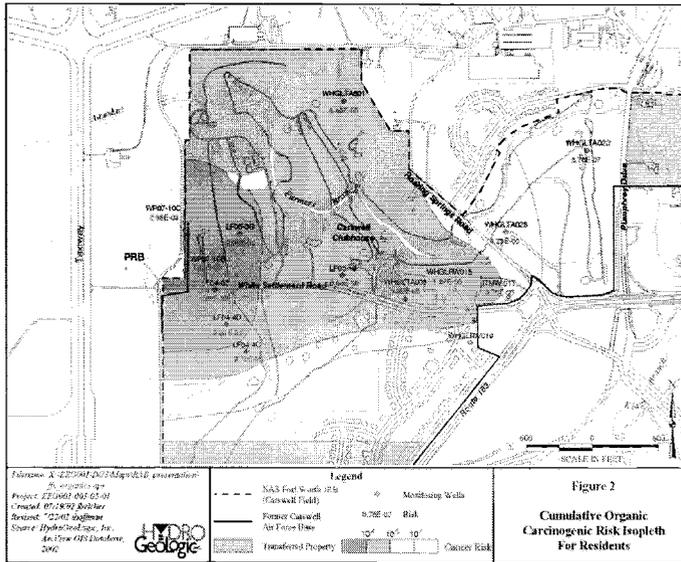
Some chemicals may pose both non-cancer hazards and also be carcinogens. Non-cancer Hazards are calculated by determining a threshold value for exposure below which there will be no adverse effect. The reference dose is an estimate of this threshold value. The risk assessment estimates a person's intake of a certain chemical and divides that by reference dose to yield hazard quotient. If the hazard quotient is less than 1, then that level of contamination is considered to have no health effects.

Any exposure to a carcinogen can result in a potential for cancer. The potential for a particular carcinogen to induce cancer is estimated by the cancer slope factor. The cancer slope factors are calculated by epidemiologists based on laboratory studies. The risk assessment estimates a person's intake of each chemical and multiplies that by the cancer slope factor to yield a probability that the exposure will result in the development of cancer. The EPA's target risk range is 10^{-6} (one in a million) to 10^{-4} (one in ten thousand). The risk assessment and the feasibility study do not recommend an exact risk number (e.g. 10^{-5}); instead a risk management decision is made by the remedial project managers.

HHRA Results

Based on the calculations from the HHRA, carcinogenic risks are within the EPA target risk range across the





BRAC property. Cumulative carcinogenic risks and non-cancer hazards are below the target values (no unacceptable health threats) for the Trespasser, the Maintenance Worker, and the Recreational User.

Carcinogenic risks associated with use of the groundwater were calculated based on an age-adjusted resident. For this receptor, it is assumed that the individual spends 6 years as a child and 24 years as an adult on the site. Cumulative carcinogenic risks in the current residential area within the EPA target risk range. Cumulative carcinogenic risks in the vicinity of SWMU 22 (Landfill 4) and the golf course maintenance shed exceed EPA target risk range as depicted in Figure 2.

Non-cancer hazards associated with use of the groundwater were calculated for a child resident. Non-cancer hazards exceed the target value in the northwest section of the property as depicted in Figure 3. Dominant contributors were TCE and *cis*-1,2-DCE. Chloroform and VC also contributed. Other contaminants contributed negligibly.

Carcinogenic risks were evaluated for age-adjusted resident. Taking into account the barrier effect of the foundations found on houses, risks from inhalation of soil vapors are below EPA target risk range.

Excluding the foundation barrier effect, risks are within or below the EPA target risk range except for one small area located immediately downgradient of the Permeable Reactive Barrier (PRB) (which should decrease the concentrations to acceptable levels).

Implications for Residents:

- Do not use the shallow groundwater as a source of potable water (the residents

currently receive water from public supplies).

- Intrusion of soil gas into basements does not appear to be a problem because existing residences are in an area of low soil gas concentrations and most buildings in the area do not have basements
- Plume concentrations, and hence the soil gas concentrations, should reduce over time due to the PRB. Non-cancer hazards in the northwestern section of the BRAC property exceed the target value of 1.0 for the Construction Worker as depicted in Figure 4. The majority of these hazards are due to TCE. Vinyl chloride (VC) and *cis*-1,2-dichloroethene (*cis* 1,2-DCE) also contribute. The carcinogenic risks are within the 10^{-5} range or lower as depicted in Figure 5.

Assumptions/Implications for the Construction Workers:

- Assumed that excavation intersects the groundwater table. In this part of the property, groundwater levels range from more than 20 feet to 30 feet below ground surface. Ensuring that any excavation does not intersect the groundwater table will substantially non-cancer hazard.
- Assumed zero reduction in TCE, *cis* 1,2-DCE and VC concentrations by the PRB. The PRB will reduce the TCE concentrations and therefore the non-cancer hazards associated with TCE. The first round of PRB sampling results are pending.

- Assumed the construction worker present in the excavation for 8 hours per day, each working day of a single year. Reducing hours in the excavation will reduce non-cancer hazard.

Ecological Risk Assessment Results

All cancer risks and non-cancer hazards are below EPA limits for surface water and sediment. No significant risks to aquatic or sediment-associated receptor populations or to wildlife that may prey on these populations were determined to exist.

For More Information:

If you would like more information, please see our website at <http://www.afcee.brooks.af.mil/er/carswell/nusfw/or> contact George Walters, the Aeronautical Systems Center, Wright-Patterson Air Force Base, OH, at 1-800-982-7248 Ext. 416 or via e-mail at George.Walters@wpafb.af.mil.



Carswell/Plant 4

FINAL RCRA FACILITY INVESTIGATION REPORT SWMUs 5, 6, 12, 31, and 61

Restoration Advisory Board Executive Summary #37 • August 8, 2002

INTRODUCTION

Naval Air Station Fort Worth Joint Reserve Base (NAS Fort Worth JRB), formerly Carswell Air Force Base, is in the process of planning and conducting activities for the identification, remediation, and closure of contaminated sites at the base through the Installation Restoration Program (IRP). The IRP is the primary mechanism of the Department of Defense for environmental response actions on U.S. Air Force installations. IRP activities are governed by provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and other applicable federal and state regulations. The IRP at NAS Fort Worth JRB is being conducted through the combined efforts of the Air Force Center for Environmental Excellence (AFCEE) and the Air Force Base Conversion Agency (AFBCA).

PROJECT BACKGROUND

A RCRA Facility Investigation (RFI) was conducted on 14 solid waste management units (SWMU) and 2 areas of concern (AOC) located throughout the NAS Fort Worth JRB installation. The SWMUs and AOCs included in this RFI served mainly as waste accumulation areas (WAA) that stored hazardous waste before it was disposed of in landfills, reused on-base, or processed through the Defense Reutilization and Marketing Office (DRMO) for off-base recycling or disposal. This RFI is required by the base's RCRA hazardous waste permit (HW-50289), which was issued by the Texas Natural Resource Conservation Commission (TNRCC).

The initial phase of the RFI was conducted at the subject SWMUs during May and June of 1999 in an effort to obtain closure of the sites under the TNRCC Risk Reduction Standard (RRS) program. As a result of the initial field investigation, 9 of the 16 sites required further investigation and/or remediation before closure could be requested. These sites, including SWMUs 5, 6, 11, 12, 31, 32, 36, 51, and 61, underwent a Phase II investigation in May 2000. Following Phase II, five of these sites, SWMUs 5, 6, 12, 31, and 61, required a third round of investigation activities and/or Interim Remedial Actions (IRAs) before closure could be requested. As a result, Phase III of the RFI was conducted in June 2001 and continued in November 2001 through March 2002. The RFI for SWMUs 5, 6, 12, 31, and 61 was documented in a Final Report and submitted to state and federal regulators on June 20, 2002. The locations of these SWMUs in relation to the base are presented in Figure 1.

RCRA FACILITY INVESTIGATION STRATEGY

The RFI was designed and conducted to determine if a release from any of the SWMUs or AOCs occurred. If contamination was encountered, the nature and extent of the contamination was determined, and IRAs to remove contaminated soil were performed if needed. In order to determine if the subject SWMUs and AOCs presented a threat to human health or the environment, essential information regarding each site was obtained. This information includes the lithology of soils beneath each site, the nature of wastes stored at each site, and an assessment of potential contaminant

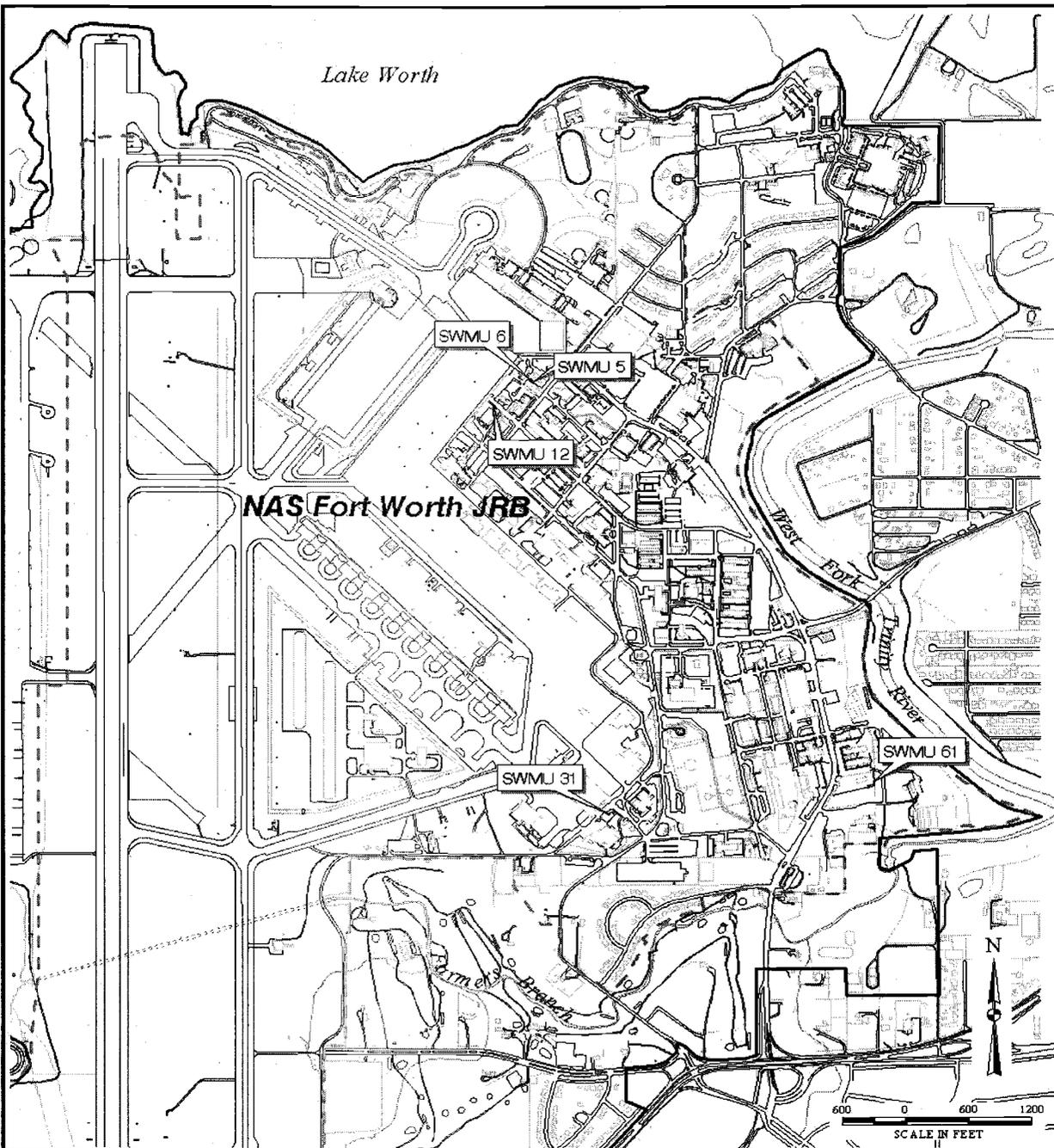
impacts on the quality of soil and groundwater within and around each SWMU/AOC.

Phase I field tasks included advancing continuous-core direct push technology (DPT) soil borings to collect soil samples at each site. The Phase II investigation included additional soil sampling as well as the installation and sampling of monitoring wells. Two rounds of groundwater sampling were conducted, with the exception of SWMU 31, as no subsurface soil contamination was encountered. The Phase III investigation included the installation and sampling of additional wells, and IRAs were conducted to remove contaminated soil as needed. Additional rounds of groundwater sampling were conducted at the subject sites as needed.

No evidence of contamination was encountered at SWMU 31. Some evidence of release was encountered at SWMUs 5, 6, 12, and 61. Therefore, this RFI Report recommended closure under RRS 1 for SWMU 31 and closure under RRS 2 for SWMUs 5, 6, 12, and 61.

For More Information:

If you would like more information, please see our website at <http://www.afcee.brooks.af.mil/er/carswell/nasfw/> or contact Michael Dodyk, HQ AFCEE, at (817) 782-7167 or via e-mail at Mike.Dodyk@carswell.af.mil.



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| <p>Filename: X:\AFC001\15AC\Report location_map_revised.apr Project: EEG003-05-01 Created: 03/11/99 jbelcher Revised: 07/17/02 cf Source: HydroGeologic, Inc. ArcView GIS Database, 2001</p>  | <p>Legend</p> <ul style="list-style-type: none"> --- NAS Fort Worth JRB Boundary — Former Carswell AFB Boundary ■ Solid Waste Management Unit (SWMU) | <p>Figure 1</p> <p>SWMU Locations NAS Fort Worth JRB, Texas</p> |
|--|--|--|

Headquarters U.S. Air Force

Integrity - Service - Excellence

Carswell Off-Base BRAC UPDATE Restoration Advisory Board



**Charles C. Pringle, BEC
8 AUGUST 2002**

U.S. AIR FORCE



Carswell Off-Base/Agenda

■ Program Update

- Sanitary Sewer System Field Work Update - Oct Start
- Off-Site Weapons Storage Area FOST Update – Under Rvw
- RCRA Permit Renewal Update – Final Draft in Rvw

■ Property Transfer Updates

- Kings Branch Housing Area Transfer, Oct. 2000, 40 Acres
- Federal Bureau of Prison Transfer, Dec. 2000, 145 Acres
- Stables Transfer, Aug. 2001, 50 Acres
- Golf Course/LF 6 Lease Expansion, Oct 2001
- WSA FOST - Feb Rvw Start, 247 Acres



Property Transfer Update

- **Federal Bureau of Prison Hospital - 145 Acre Parcel**
 - Transferred to the Dept of Justice (DOJ) for the Federal Bureau of Prisons on December 15, 2000.
 - DOJ accepted the property on Jan 29, 2001.
- **Kings Branch Housing Area - 40 Acre Parcel**
 - Completed transfer in October 2000 to Westworth Redevelopment Authority.
- **Stables - Approx 50 Acre Parcel**
 - Transfer accomplished August 2001.

NAS Fort Worth JRB Installation Restoration Program Update

Michael R. Dodyk, P.E.

August 8, 2002



Site Closure Update

- ◆ Several sites were submitted for closure to the TNRCC since the May RAB meeting:
 - Five Waste Accumulation Areas, known as Solid Waste Management Units (SWMUs) 5, 6, 12, 31, 62.
 - The Building 1655 Oil/Water Separator.
 - Area of Concern (AOC) 19, a suspected Former Fire Training Area.
- ◆ To date, the Air Force has received closure on 56 of 88 total SWMUs and AOCs basewide.



June Field Activities

- ◆ The first round of performance monitoring was conducted for the newly installed Permeable Reactive Barrier (PRB).
- ◆ 3 Monitoring wells were installed into the Paluxy aquifer.
- ◆ Additional delineation sampling was conducted at SWMU 19, a former fire training area.



Paluxy Well Installation June 2002



July Field Activities

- ◆ The second round of soil and groundwater was conducted at SWMU 49, a former wash rack drain.
- ◆ Delineation sampling continued at SWMU 19, a former fire training area. Temporary well points were installed and monitored.
- ◆ Groundwater sampling was conducted at AOC 1, the base gas station.



Well Points at SWMU 19



Well points

Monitoring Well



Upcoming Field Work

◆ September:

- Sampling to monitor the performance of the Permeable Reactive Barrier (PRB).

