CARSWELL AFB
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 770

CARSWELL/PLANT 4
RESTORATION ADVISORY BOARD MEETING

DRAFT
Summary Minutes of May 12, 2005
Regular Quarterly Meeting

A regular meeting of the Carswell/Plant 4 Restoration Advisory Board (RAB) was held May 12, 2005 at the Lockheed Martin Recreation Association Ranch House, 3400 Bryant Irvin Road. The RAB meeting began at 6:00 p.m.

AGENDA

Welcome/Introductions/Minutes

Westworth Redevelopment Authority Update (Leland Clemons)

Action Items

Carswell Off-Base (Norma Landez)
- Program Update
- Projected Future Land Transfers

Air Force Plant 4 (George Walters)
- Program Update
- Future Funding
- Plant 4 Sewer Pipe PCB Sampling Results (USGS/Earth Tech)

RAB Charter Discussion

Next Meeting Agenda

Open Discussion/Questions

Ms. Chris Baack, Community Co-Chairman, called the meeting to order. The minutes from the February 2005 RAB meeting were approved. No action items remain from the February 2005 meeting.

Westworth Redevelopment Authority

Mr. Leland Clemmons was not present at the meeting, therefore an update was not provided by the Westworth Redevelopment Authority (WRA).

CARSWELL OFF-BASE

Ms. Norma Landez introduced herself and indicated that she is the Base Environmental Coordinator for former Carswell Air Force Base (AFB). She provided an update on the off-site weapons storage area (WSA), sanitary sewer system, and the Base Realignment and Closure (BRAC) property transfer status. During her presentation, she displayed photographs and maps.

Ms. Landez provided an update on the WSA which consists of 247 acres and is located approximately 5 miles west of the main portion of the former Carswell AFB. When former Carswell AFB was active, the Air Force used the WSA for training and explosive ordnance disposal (EOD), as well as for the storage of munitions and bombs. Ms. Landez indicated that during 2004, a radiological maintenance munitions waste survey was conducted at the WSA and radiation was detected in bunker 8531. Safety measures were taken by installing a lock on bunker 8531 and posting warning signs around the site. Ms. Landez indicated that additional testing was performed in January 2005 to determine the extent of the contamination. She mentioned that a Scabbler was used to remove and then vacuum the radiation from the concrete. The removed concrete was expected to be disposed of in June 2005. Ms. Landez added that despite this removal effort, elevated levels of radiation remain above the action level, therefore the Air Force Real Property Agency (AFRPA) is assessing whether further remedial action is necessary. She mentioned that a report is being prepared and will be submitted to the Environmental Protection Agency (EPA) at the end of June 2005.

Ms. Landez indicated that prior to property transfer, the radiation identified in bunker 8531 needs to be addressed and the EOD range area and an area along the dry creek bed need to be cleared. Ms. Landez indicated that the AFRPA is awaiting the EOD clearance survey however due to budget restraints the remaining investigations may not be possible until next year. She added that several parties have expressed interest in purchasing the former WSA property.

Ms. Landez provided an update on the sanitary sewer system, Solid Waste Management Unit (SWMU) 66, located on the former Carswell AFB. She indicated that field work was conducted during June, July, and November of 2004. The data were evaluated and it was determined that no further field work was necessary in order to close the site under the Texas Commission on Environmental Quality's (TCEQs) Risk Reduction Standard (RRS) 2 closure criteria. The Draft Final Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) report will be submitted to regulators at the end of September, with an anticipated site closure date of December 2005.

Ms. Landez updated the RAB participants on the status of the first former Carswell AFB five-year review that was conducted during February 2004. The RAB was notified of the five-year review during the February 12, 2004 RAB meeting and a public notice was published in the Fort Worth Star Telegram on February 27, 2004 in order to inform the public of the on-going review status. Ms. Landez explained that this review was conducted on the 19 BRAC sites located on the former Carswell AFB. Of the 19 BRAC sites, ten were closed under the TCEQ RRS 1 (no release), one is currently undergoing closure (SWMU 66, sanitary sewer system), and

eight were closed under RRS 2 (closure/remediation to health-based standards and criteria). Ms. Landez explained that the five-year review assessed whether the corrective remedy (deed certification) for the eight sites closed under RRS 2 continues to provide adequate protection to human health and the environment. She indicated that the eight sites included in the five-year review consisted of a waste pile area, a grounds maintenance yard, three landfills, and three areas located at the WSA.

Ms. Landez indicated that an annual inspection of the five-year review sites is conducted to ensure that restrictions are being followed in order to assess the protectiveness of each remedy, including the presence of fencing (or other institutional controls) to restrict access, and the integrity of landfill caps. She indicated that site inspections of the eight sites closed under RRS 2 included:

- Inspection of Landfill 4 and 5 caps to ensure no erosion has occurred.
- Assess integrity of all monitoring wells.
- Ensure no digging has occurred within EOD area within the WSA and the Area of Concern (AOC) 16 located on former Carswell AFB.
- Ensure no drinking water wells have been installed within the eight sites.
- Ensure no buildings have been constructed above the contaminated groundwater plume.

Ms. Landez mentioned that the draft final five-year review is expected to be submitted to regulators at the end of June 2005 and a copy will be placed in the Administrative Record at the local library. Once the five-year review report is finalized, it will be sent to the director of the Air Force Center for Environmental Excellence (AFCEE) for signature approval.

Ms. Landez provided an update on additional projects that are relevant to the BRAC property transfer. She mentioned that the Focused Feasibility Study (FFS) for the southern lobe trichloroethene (TCE) plume is being finalized and will be used to develop an Explanation of Significant Difference (ESD) in order to transfer the BRAC property. The ESD will document that the permeable reactive barrier and long term monitoring of natural attenuation are added treatment systems to the AFP 4 TCE plume. In addition, an Operating Properly and Successfully (OPS) report must be completed following approval of the FFS, to certify that all treatment systems associated with the southern lobe TCE plume are working properly. Ms. Landez indicated that Land Use Controls will be established in the deed certification as well. She added that limited long term groundwater monitoring will also be conducted on the BRAC property by AFP 4 contractors. She added that once the FFS, ESD, and OPS are complete AFRPA will produce a Finding of Suitability for Transfer (FOST) to transfer the golf course which consists of 187 acres.

AIR FORCE PLANT 4

Program Update

Mr. Walters introduced himself as the Restoration Project Manager for Air Force Plant 4 (AFP 4) and provided a brief overview of polychlorinated biphenyls (PCBs). During his presentation, he displayed photographs and maps of AFP 4 which identified the areas discussed.

Mr. Walters briefly discussed the budget process and budget for Fiscal Year (FY) 2006 at Installation Restoration Program (IRP) sites, Air Force wide. He indicated that due to budget restraints over the next few years, only emergency projects can be submitted for approval prior to FY08.

Mr. Walters described PCBs as colorless, odorless, hydrophobic, very stable compounds that tend to adhere to sediment and other oily substances. He added that there are over 209 types of PCBs, called congeners. PCBs were used in electrical equipment (i.e., transformers and capacitors) because they are non-flammable and therefore present today despite being banned in 1976. He mentioned that there are several websites listed in the handout that contain information about what Federal Drug Administration (FDA) approved products contain PCBs. Mr. Walters added that people average less than one part per million (ppm) in their bodies from ingesting milk, eggs, beef, and fish. He indicated that killer whales have been tested for PCBs and contained an average of 250 ppm in their fat tissue. Mr. Walters indicated that the FDA set the safety threshold at 2 ppm in 1984 and the Texas PCB limits are 10 times less.

Mr. Walters discussed several ways to reduce exposure to PCBs. He indicated that replacing old appliances because televisions and refrigerators prior to 1979 may release PCBs when they are running. In addition, he suggested replacing old fluorescent light fixtures, old painted surfaces, old grout, old asphalt shingles, old tar paper, and old sealants.

Mr. Walters indicated that if anyone had any questions about AFP 4, he could provide additional information after the RAB meeting. With that, Mr. Walters introduced Mr. Pete Van Metre from the United States Geological Survey (USGS) in Austin, Texas. A handout of Mr. Van Metre's briefing was not available during the meeting.