◆ Fall 2002:

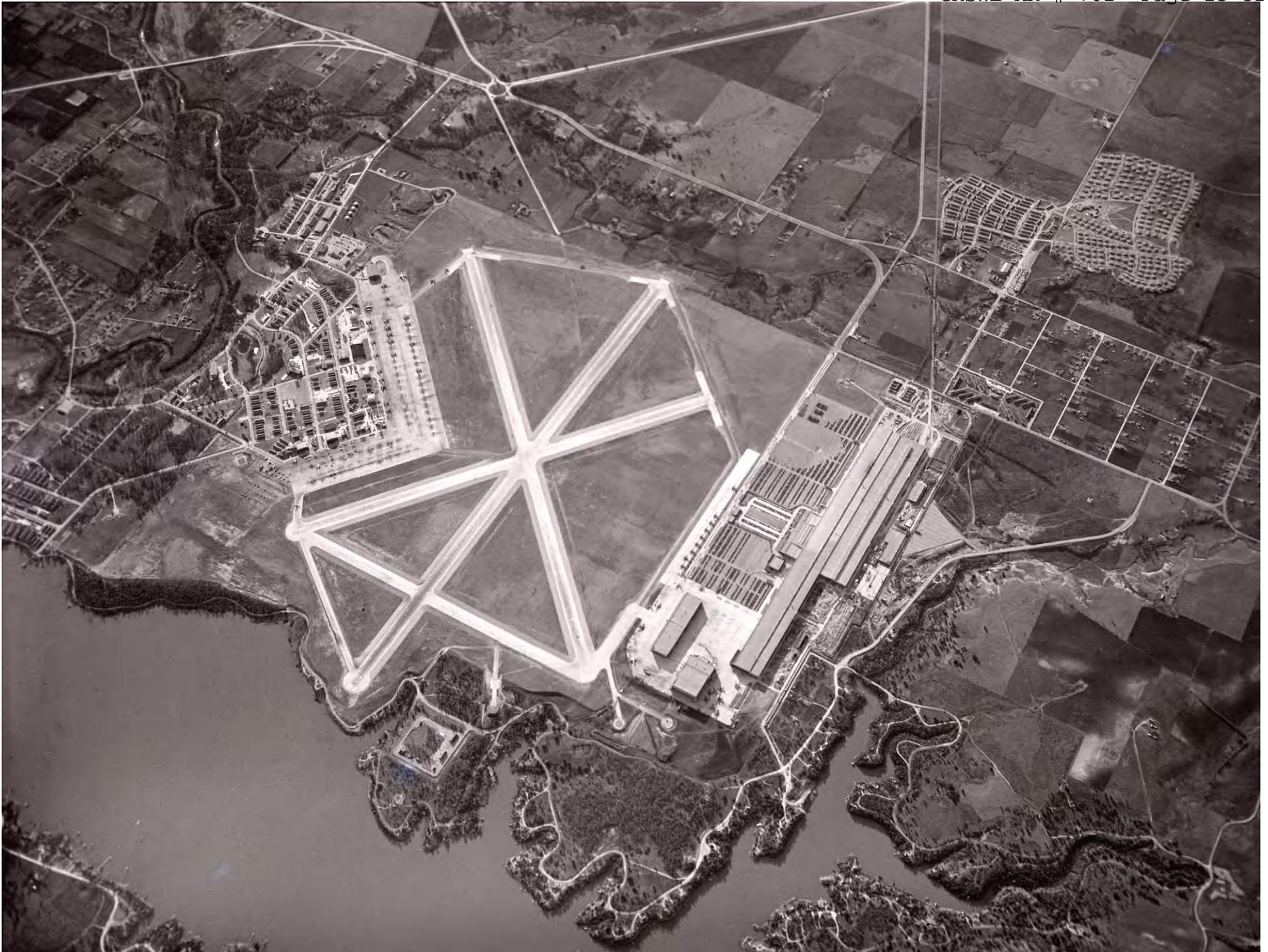
- Installation of a groundwater remediation system at the base service/gas station (AOC 1).
- Additional performance monitoring of the PRB will occur in September and December.
- Excavation of hot spots at SWMUs 54, 55, and Landfill 1/SWMU 28.



Continued Progress

- ◆ **Draft Documents Under Review by AFCEE:**
 - Draft RFI Report for Landfills 2, 6, 7, and 9.
 - Draft RFI Report SWMU 50, former aircraft wash rack.
 - Draft Closure Report SWMU 64, the French Underdrain System.
 - Draft 2002 Groundwater Sampling and Analysis Program Update.
 - Draft 2001 Annual Sampling Report.
 - Risk Assessment Assumptions Document for Northern Lobe TCE Plume.
- ◆ **Risk Assessment of the southern lobe TCE plume approved in July by State and Federal Regulators.**
- ◆ **Focused Feasibility Study of the southern lobe of the TCE plume continued.**







Air Force Plant 4 - RAB

Aug 8, 2002

George Walters

Wright-Patterson AFB OH LF4/5



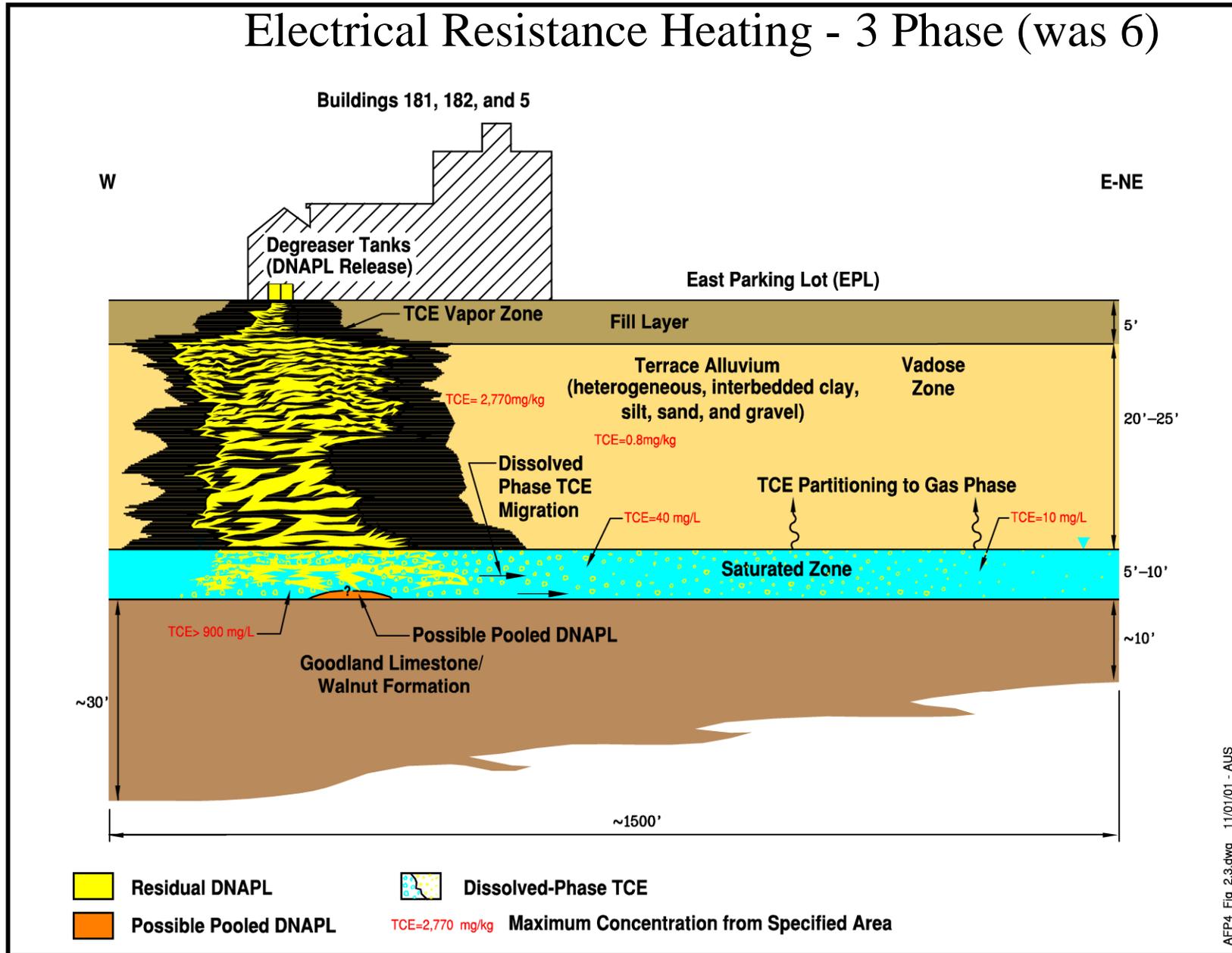
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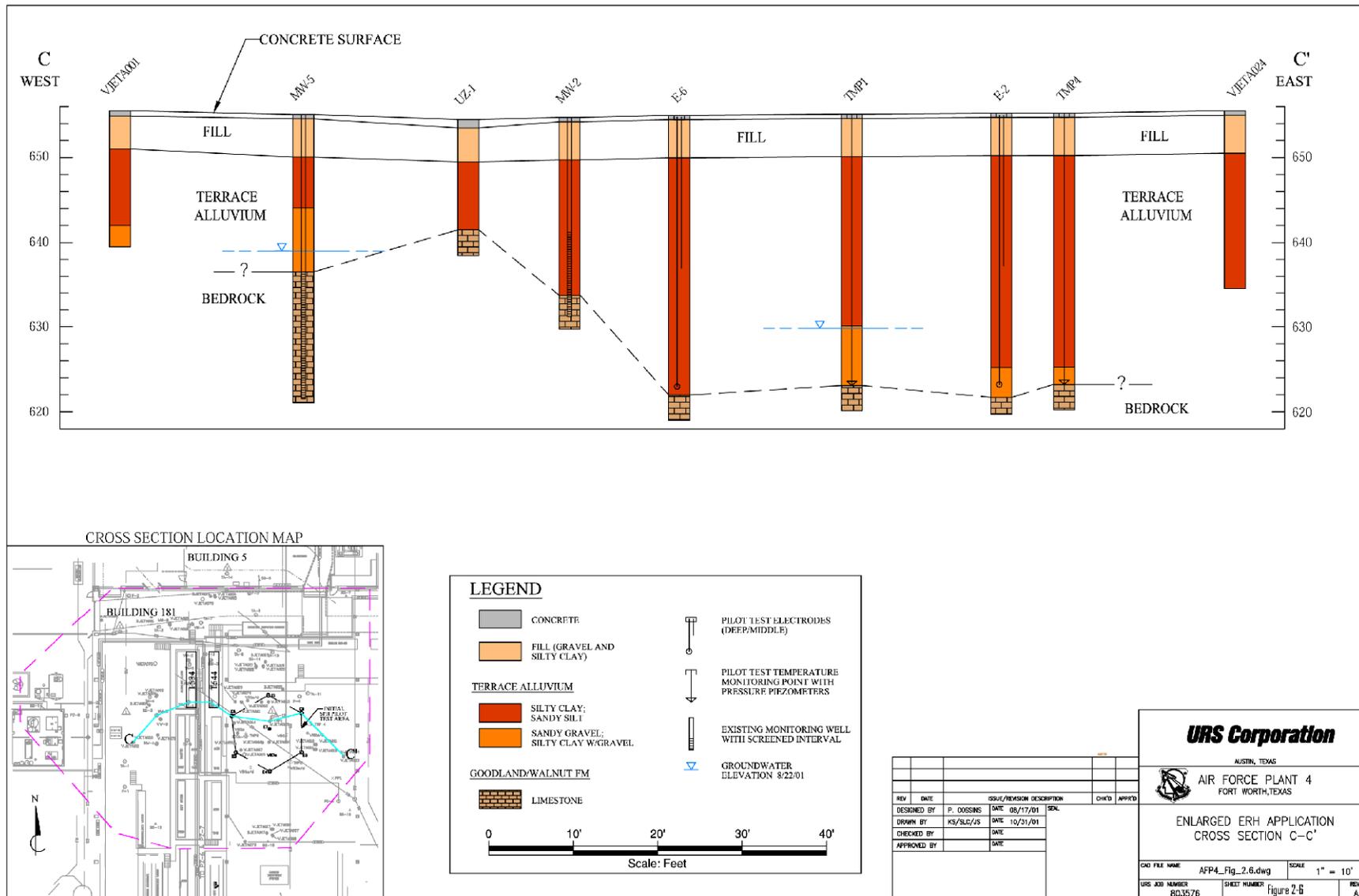
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Electrical Resistance Heating
USGS Sediment Sampling II
Long Term Monitoring

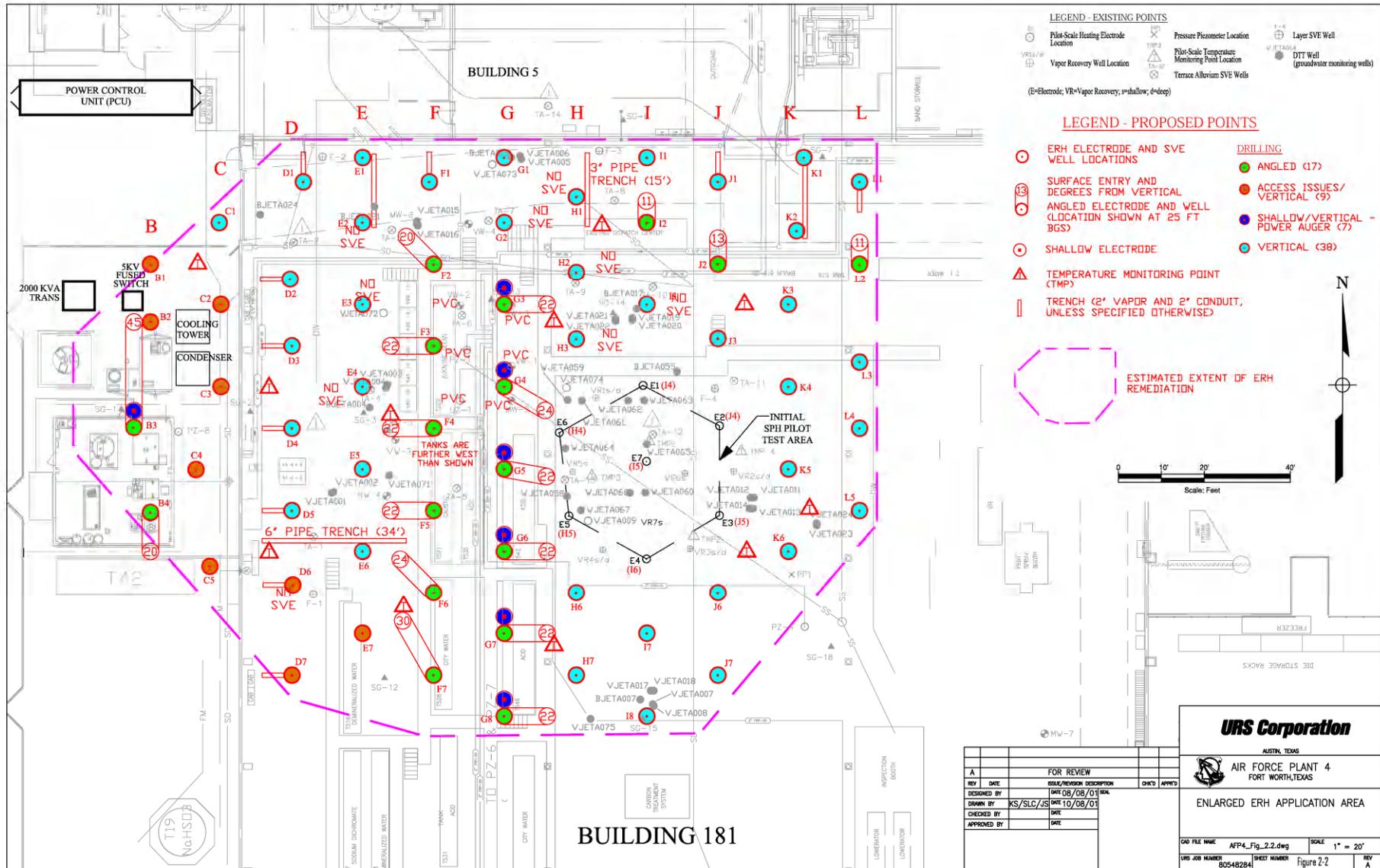
Electrical Resistance Heating - 3 Phase (was 6)