USGS Lake Worth Sediment Sampling Update

Mr. Van Metre began by introducing himself and the USGS. The USGS is federal agency that has a presence in all 50 states. The USGS does cooperative work with other federal agencies and with state and local agencies as a non-regulatory and nonpartisan entity whose primary purpose is earth science. The work at Lake Worth is being conducted at the request of the Air Force. Mr. Van Meter began with providing some background information. He explained that the Texas Department of Health conducted a risk assessment with the fish tissue sample results and concluded the levels of PCBs in fish from Lake Worth were at levels that pose a risk to people eating the fish. As a result, a fish advisory on consumption was

issued for Lake Worth. The Air Force was concerned about where the PCBs might be coming from so they asked the USGS to investigate Lake Worth sediments.

In January 2001, bottom sediments collected from all over Lake Worth were sampled by the USGS during the Phase I study. Mr. Van Metre showed a map showing the concentrations detected in bottom sediment samples. The top 2 centimeters of the sediment was sampled. The one area that showed up with elevated concentrations is Woods Inlet, an area along side of AFP 4. One sample had a concentration of 139 part per billion (ppb) and some results were around 20 ppb, and then 10 or less throughout the main part of Lake Worth.

Mr. Van Metre described the Phase II study which had two objectives: To map the extent of PCBs in Woods Inlet and to try to determine the sources of the PCBs in Lake Worth sediment. For the purposes of this project, the main question is whether the PCBs are coming largely from AFP 4 or from the urban area from the other side of Lake Worth. Almost all urban areas have some PCBs emanating from them.

To meet the objectives, additional sediment coring work was performed in the inlet using the same approach as the first phase but only sampling within the inlet rather than the surrounding area. Specialized storm water sampling in the tributary creeks -- Meandering Road Creek and a couple of other creeks -- that drain into the inlet was also conducted. The specialized storm sampling consisted of collecting large volumes of water and filtering it to get enough sediment for analysis, like you would a bottom sediment sample. Because PCBs are hydrophobic, which means they are not soluble in water, they tend to stick to the sediment or accumulate in animal tissues. Mr. Van Meter explained that a regular water sample analyzed in a lab probably won't show any PCBs for this reason.

The USGS had the laboratory conduct special chemical analysis of the PCBs to identify the individual PCB compounds or congeners, instead of analyzing for a total PCB measurement. In fact both kinds of measurements were obtained in order to fingerprint different types of PCBs in the different samples to locate sources. Mr. Van Metre showed pictures of a sediment core from Woods Inlet that is about 5 to 6 feet long. About 6 feet of sediment had been deposited there since the lake was built in 1914.

He further explained that the sediment cores are sliced into little sections for age dating. An age date can be assigned to the core based on profiles from weapons testing, and then one can measure the chemistry of each of those slices and get some idea of how much PCBs or whatever was released into the environment back in 1955 or 1975, etc. This was done at three new sites along with 17 sites where surface samples were collected. The highest concentration noted was near Meandering Road Creek. The other tributaries were also sampled to see if there was a difference.

Lower concentrations were detected in the area near the Texas National Guard armory. The west arm of the lake is referred to as Gruggs Arm because of the park in that area. The concentrations decrease further down the inlet. In fact, contour lines can be drawn based on this data. From the concentration profile, it looks like the main source is located near Meandering Road Creek.

Mr. Paul Bounds of the Fort Worth Water Department inquired if the concentrations found represent what had been deposited over the past two years. Mr. Van Metre indicated that was correct based on the average long term sedimentation rate of 2 centimeters per year, therefore concentrations observed here are from 2001 and 2002, since the samples were collected in 2003. Mr. Bounds noted that based on these data, there are still PCBs being released into Lake Worth. Mr. Van Metre confirmed that this is evident and presented a time series of events to explain further. Mr. Bounds added that he was not concerned about how the PCBs were getting into Lake Worth, just the fact that they are still being deposited. Mr. Van Metre indicated that the new PCB sediment levels observed at Lake Worth are seen in almost every urban lake in the country. Mr. Bounds questioned if the new sediment had PCB concentrations as high as 100 ppb. Mr. Van Metre indicated that 100 ppb may be slightly higher than the national average.

Mr. Van Metre provided an illustration of a core sample collected in front of Meandering Road Creek with the peak 55 centimeters or almost 2 feet below the top of the sediments at 650 ppb. This has decreased to 33 ppb at the very top. A similar pattern is evident in the middle of the inlet, but not with as high a peak. On the west side in Gruggs Arm, PCB concentrations are much lower than they were back in time. This trend shows how fast the PCBs have been decreasing over the last 30 years. This is a typical profile of PCBs in an urban lake core. Mr. Van Metre indicated that new sediment contains PCBs but the concentrations are much lower now.

Mr. Van Metre showed a map containing five yellow stars to indicate the locations of the storm water sampling. Sampling along Meandering Road Creek was conducted above and below outlets from AFP 4. The main storm water outfalls from that side of AFP 4 were also sampled.

Mr. Van Metre showed pictures of the sampling device which consisted of a steel drum with a large plastic bottle inside. The 25-liter plastic bottle has small intake tubes. So whenever it rains and the flow comes up in the creek, it fills the bottle. Once the bottle is full, the 25 liters of water is then filtered. Several bottles of water are collected in order to get enough sediment for analysis. Three storm events were sampled within a little over a month there.

Mr. Van Metre showed maps with data results. He indicated that it was pretty clear where the PCBs are coming into the lake. It may not be the only place, but it is pretty clear that they are coming into Meandering Road Creek from the AFP 4.

Mr. Van Metre presented more lines of evidence. After the three storms a stream bed sediment sample was collected, which means the mud lying in the bottom of the creek after the flow has gone by. The upper Meandering Road Creek site had very low concentrations. Some of the congeners again at the lower site were in the 50 to 100 ppb range.

Mr. Van Metre indicated that during the Fall 2004 samples were collected from several outfalls associated with AFP 4 (AFP 4 Outfall, Outfall 4, Outfall 5, and storm sewer outfall [SSO]), as well as stream bed samples form Meandering Road Creek. The outfall samples

were collected from the associated creek stream sediment and analyzed for total PCBs. In addition, areas within the outfall drainage ditches were tested to see if the main source could be identified. Mr. Van Metre presented the 2004 sample results that are generally consistent with data collected two years ago. However concentrations from Outfall 4 appear to be the main source of the PCBs being deposited.

Mr. Van Metre presented graphs containing six of the individual PCB congener patterns and discussed similarities found in several of the PCB congeners present within the samples collected. He added that this type of analysis along with statistical analysis can be performed to link the PCBs identified in the sediment of Lake Worth with the possible source areas. Mr. Van Metre discussed a figure identifying the layout of a "Cluster Analysis" which is a statistical technique used to compare or group the congener patterns together using their chemical fingerprint. He indicted that the fingerprint of chemicals founding within Meandering Road Creek are similar to the chemicals present out in the lake before changing near Gruggs Arm.

Mr. Van Metre mentioned that the reports for the Phase I sampling has not been posted on the USGS website at this time but the Phase II report can be found at the following location. http://water.usgs.gov/pubs/sir/2005/5064/ He added that he will look into having the Phase I report posted on the USGS website.

West Side PCB Investigation

Mr. David Parse of Earth Tech, Inc. (Earth Tech) began by introducing himself. He explained that while the USGS focuses their PCB investigation on Lake Worth, Meandering Road Creek, and the outfalls near Meandering Road Creek, Earth Tech utilized data obtained from the USGS to try to determine the source of the PCBs. Mr. Parse indicated that these field activities occurred during October, November 2004, and February 2005. Sediment, concrete chips, and water samples were collected on the western side of AFP 4 to determine the source of the PCB concentrations identified within the SSO and Outfall 4. Field activities included: the collection of sediment samples from Meandering Road Creek; advancement of soil borings adjacent to the SSO line; explore the storm sewer lines for evidence of seeping by performing a camera survey; and fingerprinting the PCBs found in samples collected.

Mr. Parse discussed the results obtained from sediment samples collected from outfalls, catch basins, and creeks associated with Outfall 4 and SSO. He indicated that the approach was to start sampling at the outfall and continue sampling upgradient and at every branch off the main Outfall 4 line. At the end of Outfall 4, near Meandering Road Creek, a total of 43 ppb total PCBs were detected and concentrations upgradient appeared to be spread out at low levels (77 to 180 ppb) therefore no one single source was established.