Building 181 and EPL Conceptual Site Model

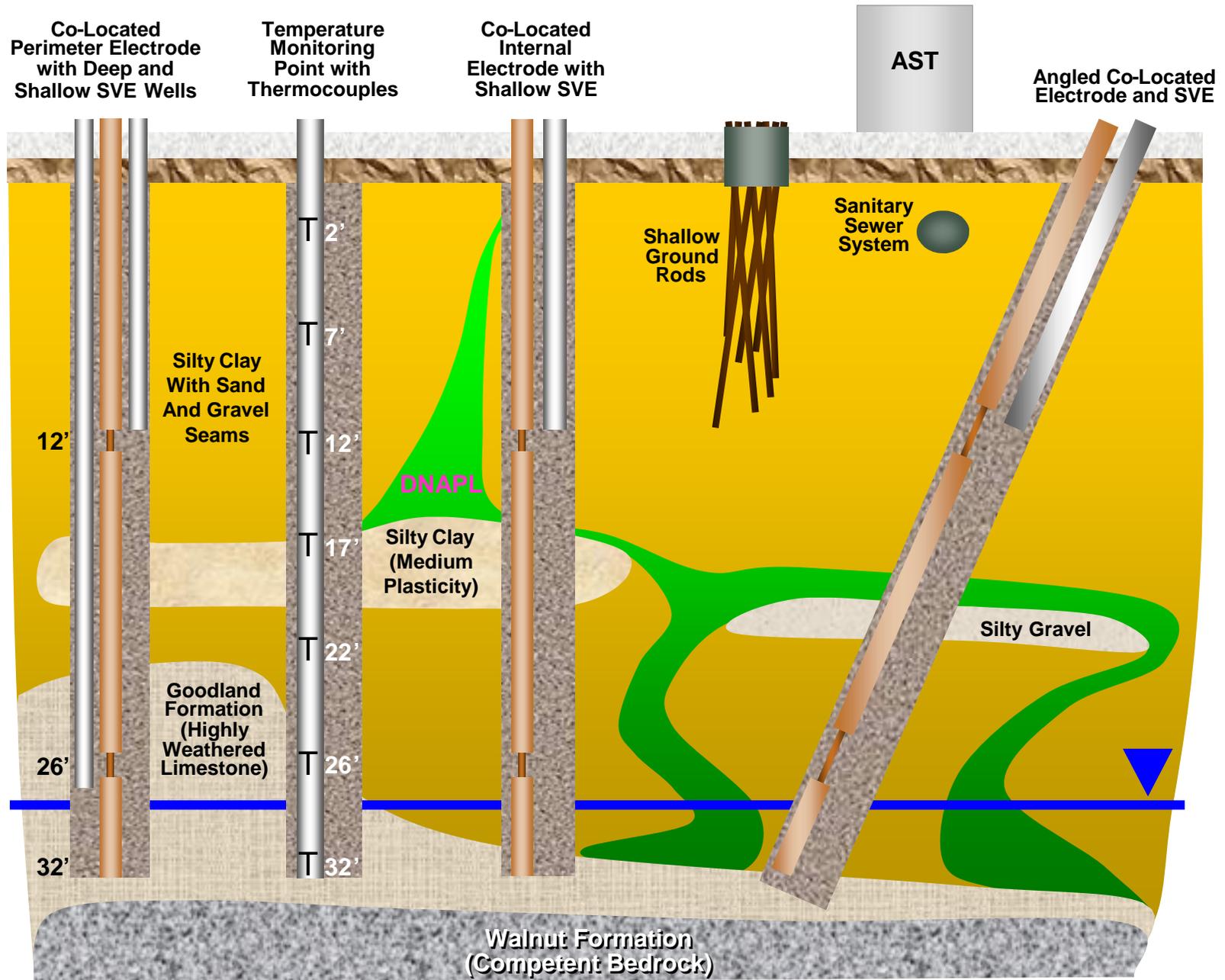


Enlarged ERH Application Cross Section C-C'

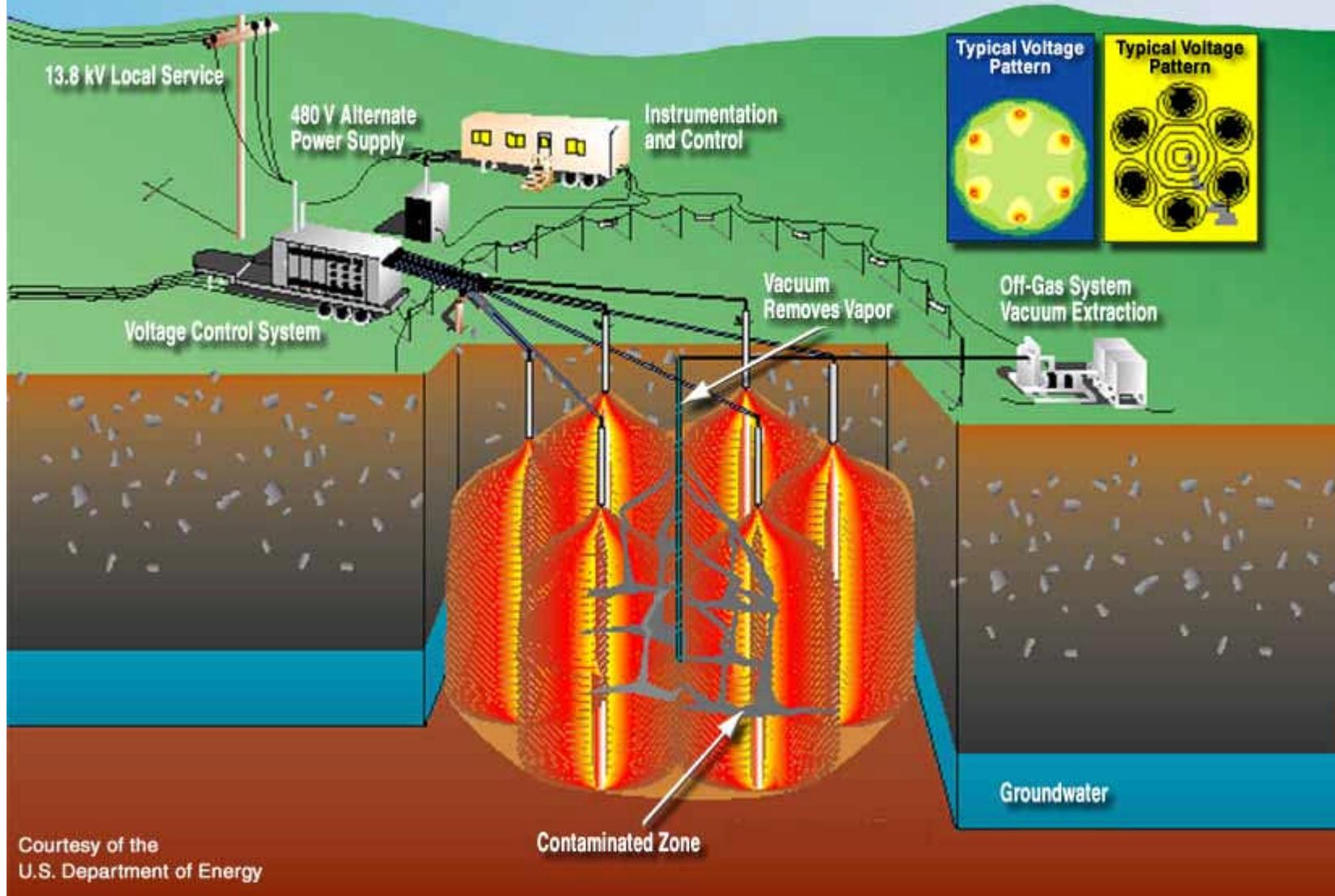


Enlarged ERH Application Area

ERH Subsurface Cross Section



Electrical Resistance Heating



ERH Vapor Extraction

- In order to transport steam to the GAC units, the numerous SVE locations merge into one eight-inch CPVC pipe for transport out of Building 181.
- Safety features include below grade completion, semi-permanent construction fencing and heavy duty electrical cable.

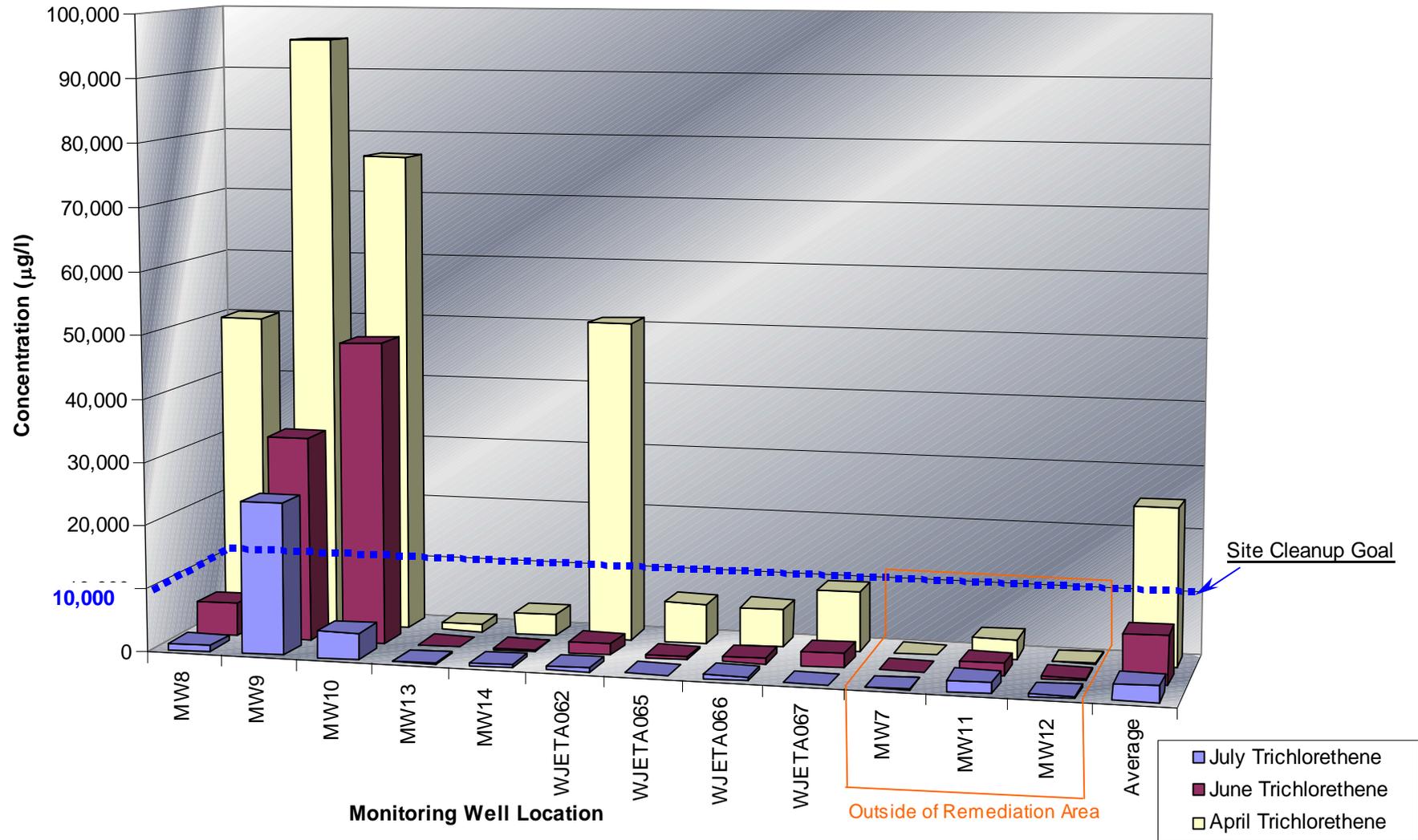


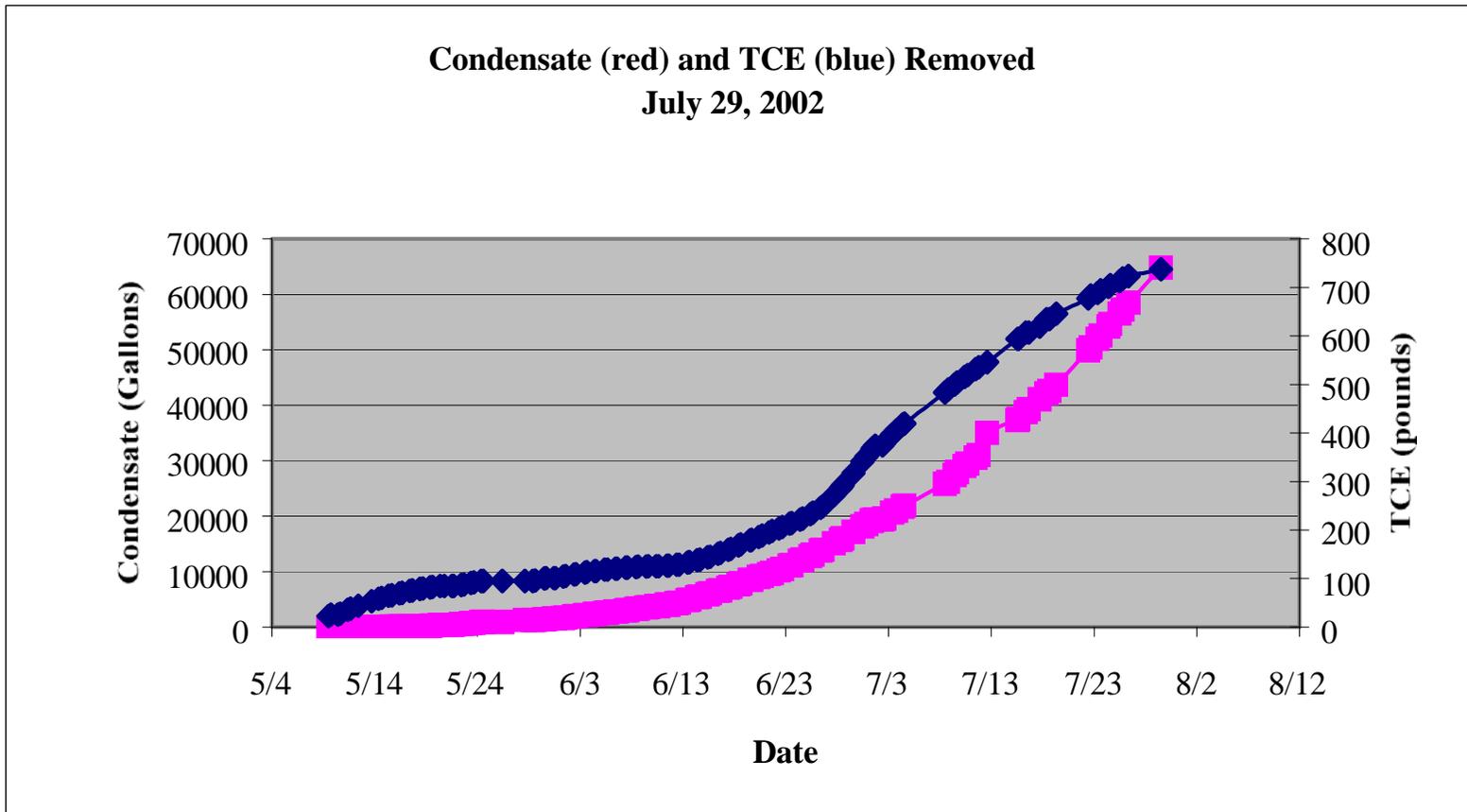
Constant Air Monitoring

- Other safety features include 24-hour air monitoring. The INNOVA system takes air samples every five minutes for ambient TCE concentrations. The system has the ability to automatically shutdown the ERH power control unit (stop heating) if TCE concentrations exceed 3 ppm.
- The INNOVA system is online for remote monitoring by URS.