Mr. Parse discussed the results obtained from sediment samples collected from Outfall 3, Outfall 5, and the SSO to determine if there were other storm sewers contributing to the PCBs found in Meandering Road Creek and Lake Worth. Outfall 3 and Outfall 5 are located to the north of AFP 4 and no PCBs were detected in those sediment samples. Mr. Parse indicated that total PCB levels were identified in the SSO ranging from 53 to 210 ppb, which are

similar to concentrations identified in Outfall 4. He added three samples were collected downgradient of the SSO, ranging in total PCB concentration from 21 to 100 ppb in Meandering Road Creek sediments, which confirms that both SSO and Outfall 4 are contributing to the total PCBs found in Lake Worth.

Mr. Parse discussed the results obtained from the dense non-aqueous phase liquid (DNAPL) plume that is associated with AFP 4. DNAPL is a non-aqueous phase liquid such as chlorinated hydrocarbon solvents or petroleum fractions with a specific gravity greater than 1.0 and therefore it sinks in water. Samples of the AFP 4 DNAPL source area were analyzed for total PCBs and concentrations were identified as high as 310,000 ppb however samples collected next to the DNAPL area had only 210 ppb of PCBs. Mr. Parse indicated that this suggests that the DNAPL is not the contributing source in the SSO.

AN UNIDENTIFIED SPEAKER asked how deep the DNAPL is. Mr. Parse responded that the DNAPL is approximately 30 feet deep on the west side of AFP 4. Mr. Rick Wice of the Shaw Group further explained that the DNAPL on the east side of the AFP 4 is 30-40 deep however it is almost fully remediated however on the west side of AFP 4 the DNAPL is contained to 30 feet deep therefore it is contained laterally and vertically.

AN UNIDENTIFIED SPEAKER inquired if it was known whether the DNAPL had discharged to the stream prior to being contained. Mr. Wice indicated that it appears that the free phase DNAPL has not discharged but some of the degradation products have been identified. Mr. Wice added that the Meandering Road Creek is monitored very closely and no surface water samples have detected more than a trace amount of the DNAPL by-products.

Mr. Parse discussed the results obtained from sampling additional upgradient locations as possible sources to the PCBs found in Meandering Road Creek and Lake Worth. He indicated that the three samples collected upstream of the SSO were free of PCBs.

Mr. Parse presented some a comparison of the PCB congener ratios at Outfall 4 to Lake Worth and Outfall 4, the storm drain system. He indicated that the fingerprints of the individual congeners analyzed show similar results to the type of PCBs found in Meandering Road Creek.

Mr. Parse discussed the SSO drain system. Samples were collected within the storm drain and surrounding the storm drain, which included DNAPL samples. He presented a graph presenting a comparison of the PCB congeners identified in the samples collected. Mr. Parse concluded that sample results suggested two distinct PCB fingerprints encountered and despite high total PCB concentrations within the DNAPL, it is not discharging to Meandering Road Creek and Lake Worth. In addition, there does not seem to be a single source at AFP 4 contributing to the PCBs found in Meandering Road Creek and Lake Worth; low-levels of PCB concentrations were found in the storm sewer systems across the west side of AFP 4; and there was no evidence of upstream PCB sources identified.

Mr. Parse indicated that the TCEQ regulatory cleanup goal for total PCBs in stream sediment is 155.6 ppb; Meandering Road Creek and Lake Worth are both below this limit. The TCEQ limit is used to assess the potential adverse effects to benthic (sediment dwelling) invertebrate

animals in lakes and streams. Mr. Parse added that in comparison to other PCB contaminated sites around the nation AFP 4's cleanup goals are an order of magnitude lower. He cited that the Hudson River in New York and Fox River in Wisconsin have cleanup goals of 1,000 ppb.

Mr. Parse discussed the TCEQ fish advisory that was placed on the Lake Worth fish consumption. He indicated that the advisory is based on the mean PCB concentration (218 ppb) found in 57 fish that were sampled. Mr. Parse explained that the advisory identifies the amount of fish that can be safely eaten over a given time period. Therefore a 150 pound person can consume a fish containing an average of 218 ppb, once every five weeks.