TCE Concentration Reductions Due to ERH Application April to July, 2002



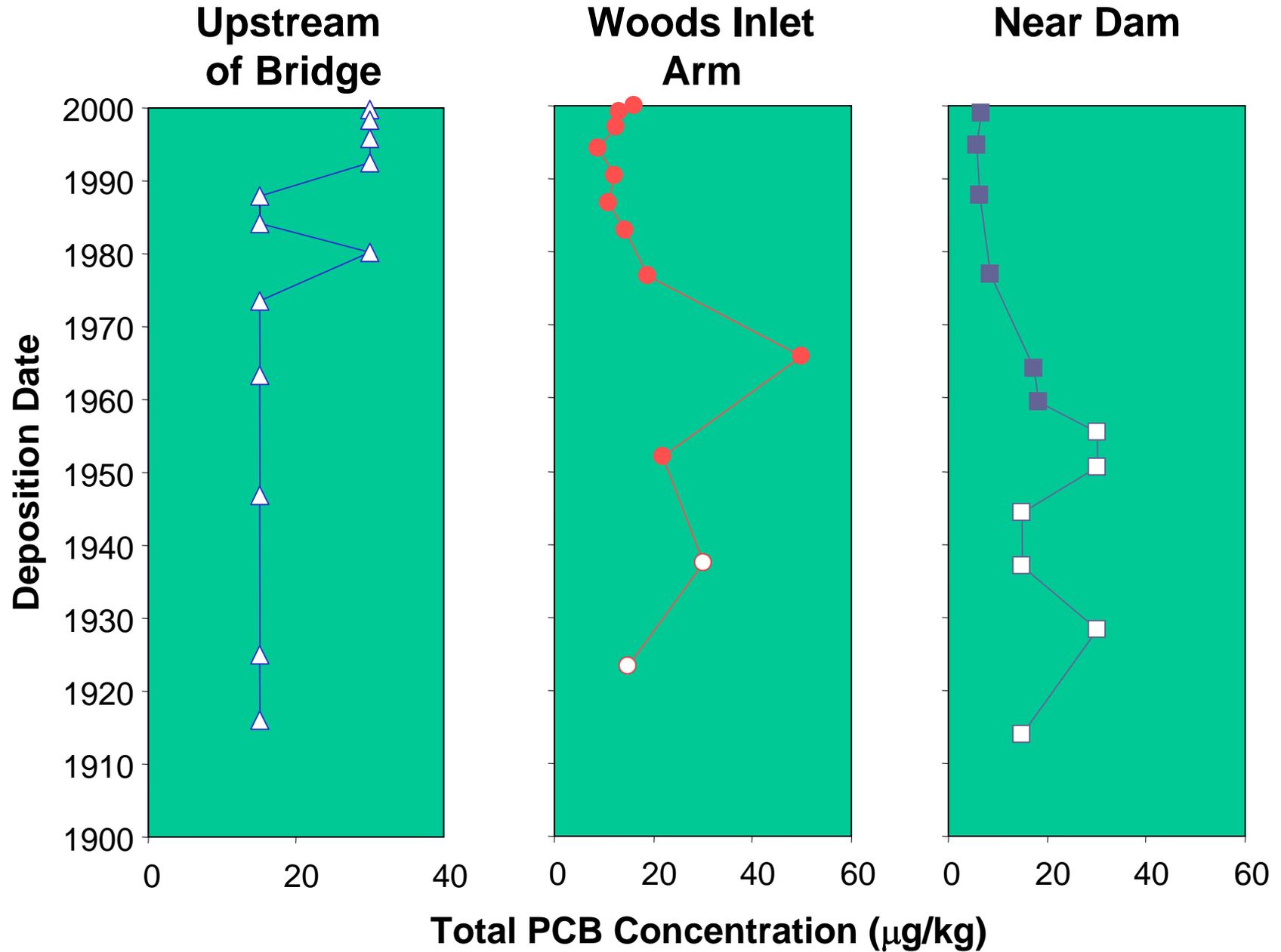




Total PCB concentrations ($\mu\text{g}/\text{kg}$) in the surficial sediments of Lake Worth.

ND is a non-detection. Minimum detection for individual PCB Aroclors was 5 - 30 $\mu\text{g}/\text{kg}$.

Total PCBs in the Gravity Cores from Lake Worth



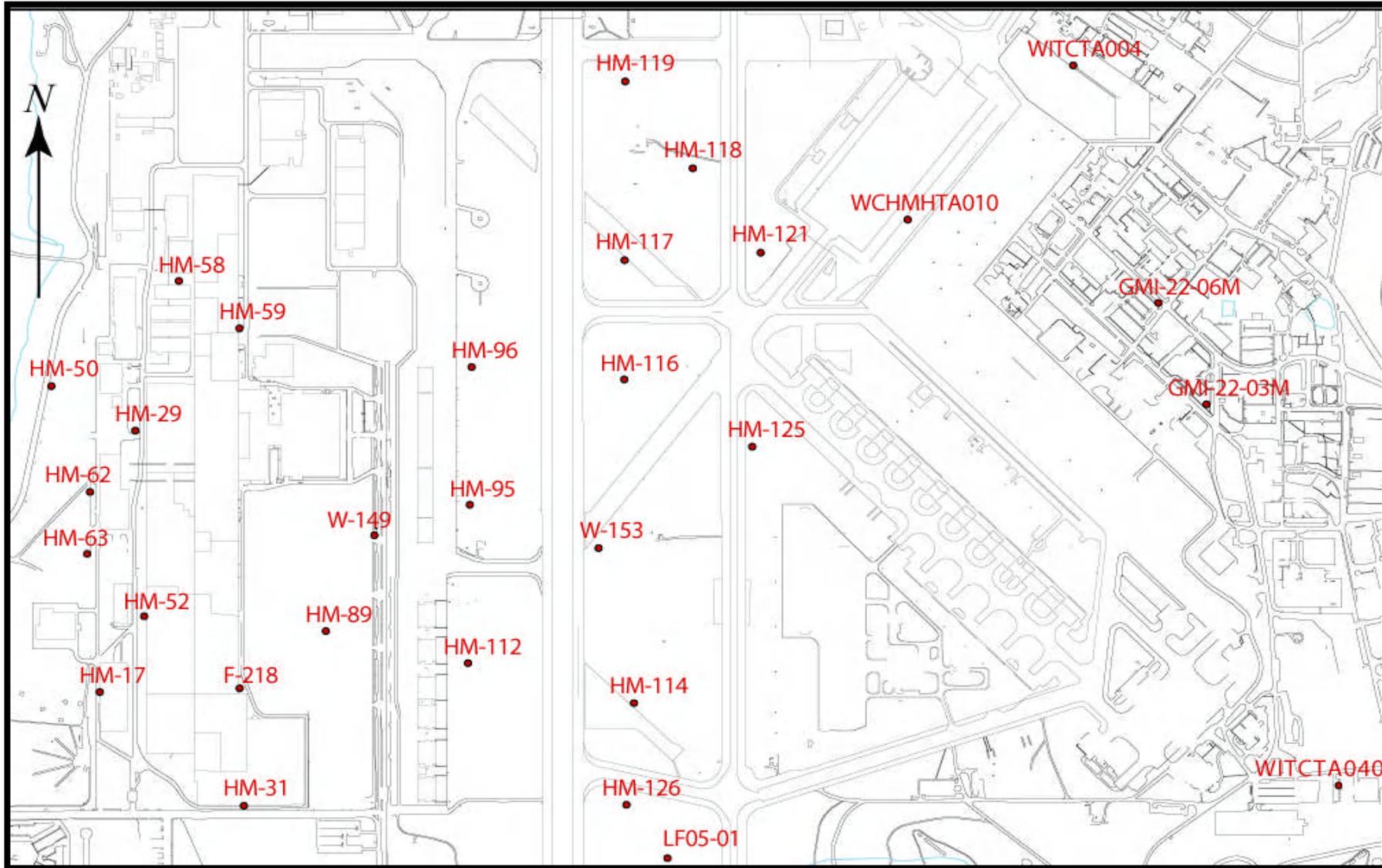
Results of Passive Diffusion Bag (PDB) Sampling – May/June 2002

August 2001

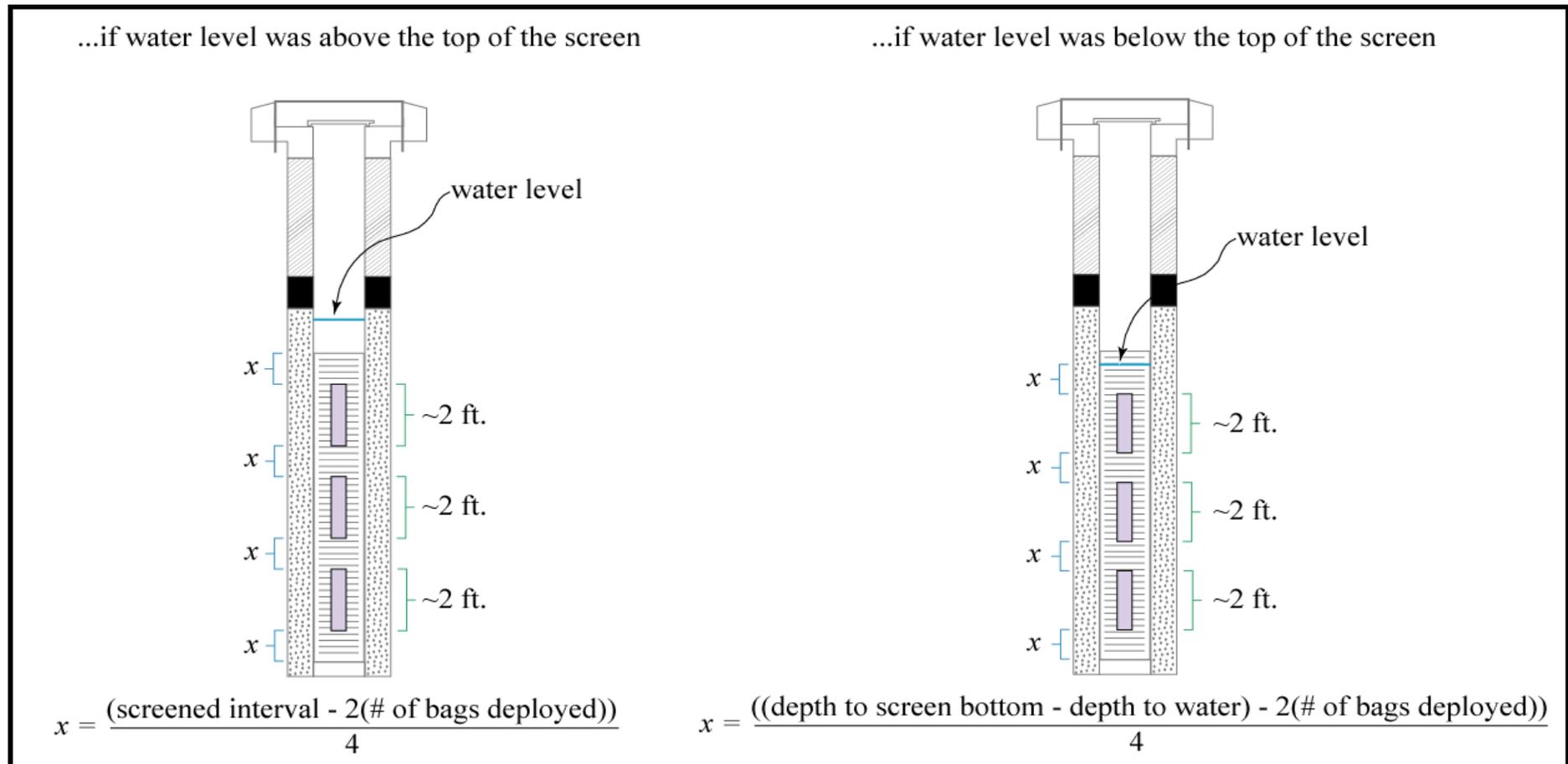
Well Selection Guidelines

- focused on areas that were not sampled as part of the PDB demonstration performed by Parsons
- tried to achieve a fairly uniform spatial coverage of the study area
- concentrated on areas of known or suspected contamination

Wells Sampled in PDB study

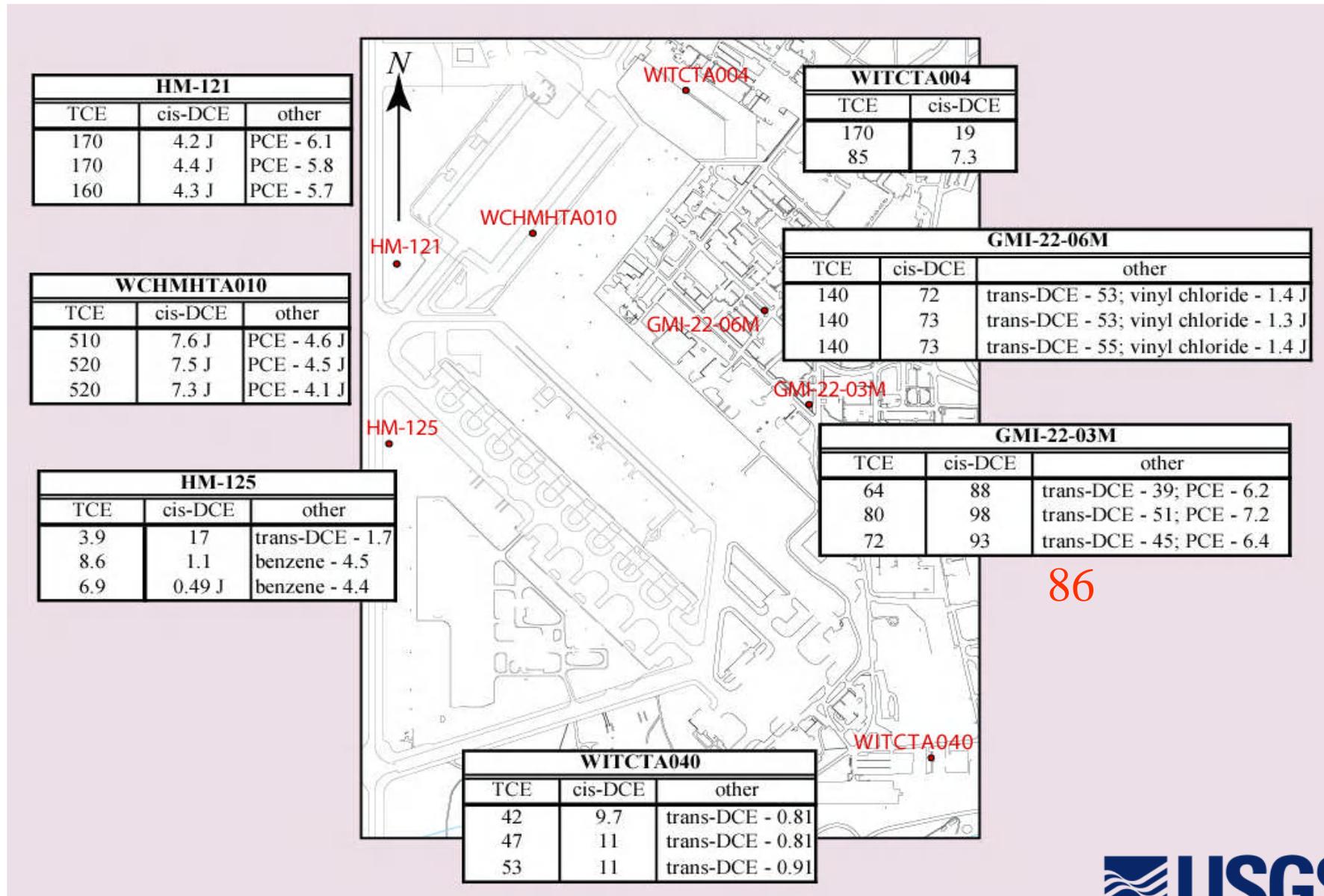


General Guidelines Used in PDB Deployment



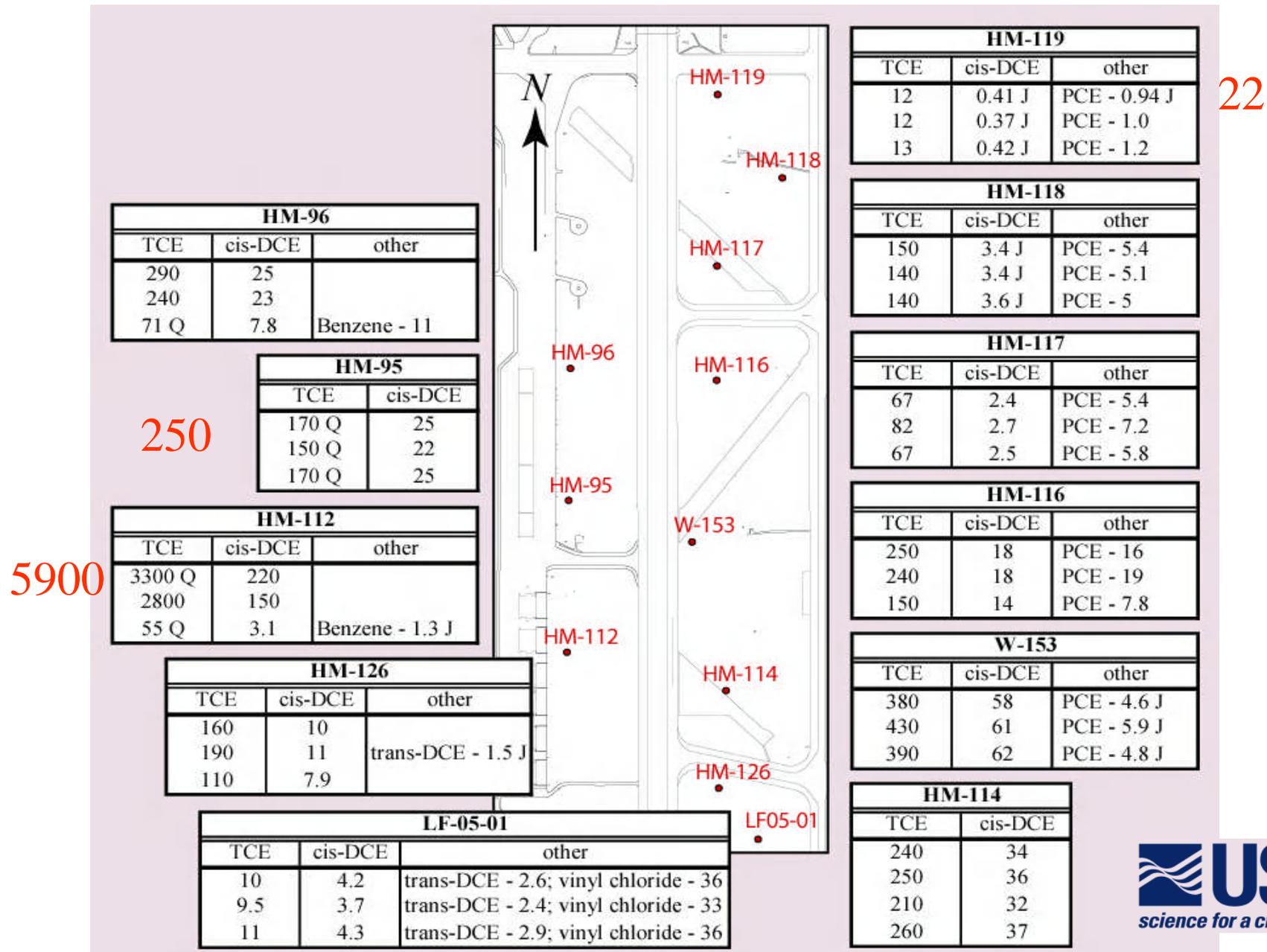
- 3 bags deployed in all of the wells except ...
 - F-218 – only enough saturated thickness for 2 bags
 - HM-114 – had a bag leftover, so we used a total of 4

Results – Eastern Portion of Study Area



86

Results – Central Portion of Study Area



Results – Western Portion of Study Area

| HM-50 | | |
|-------|---------|---|
| TCE | cis-DCE | other |
| 24 | 330 | Benzene - 3.5 J; trans-DCE - 3.5 J; vinyl chloride - 69 |
| 23 | 320 | Benzene - 3.5 J; trans-DCE - 3.7 J; vinyl chloride - 66 |
| 23 | 310 | Benzene - 3.5 J; trans-DCE - 3.7 J; vinyl chloride - 69 |

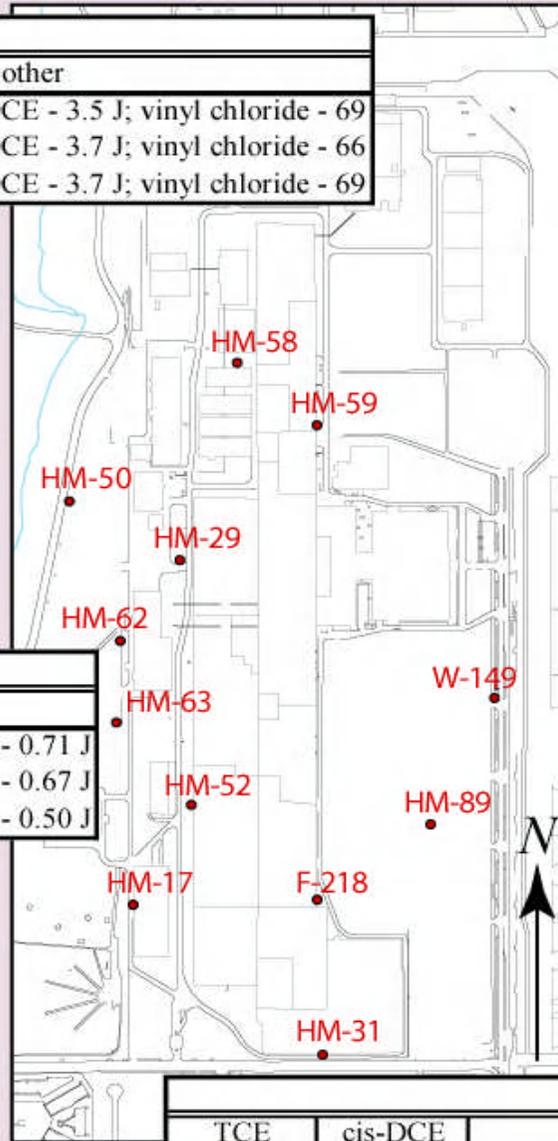
| HM-29 | |
|-------|---------|
| TCE | cis-DCE |
| 560 | 14 J |
| 560 | 13 |
| 520 Q | 13 |

| HM-62 | | |
|-------|---------|------------------|
| TCE | cis-DCE | other |
| 6.3 | ND | Benzene - 0.67 J |
| 5.8 | ND | Benzene - 0.63 J |
| 5.5 | ND | Benzene - 0.62 J |

| HM-63 | | |
|-------|---------|--|
| TCE | cis-DCE | other |
| 8.1 | 16 | Benzene - 4.3; vinyl chloride - 0.71 J |
| 6.1 | 13 | Benzene - 4.5; vinyl chloride - 0.67 J |
| 4.2 | 11 | Benzene - 4.3; vinyl chloride - 0.50 J |

| HM-52 | |
|-------|---------|
| TCE | cis-DCE |
| 1.8 | ND |
| 1.8 | ND |
| 1.8 | ND |

| HM-17 | |
|--------|---------|
| TCE | cis-DCE |
| 3700 Q | 39 J |
| 3000 | ND |
| 3100 Q | 33 J |



| HM-58 | |
|-------|---------|
| TCE | cis-DCE |
| ND | ND |

| HM-59 | | |
|--------|---------|----------------|
| TCE | cis-DCE | other |
| 0.36 J | ND | |
| 0.39 J | ND | Benzene 0.30 J |
| 0.38 J | ND | Benzene 0.44 J |

| W-149 | |
|--------|---------|
| TCE | cis-DCE |
| 5900 | 520 |
| 6300 Q | 590 |
| 4100 Q | 370 |

5700

| HM-89 | | |
|-------|---------|-----------------|
| TCE | cis-DCE | other |
| 470 Q | 450 | trans-DCE - 8.9 |
| 430 Q | 440 | trans-DCE - 8.8 |
| 350 Q | 390 | trans-DCE - 6.8 |

| F-218 | |
|-------|---------|
| TCE | cis-DCE |
| 8400 | 1500 |
| 6600 | 1300 |

5200

16

| HM-31 | | |
|-------|---------|--|
| TCE | cis-DCE | other |
| 110 Q | 60 | Benzene - 2.2 J; trans-DCE - 9.9; vinyl chloride - 1.7 J |
| 120 | 60 | Benzene - 2.9 J; trans-DCE - 9.8; vinyl chloride - 1.5 J |
| 98 Q | 46 | trans-DCE - 5.3 |

3D Site-wide Conceptual Model for U.S. Air Force Plant 4 & NAS-Fort Worth, Texas.