Mr. Bounds inquired whether there has been any work done regarding the cleanup of PCB concentrations that exceed the TCEQs cleanup goal of 155.6 ppb on AFP 4. Mr. Parse indicated that the PCB investigations are recent and the Air Force still needs to meet with the regulators on this subject. Mr. Parse asked Mr. Van Metre if sediment concentrations in Lake Worth have been below the TCEQ limit. Mr. Van Metre indicated that only the deeper (older) sediment have exceeded this limit.

Mr. Bounds indicated that the City of Fort Worth wants to see the Fish Advisory removed which means identifying the sources, eliminating the sources, and then apply cleanup alternatives so the lake can be restored. He mentioned that it is still a concern that AFP 4 continues to release PCBs to Lake Worth.

Mr. Robert Sullivan of the United States Environmental Protection Agency (EPA) responded on behalf of the TCEQ. He indicated that the total maximum daily load (TMDL) is based on the amount of PCBs in fish. Mr. Sullivan mentioned that there is an ongoing release of PCBs into Lake Worth however it does not evoke statuary authority to suggest cleanup to those standards. He indicated that the EPA hopes to work with the TMDL program and stake holders to determine what the cleanup standards should be used for a continuing load from AFP 4. Mr. Sullivan indicated this will likely be problematic because the main source of release has not been determined.

Mr. Sullivan indicated that the FDA put limit on the consumption of PCBs at 2,000 ppb in fish tissue. The FDA calculates that number using FDA standards that are independent of the EPA and others Agency's. The FDA considers that your consumption of fish is from a many different sources and the maximum safe consumption is 2,000 ppb. Mr. Sullivan explained that the Texas Department of Health sets the standard at 200 ppb because they do not account for consumption of fish from outside the area. Therefore the Texas Department of Health issued a fish advisory because the mean concentration of total PCBs was 218 ppb.

Mr. Van Metre indicated that the Texas Department of Health does not set the standard for all fish at 200 ppb, they are site specific. They analyze your data and in this case they came up with 218 ppb as the mean concentration in the Lake Worth fish therefore they came up a lifetime cancer risk or a 30-year exposure risk.

Mr. Sullivan mentioned that the sediment cleanup levels discussed earlier are completely separate from the limits placed on fish consumption due to the amount PCBs found in the fish.

The TCEQ sediment limit threshold limit is 34 ppb, which is equivalent to the EPA screening level where if concentrations are near this number, the risk to human health and benthic organisms, and fish would not pose a risk.

RAB CHARTER

The scheduled discussion of the RAB charter was postponed until the next meeting, as only one member of the group was in attendance at the May meeting. The charter had been sent to RAB members for input and comment.

NEXT MEETING

The next RAB meeting is scheduled for November 3, 2005 and will be held at the Lockheed Martin Recreation Association Ranch House, 3400 Bryant Irvin Road, Fort Worth, Texas.

OPEN DISCUSSION/QUESTIONS

An unidentified male, the only member of the public in attendance, had no questions.

IN ATTENDANCE

Carswell On-Base
Mike Dodyk, AFCEE
Mike Hawkins, Public Affairs, AFCEE
Teri DuPriest, AFCEE
John Glass, AFCEE

Carswell Off-Base
Norma Landez, Air Force Real Property Agency

Air Force Plant 4
George Walters, AFP 4 Project Manager, ASC, Wright Patterson Air Force Base
Estella Holmes, Public Affairs, Wright Patterson Air Force Base

Texas Commission on Environmental Quality
Tim Sewell
Luda Voskov

U.S. Environmental Protection Agency
Robert Sullivan
Noel Bennett

Lockheed Martin
Sarah Young
Norma Robbins
D.D. Currie

U.S. Geological Society
Pete Van Metre

Community
Chris Baack, Community Member
Vince Wilcox, Community Member
Paul Bounds, City of Fort Worth Water Department
Chris Breitling, City of Fort Worth Environmental Management Department
Derin Warren, North Central Texas Council of Government

Air Force Contractors
Audrie Medina, Booz Allen & Hamilton
Robert Chambers, Freese & Nichols
Miquette Rochford, HydroGeoLogic, Inc.
Lynn Morgan, HydroGeoLogic, Inc.
Jennifer Spies, HydroGeoLogic, Inc.
Dave Parse, EarthTech, Inc.
Dan Schultz, Earth Tech, Inc.
Rick Wice, Shaw Group
Gregg McGraw, Shaw Group
Randall McDaniel, Shaw Group

Comments/corrections regarding these meeting minutes should be sent to:

Ms. Miquette Rochford
HydroGeoLogic, Inc.
Phone: (970) 243-3893
Fax: (866) 545-8377
e-mail: mer@hgl.com

Headquarters U.S. Air Force

Integrity - Service - Excellence

Carswell Off-Base BRAC UPDATE

U.S. AIR FORCE

Norma J. Landez
Base Environmental Coordinator
May 12, 2005

U.S. AIR FORCE

Program Update

- Project Status
- Property Transfer

Radiological Maintenance Munitions Waste Survey

- Survey conducted April – May 2004
- Radiation detected in Bunker 8531
  - Radiation above action level
  - Safety measures taken
- January 2005 survey determined extent
  - Concrete removed during scabbling
  - Waste to be disposed offsite
  - Some radiation remains above action levels

Radiological Maintenance Munitions Waste Survey

- Report will be submitted end of June 2005 to EPA Region 6
- Further remedial action to be assessed

U.S. AIR FORCE

Sanitary Sewer System SWMU 66

- Field work conducted June, July and November 2004
- Data evaluation indicates site meets TCEQ's Risk Reduction Standard (RRS) 2 closure criteria
- Draft Final RCRA Facility Investigation Report will be submitted to regulators end of September 2005

U.S. AIR FORCE

Five Year Review

- Review conducted February 2004
- Community Involvement and Notification
  - RAB notified at February 12, 2004 meeting
  - Public notice in February 27, 2004 Fort Worth Telegram

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Five Year Review

- 19 BRAC sites included in first review
- SWMU 66, Sanitary Sewer System
  - Currently undergoing closure
  - Protectiveness of remedy to be assessed in future 5 year reviews

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Five Year Review

- **Ten sites closed under TCEQ RRS 1**

  SWMU 1, SWMU 2, SWMU 3, SWMU 4, SWMU 18, SWMU 58, AOC 8, AOC 9, AOC 14, and AOC 16

  - **No hazardous substances left in place that allow for unlimited use and unrestricted exposure (i.e. cleanup goals met and land use controls not required to protect human health and the environment)**
  - **No further review required for these sites**

U.S. AIR FORCE

Five Year Review

- Eight sites closed under TCEQ RRS 2
  - Hazardous substances left in place above levels that allow for unlimited use and unrestricted exposure (i.e. cleanup goals met but land use controls required to protect human health and the environment)
  - Review required every five years

U.S. AIR FORCE

Five Year Review

Site	Remedy in Place	Remedy Protective?
SWMU 22 Landfill 4	Deed Certification	Yes
SWMU 23 Landfill 5	Deed Certification	Yes
SWMU 24 Waste Pile 7	Deed Certification	Yes
SWMU 25 Landfill 8	Deed Certification	Yes
SWMU 59 WSA	Deed Certification	Yes
SWMU 60 WSA	Deed Certification	Yes
SWMU 65 WSA	Deed Certification	Yes
AOC 5 Grounds Maintenance Yard	Deed Certification	Yes

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Five Year Review

- **Recommends annual visual site inspection to ensure deed restrictions followed and remedies remain protective**
  - **Landfill 4 and 5 caps inspected to ensure erosion not occurring**
  - **Well integrity**
  - **No digging at AOC 16 or EOD range at WSA**
  - **No groundwater extraction wells installed**
  - **No buildings built above contaminated groundwater**

U.S. AIR FORCE

Five Year Review

- Draft Final Report will be sent to regulators end of June 2005 for review/comment
- Draft Final Report will be placed in Administrative Record at local library
- Report will be finalized and sent to HQ AFRPA for Director's signature

U.S. AIR FORCE

Additional Projects

- Complete Focused Feasibility Study and Develop ESD
- OPS to Support Golf Course Property Transfer
- Golf Course Monitoring
- WSA EOD Clearance Survey