Sachin Shah

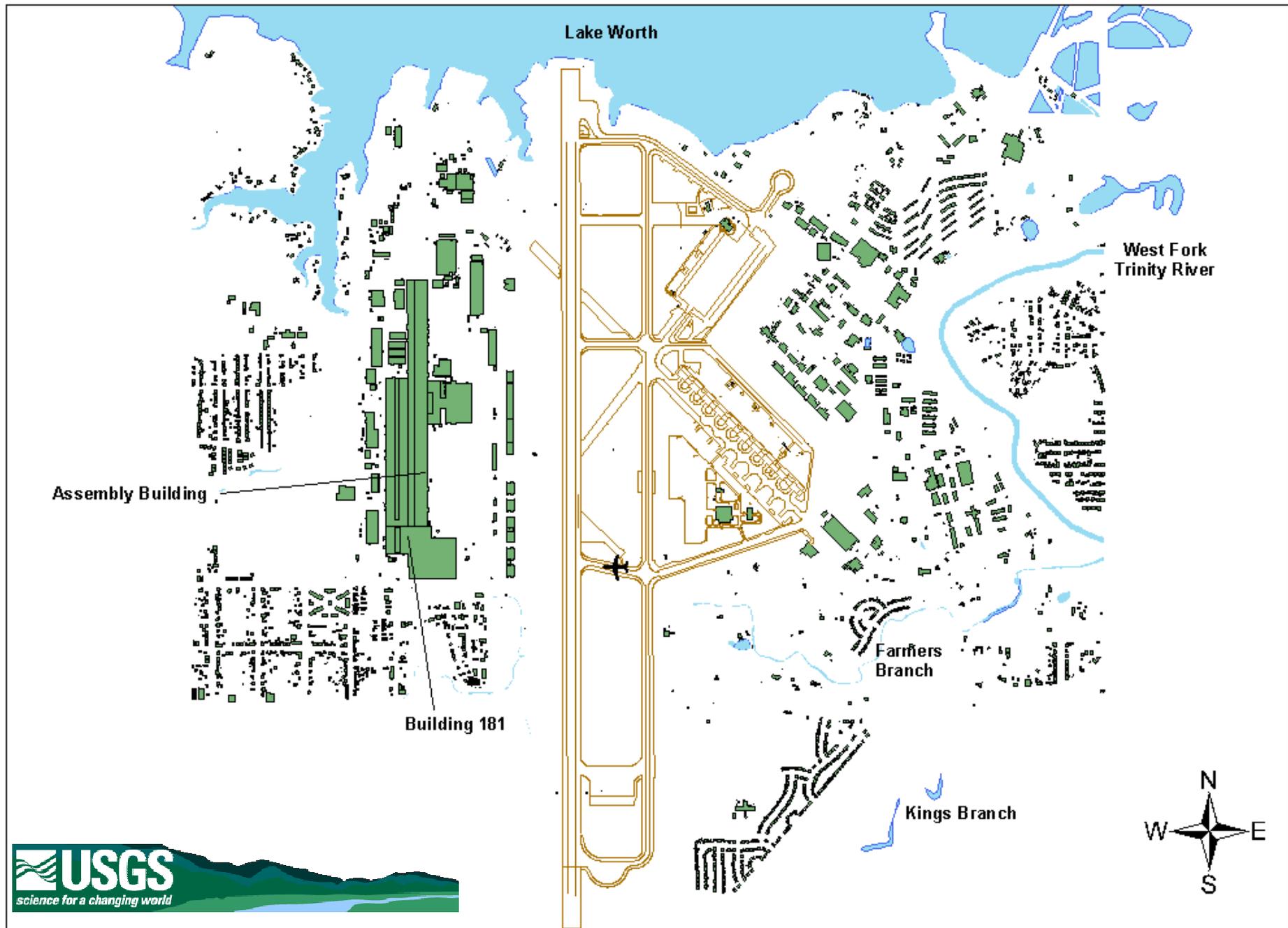
Sonya Jones

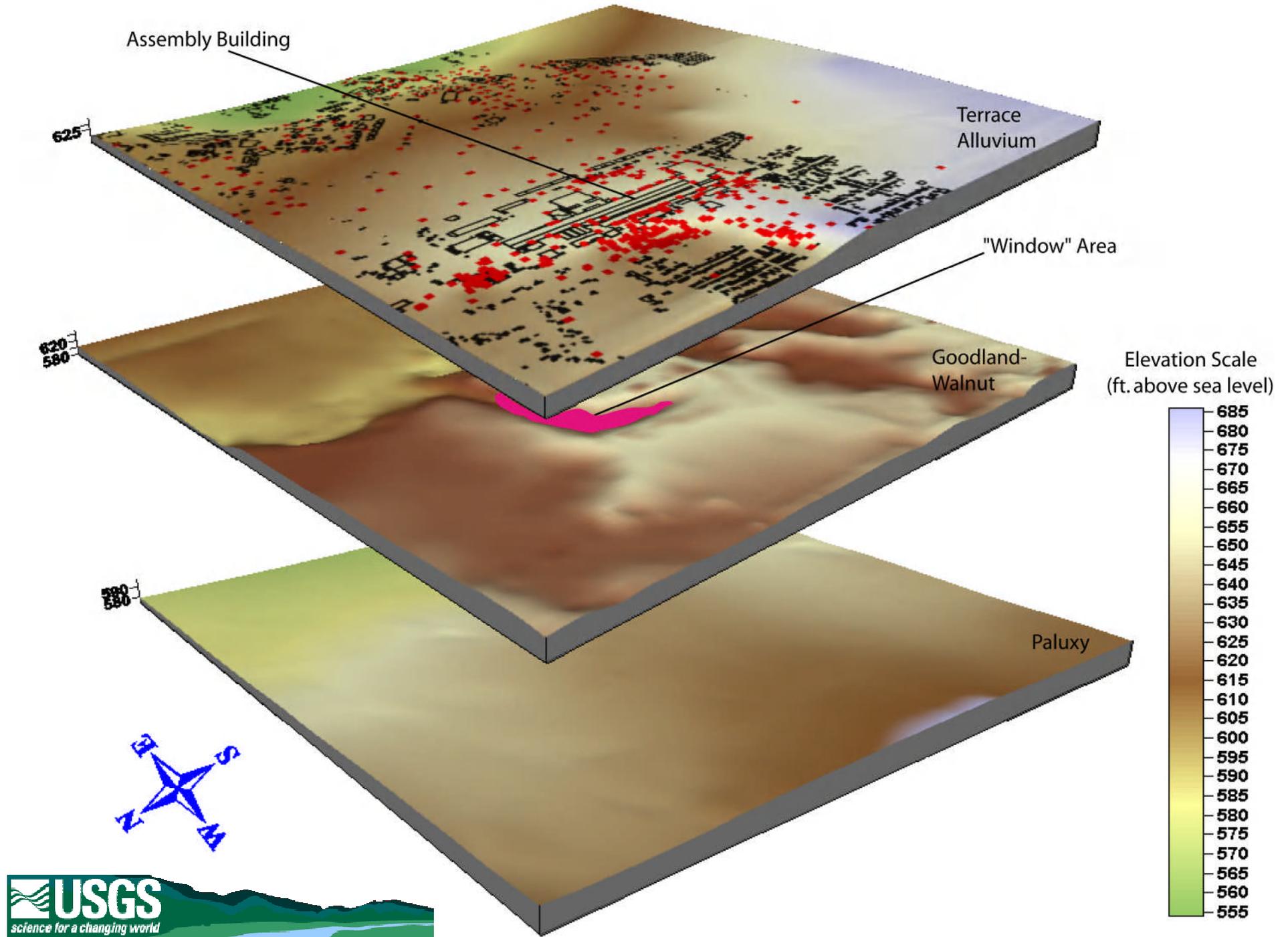
Christopher Braun

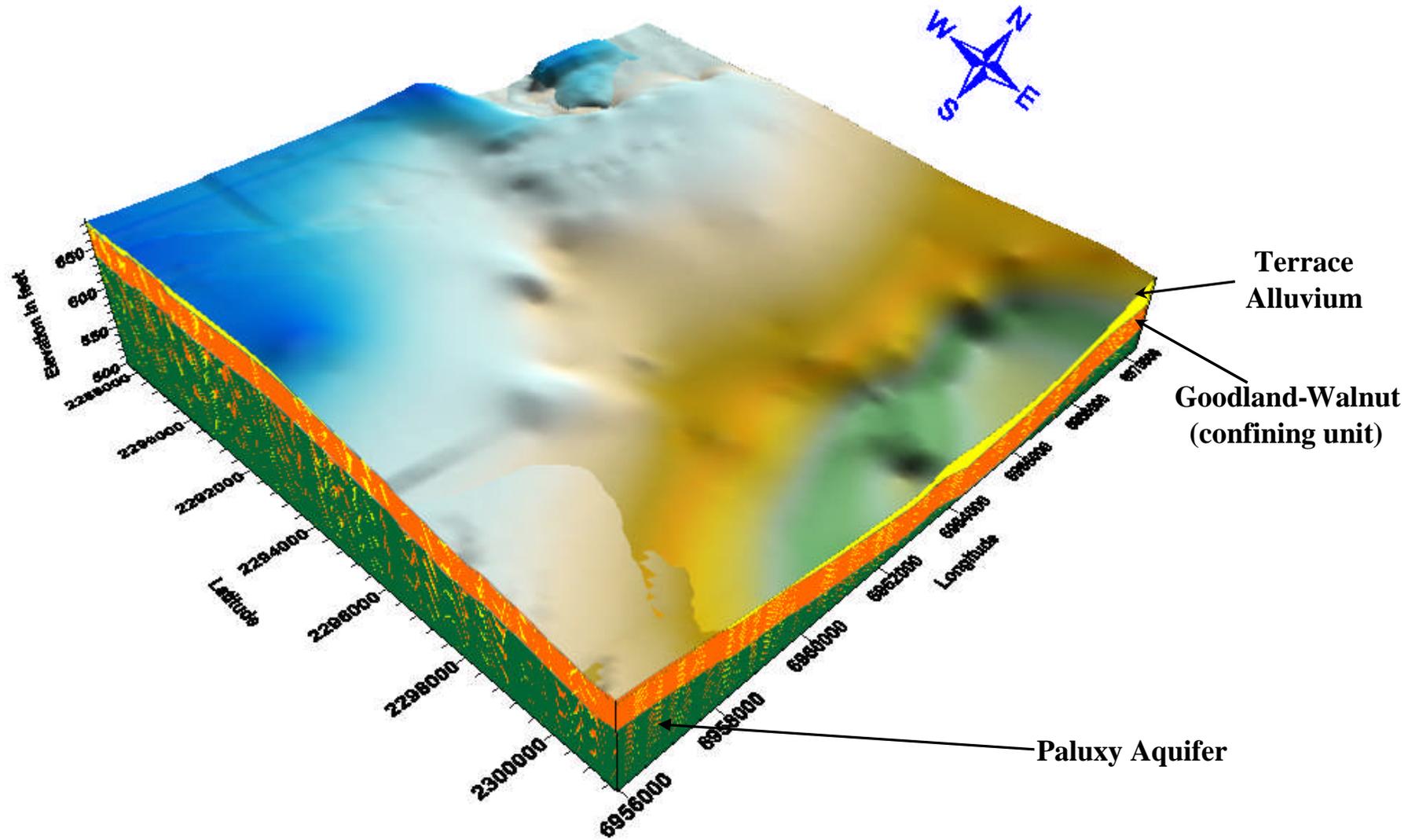
Objectives

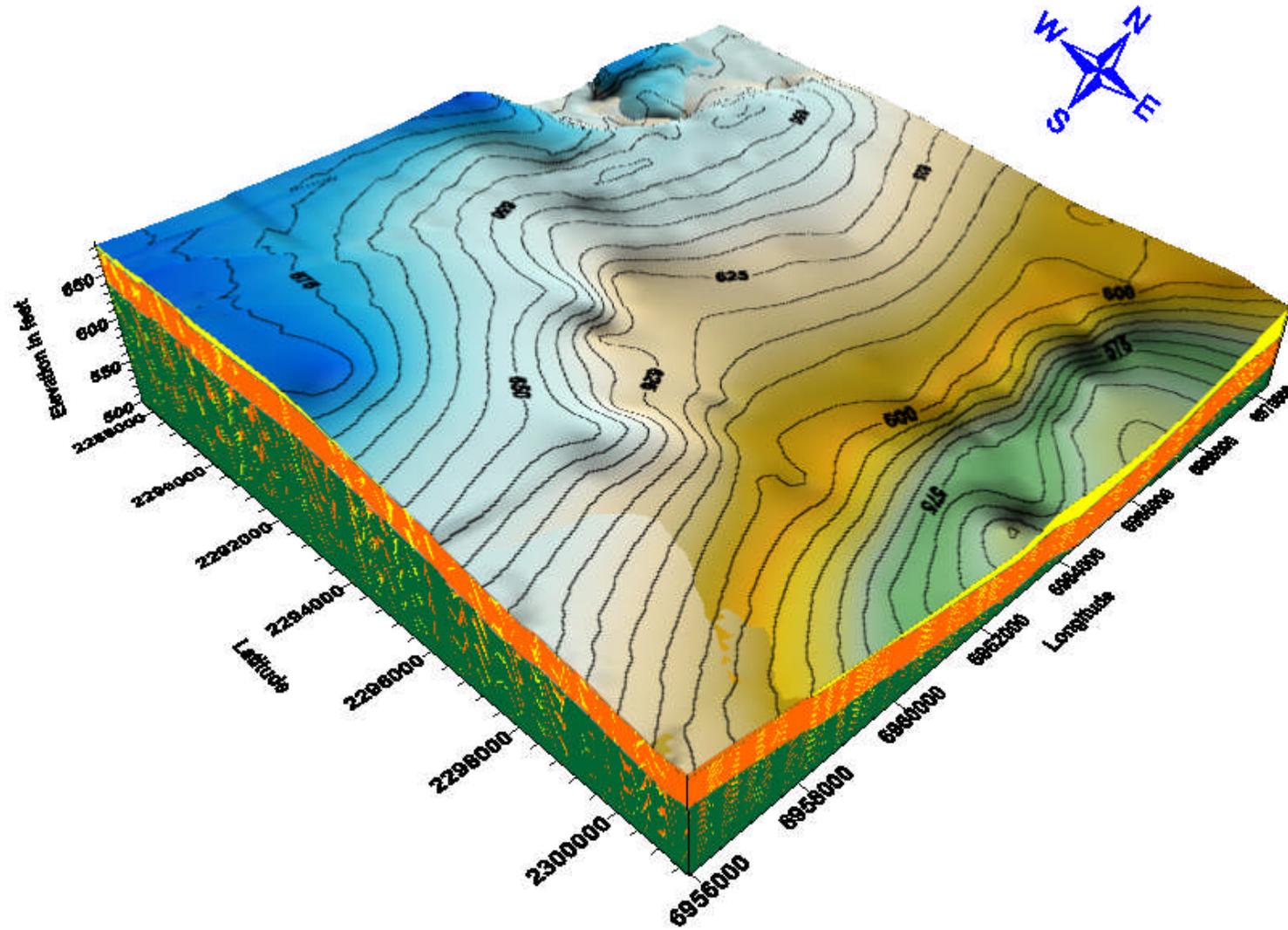
- Consolidate data from every source to gain a realistic view of the site
- Ideally, model & updated data will be accessible for everyone through the internet
- Make the model simple and user-friendly enough as a resource for site information

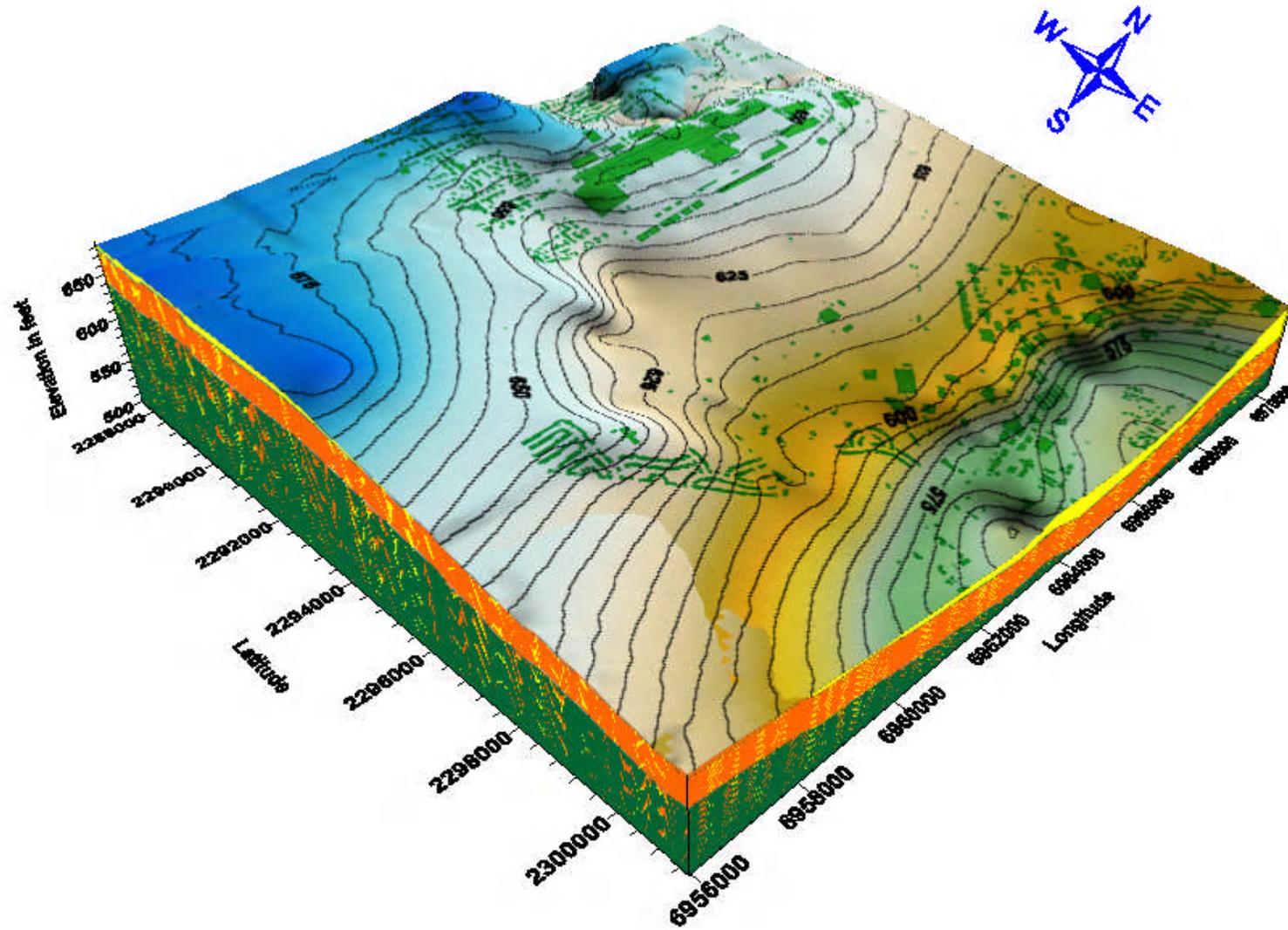
U.S. Air Force Plant 4 site and NAS-Fort Worth, Texas