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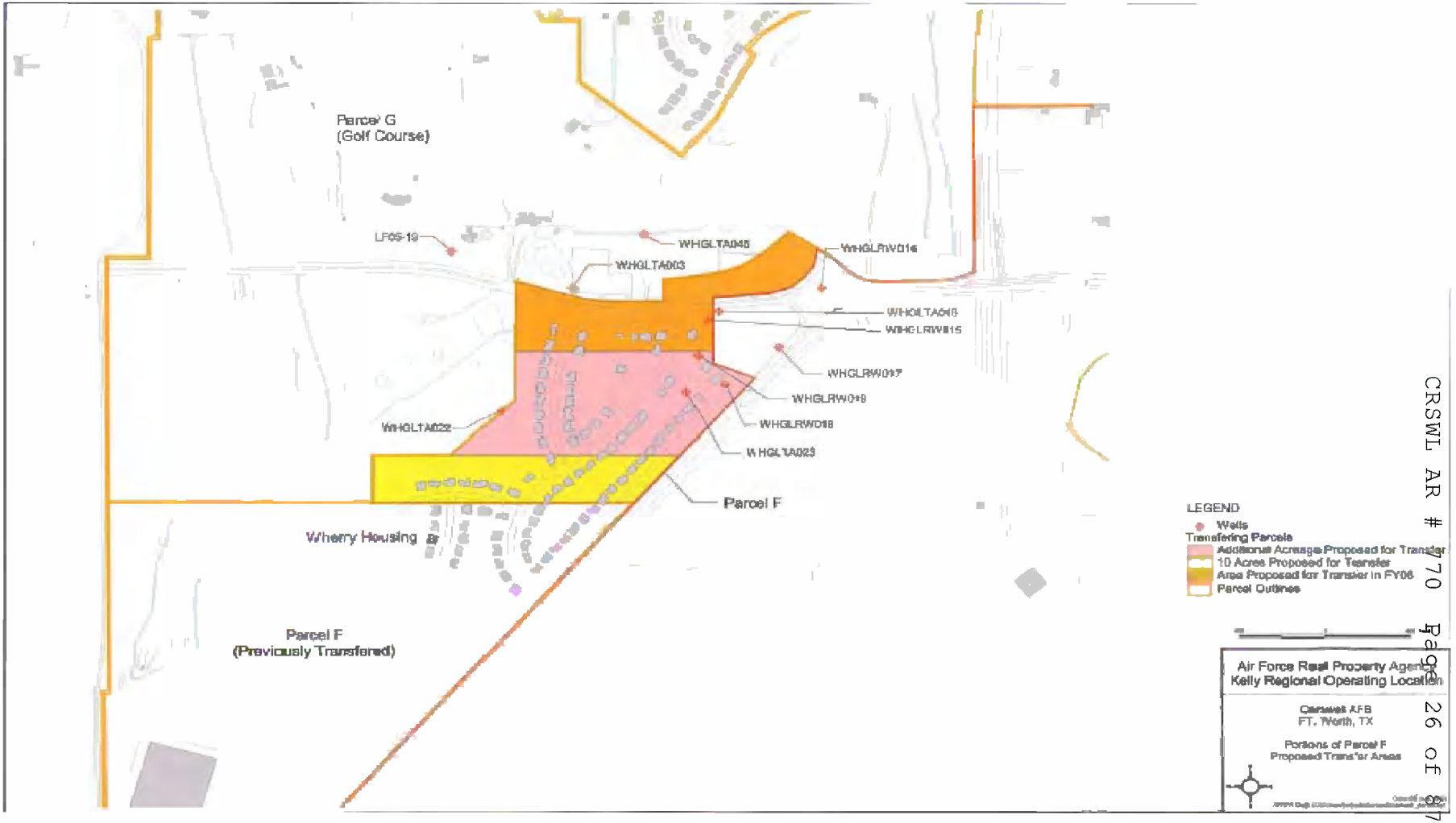
Property Transfer



CRSWL AR # 770 Page 26 of 87

U.S. AIR FORCE

Property Transfer

- Remainder of Golf Course – 187 acres
  - Met with EPA Region 6 and TCEQ in Jan 2005 to discuss path forward
  - Final Focused Feasibility Study (FFS) to be submitted Summer 2005
  - Explanation of Significant Difference (