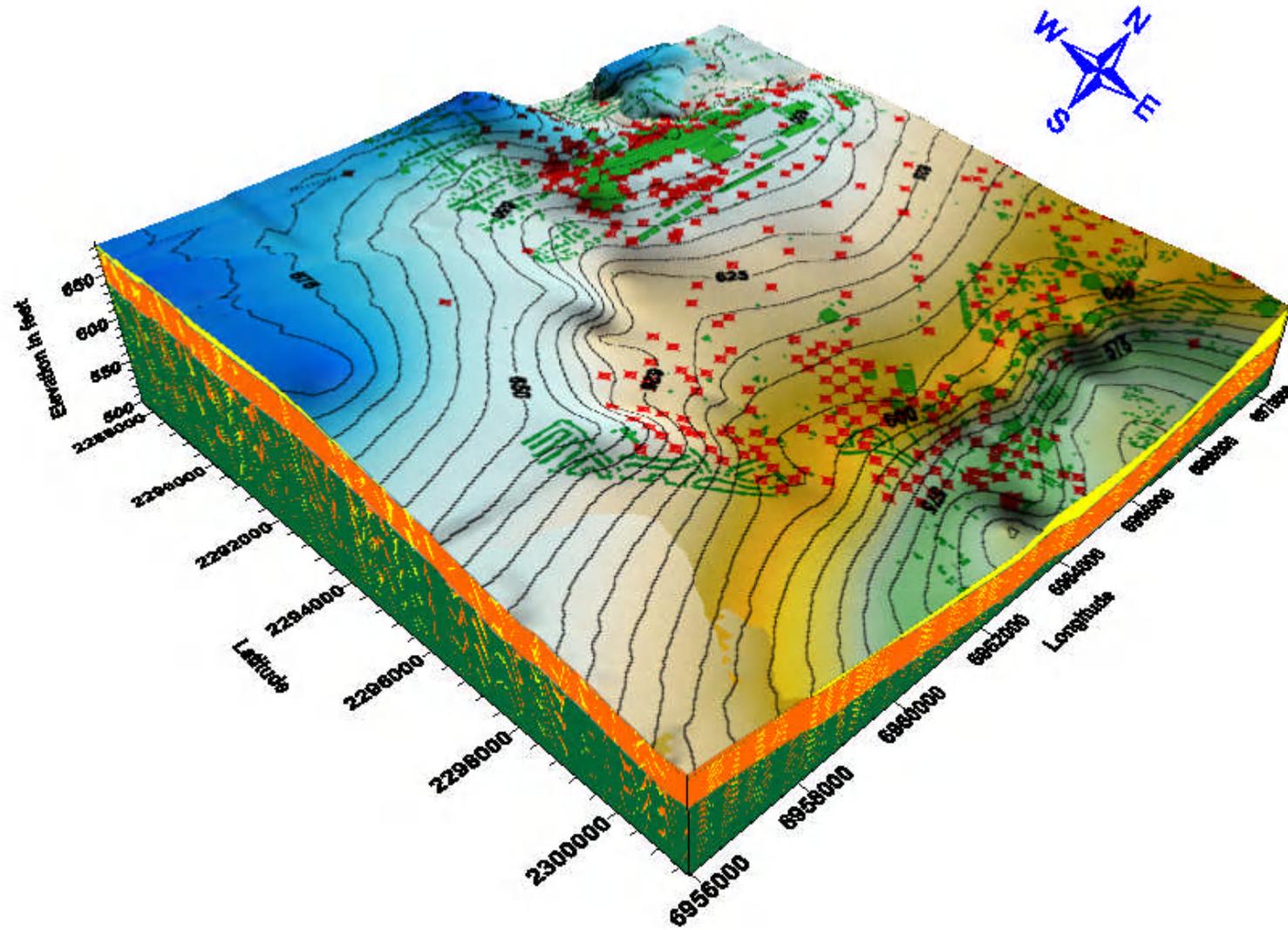




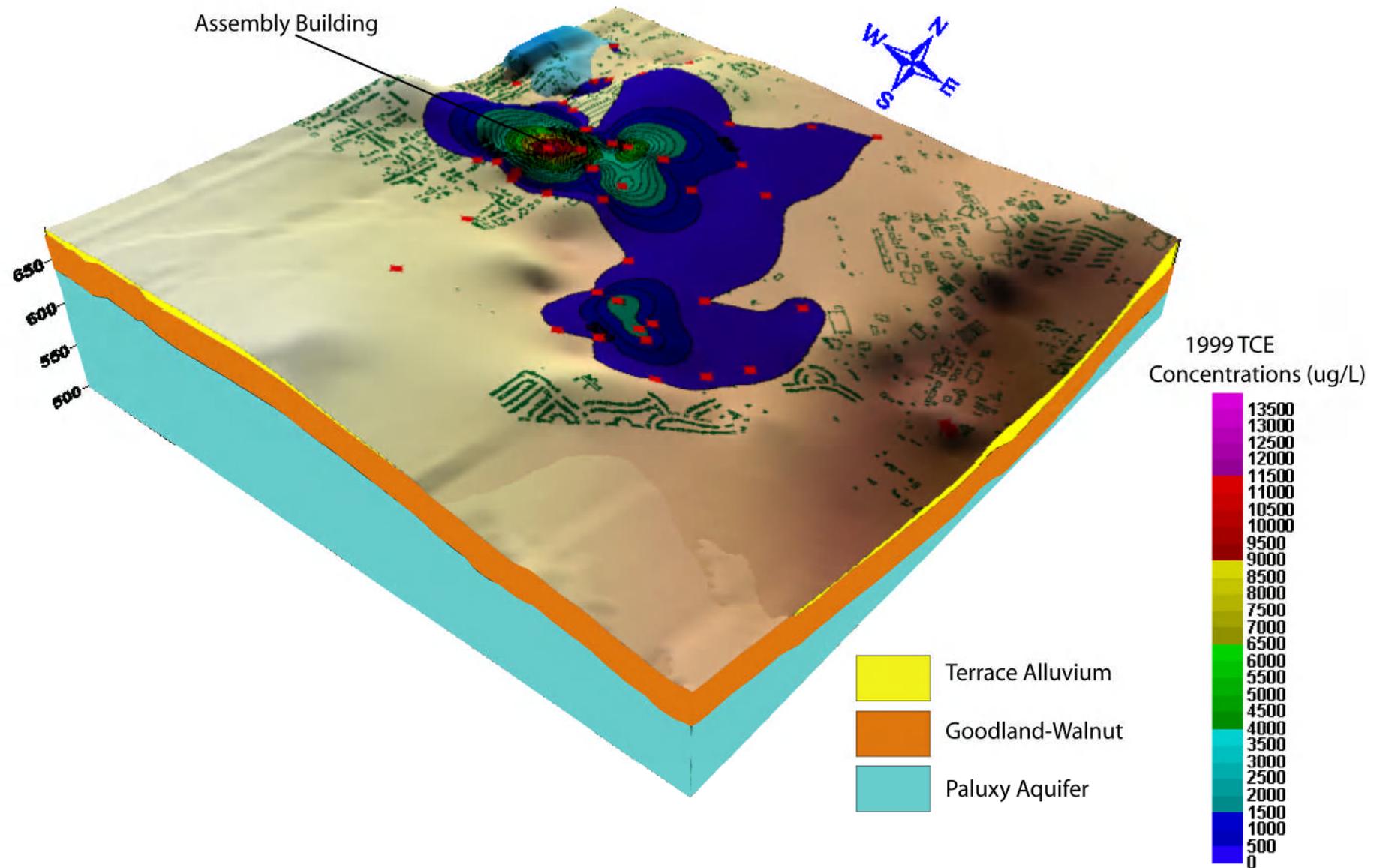




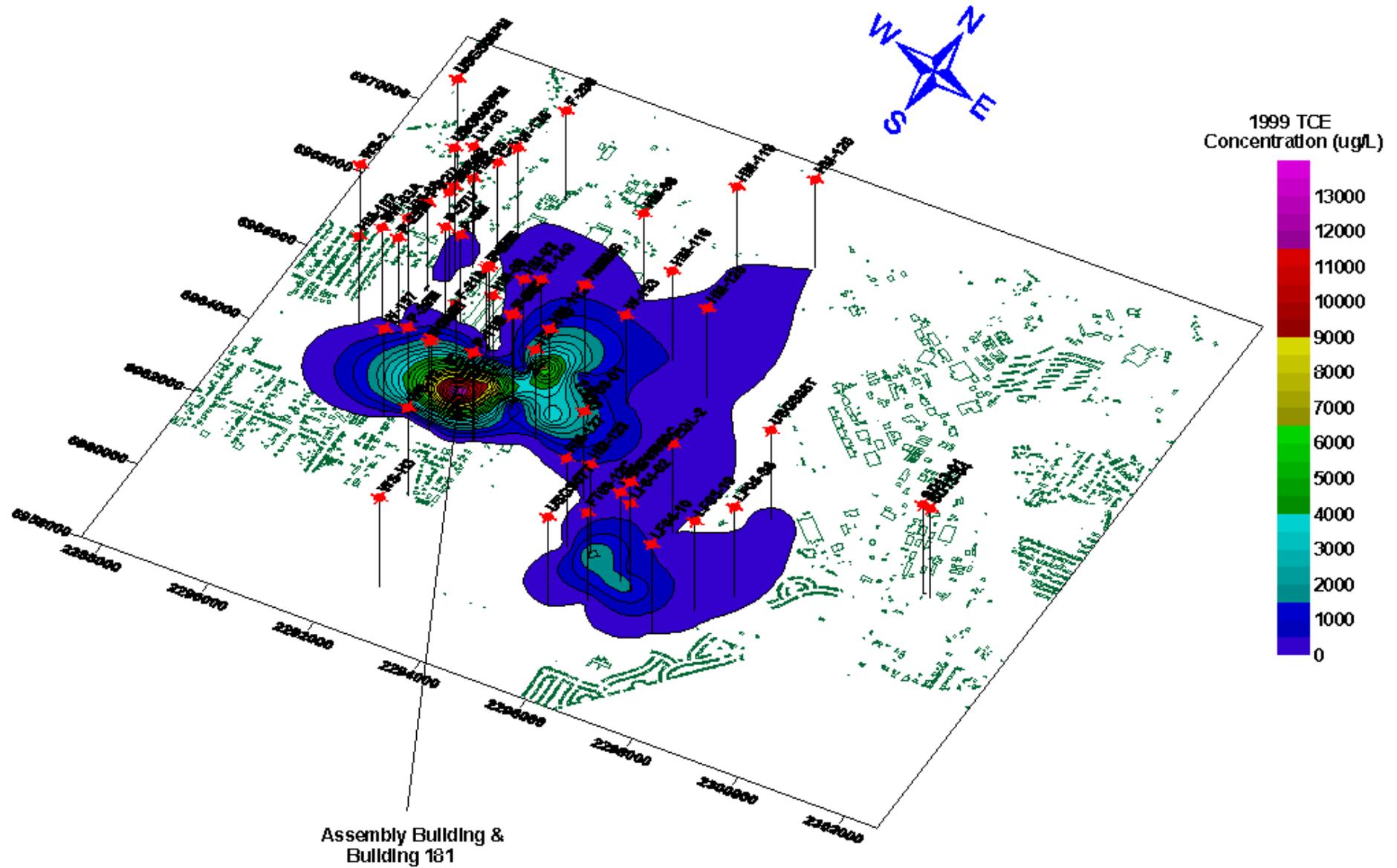




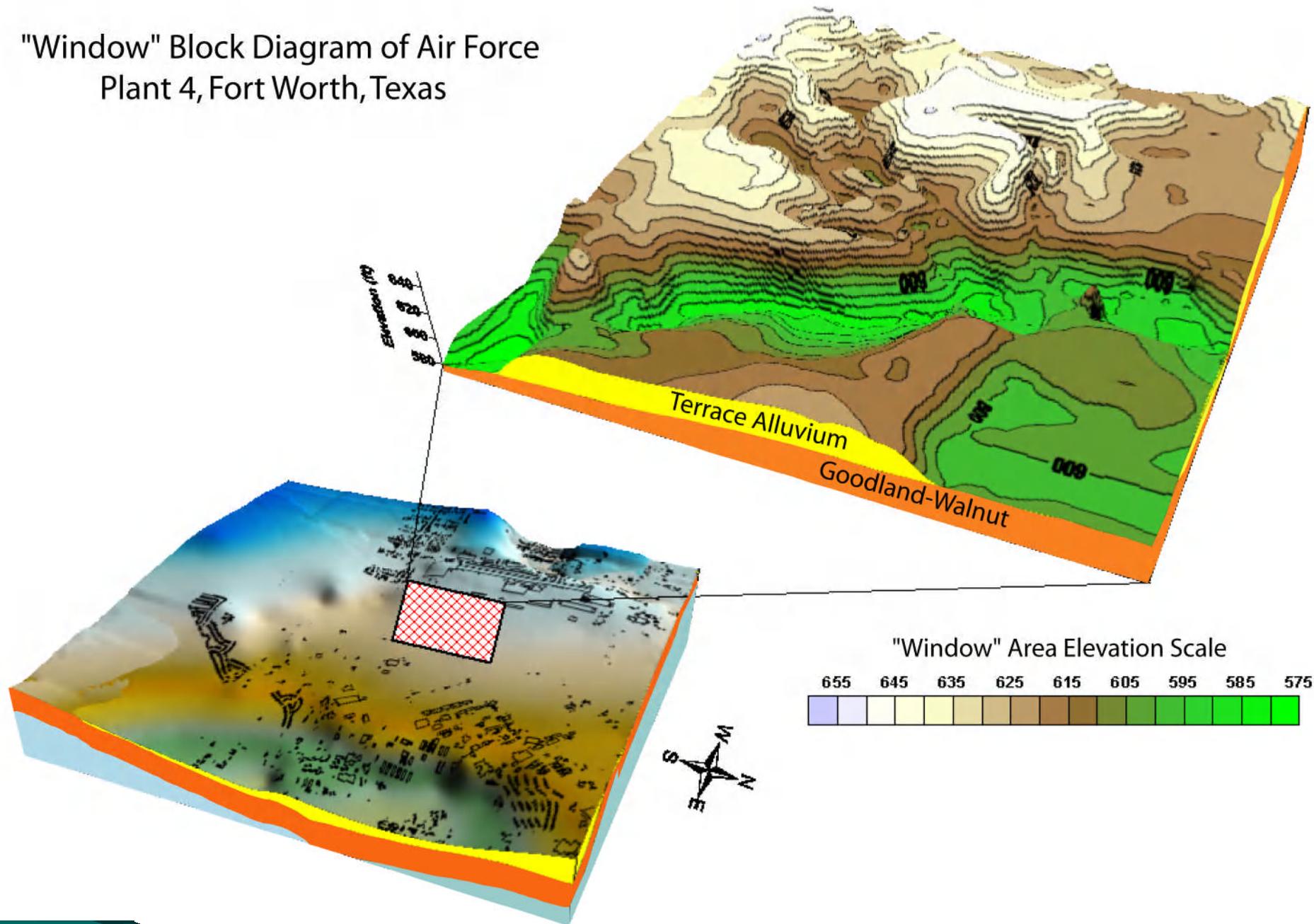
1999 TCE Plume

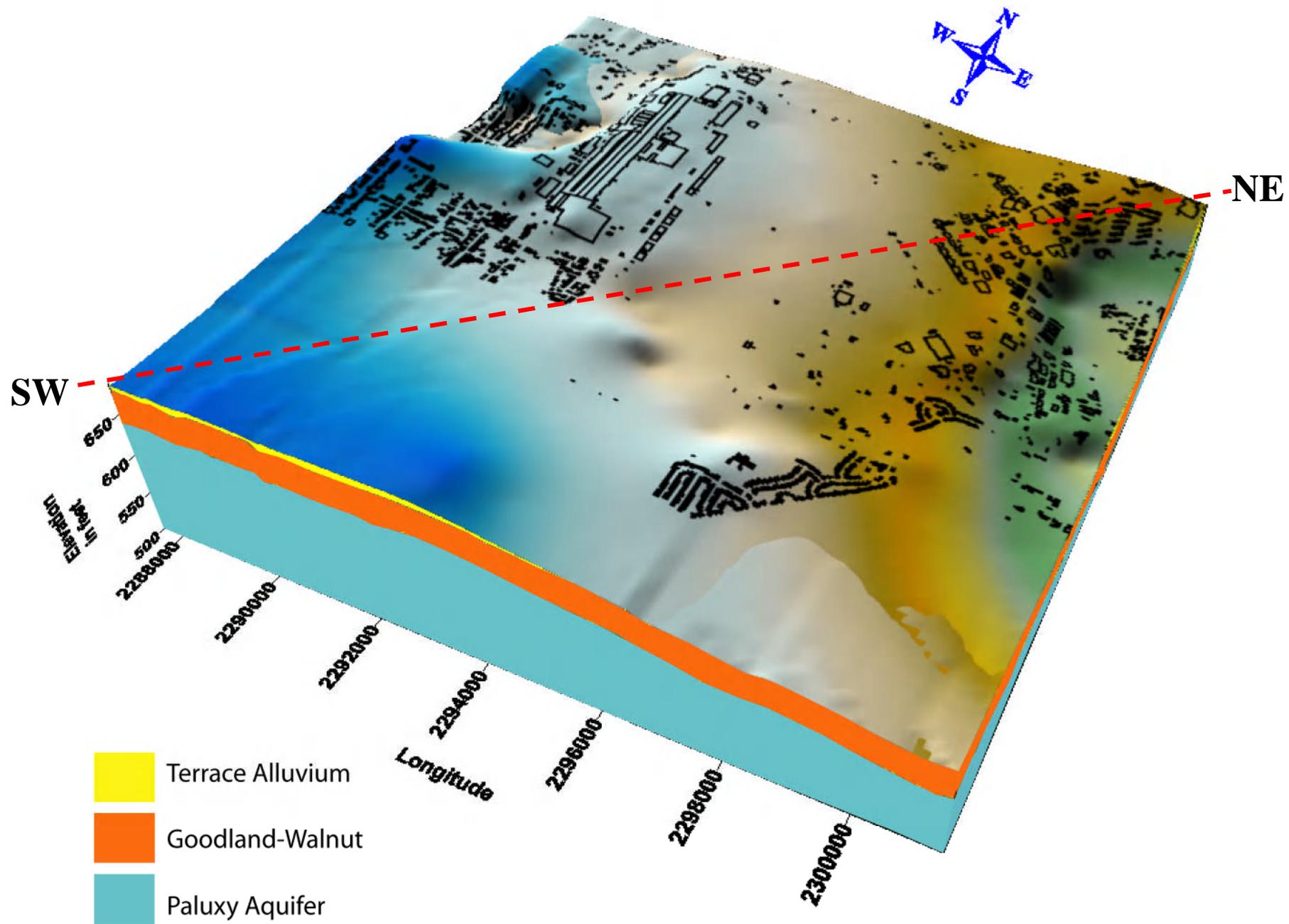


1999 TCE Plume

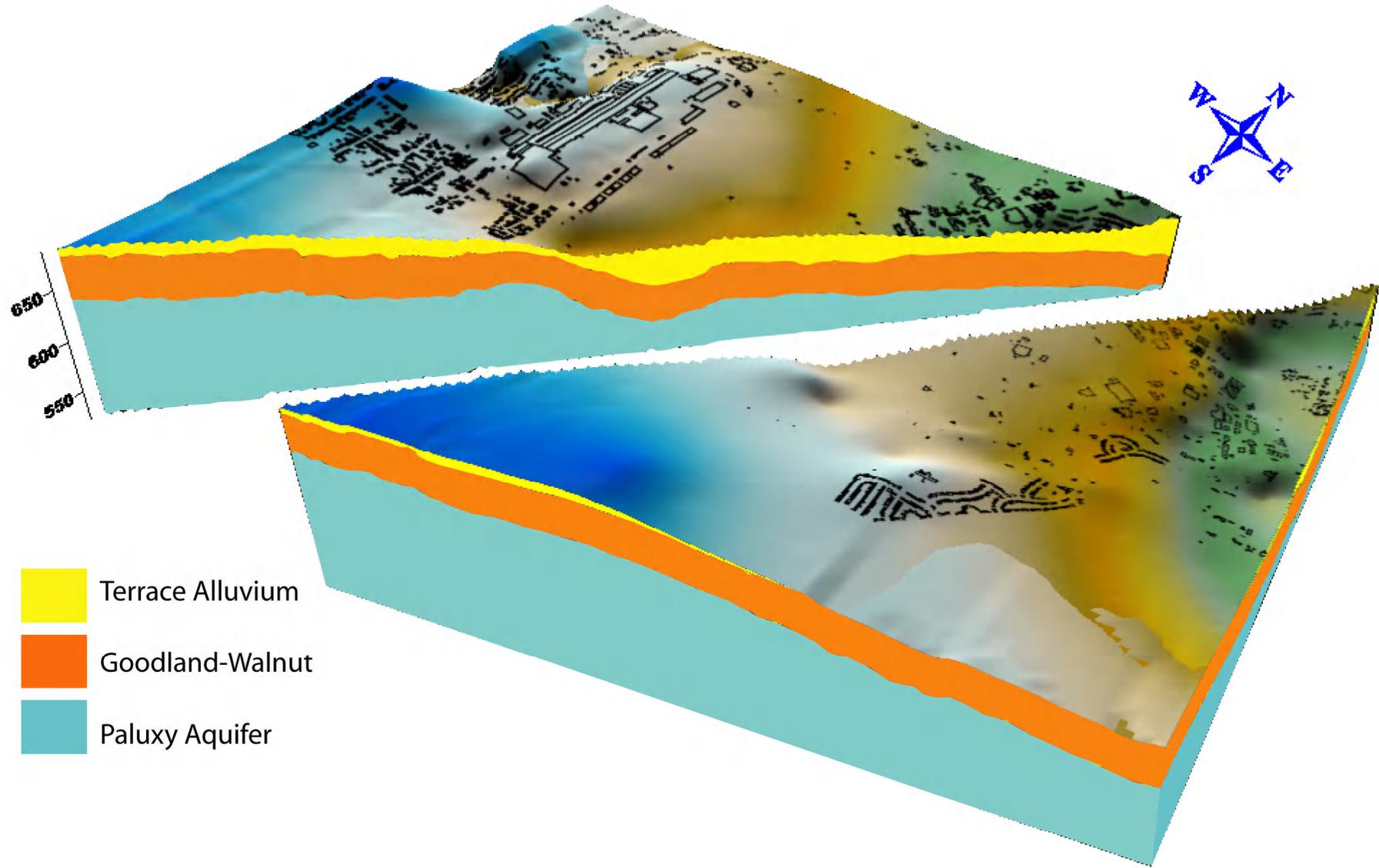


"Window" Block Diagram of Air Force Plant 4, Fort Worth, Texas



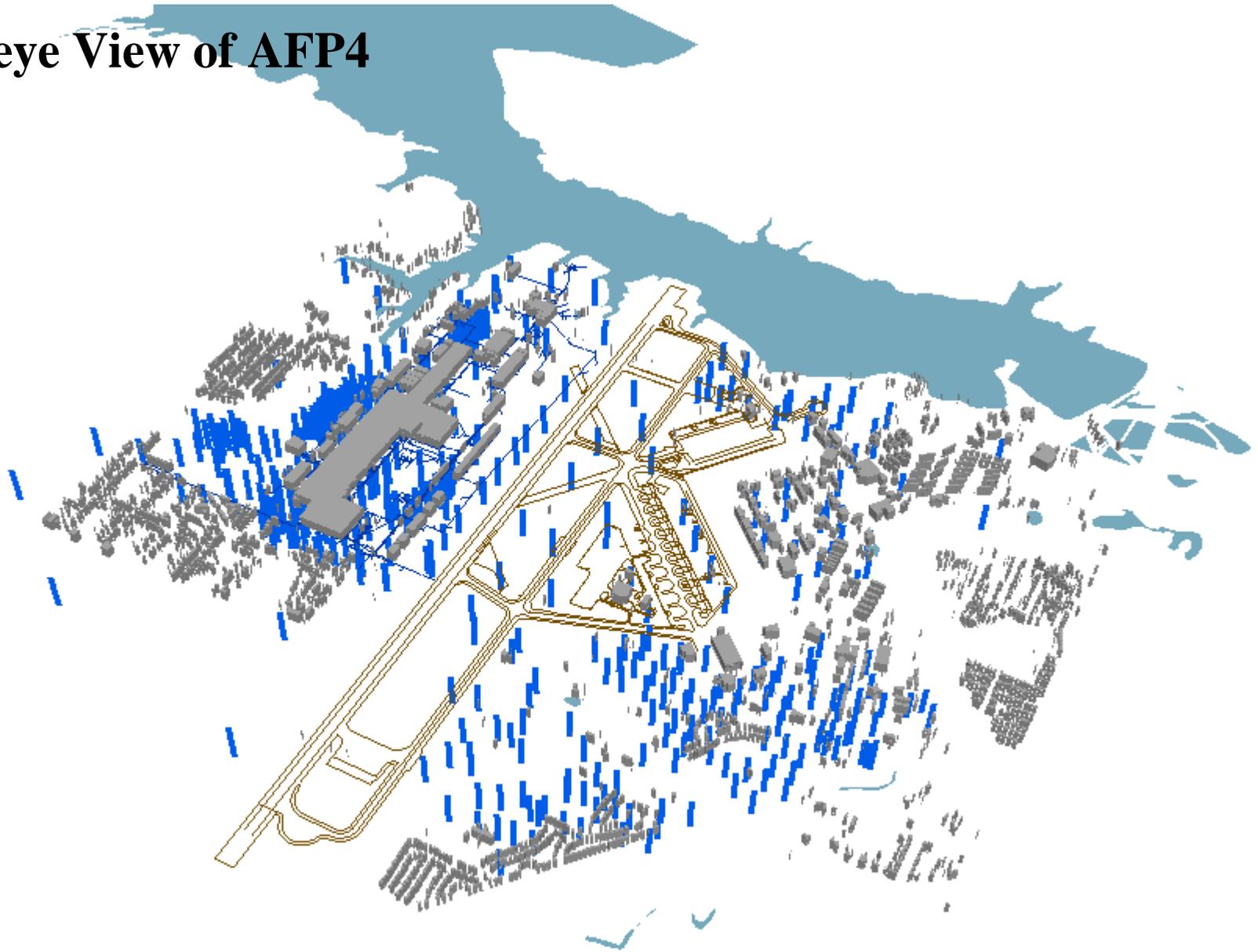


SW-NE Cross Section

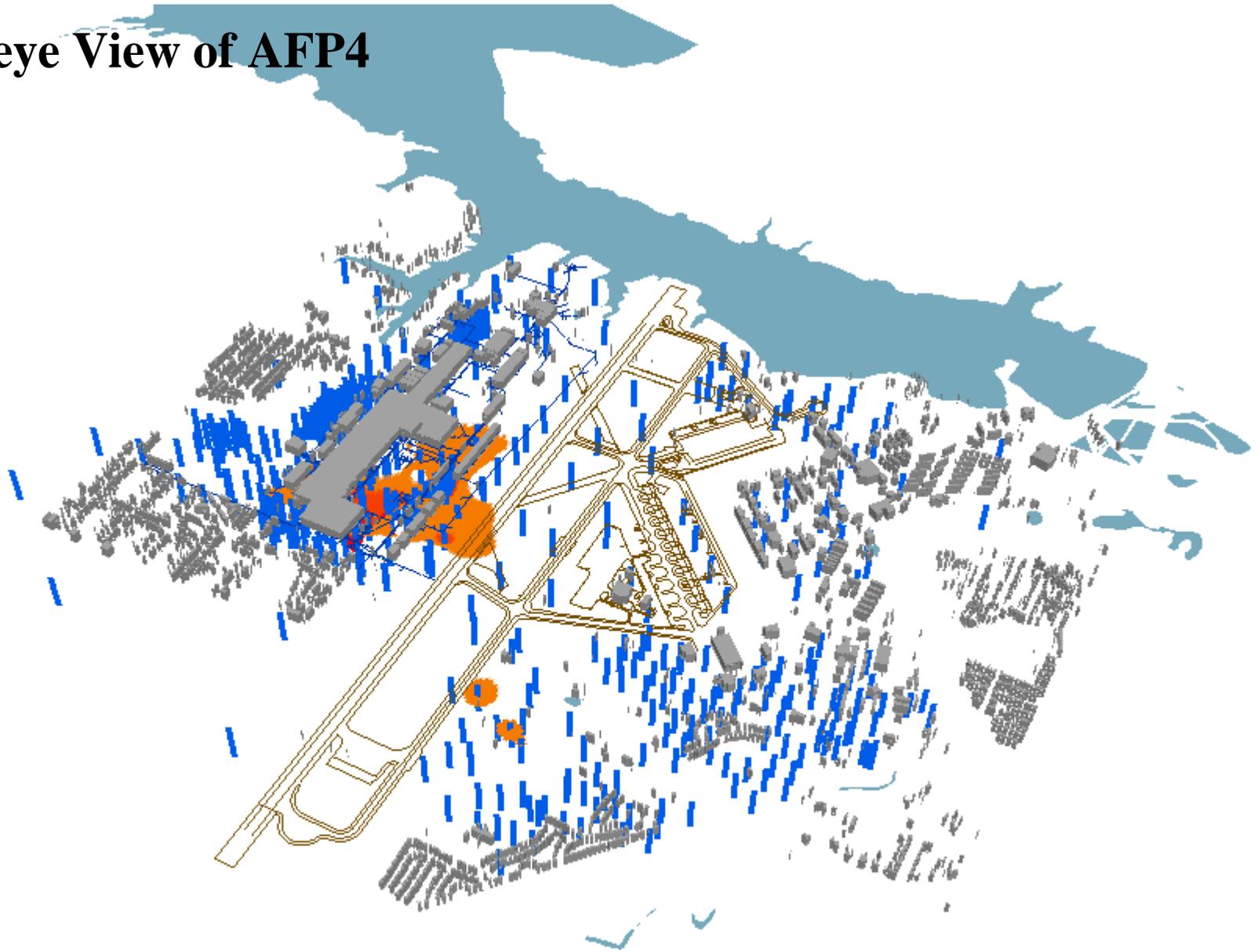


-  Terrace Alluvium
-  Goodland-Walnut
-  Paluxy Aquifer

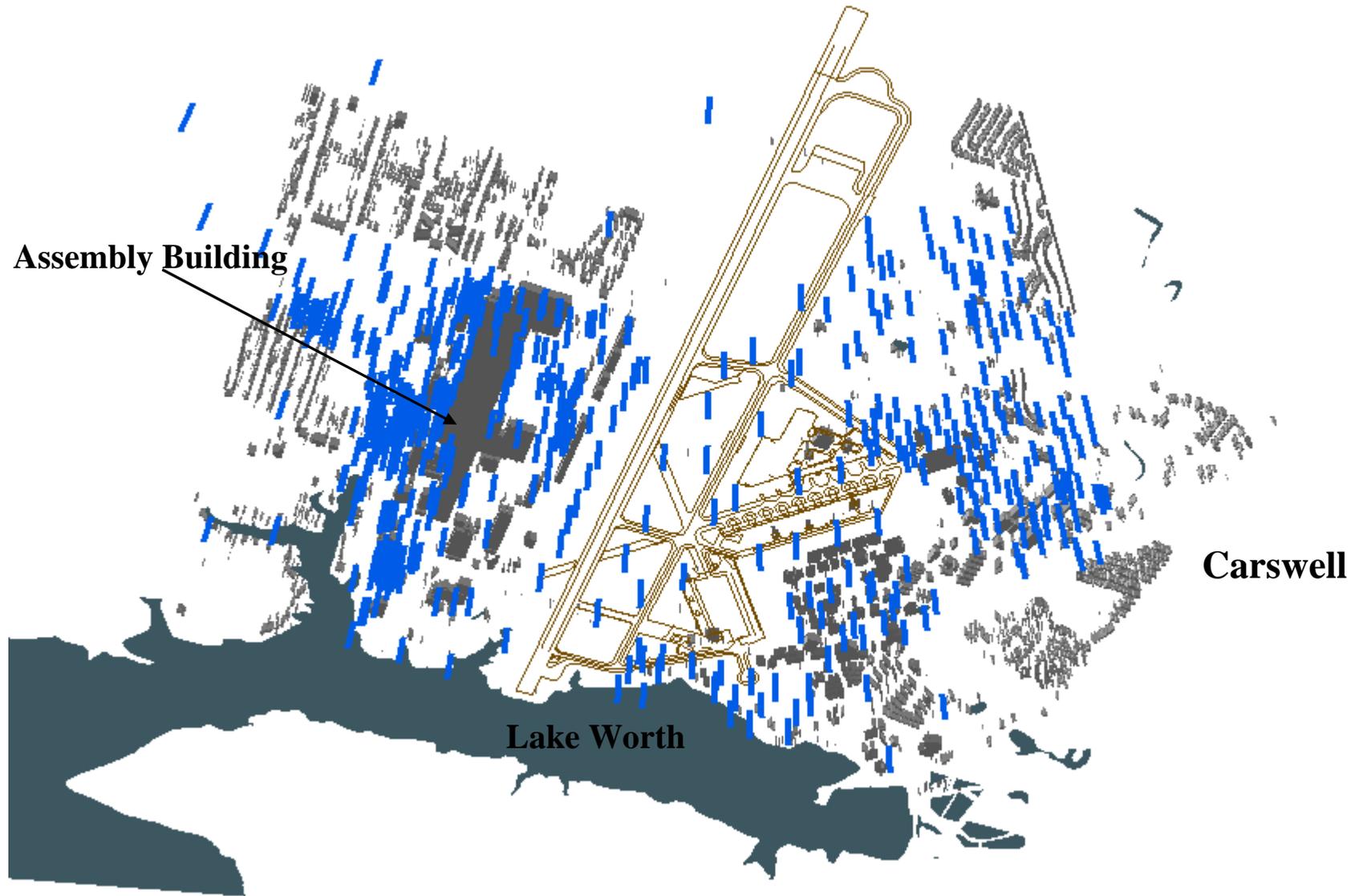
Bird's-eye View of AFP4



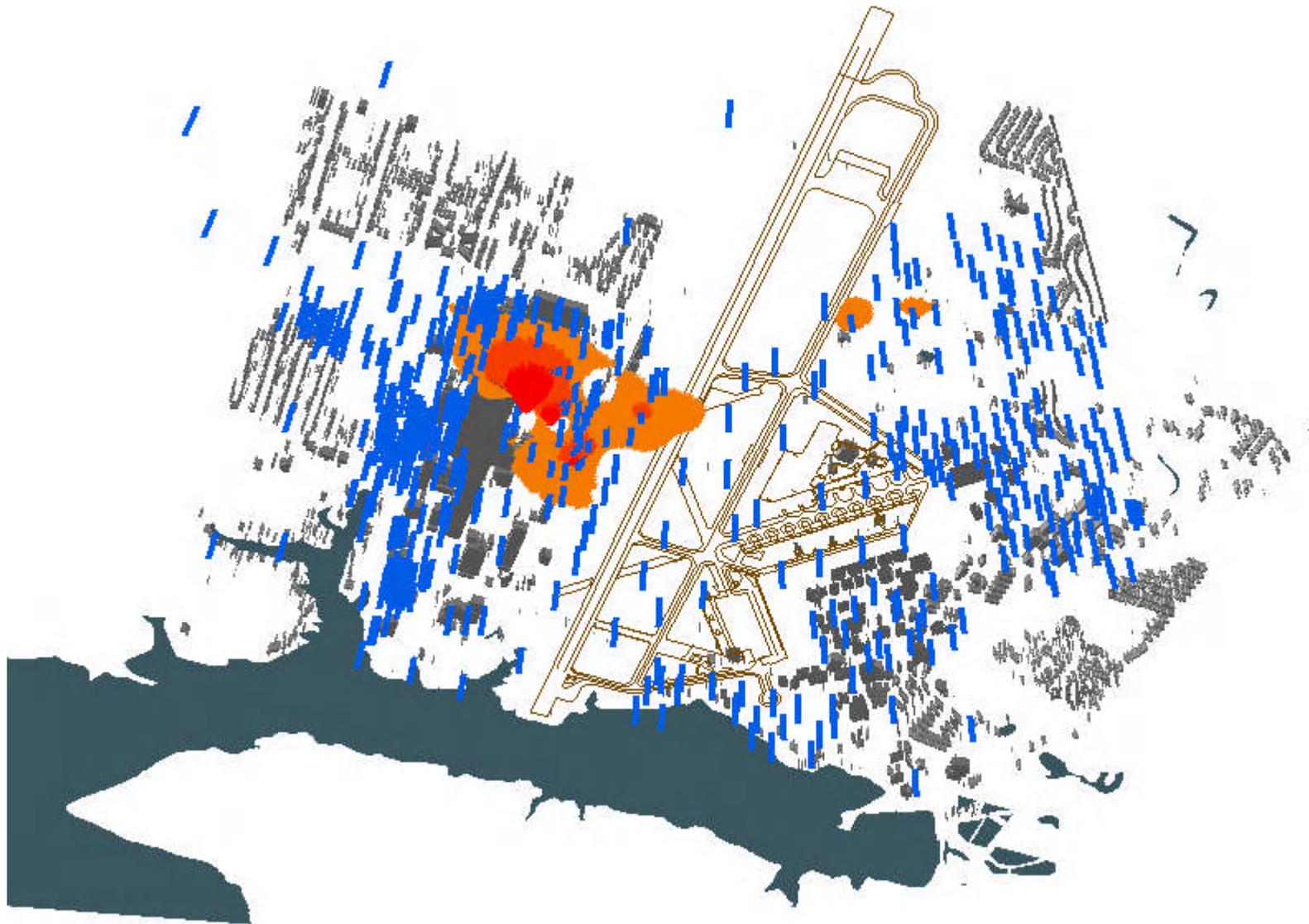
Bird's-eye View of AFP4



View from underneath AFP4



View from underneath AFP4



Advantages of a 3D Site Conceptual Model

- All basic data can be stored in GIS data layers and updated as new data arrives
- Easily navigate various information layers at the site (geology, chemistry, hydrology, political) in a 360 degree view
- Query the wells on the site for various information (year, contaminant, spatial locations)

Questions/Necessities?

- Feedback/Suggestions about things you would like to see in the model
- USGS needs data! (specifically digital data for updated well information, geological layers, etc.)

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE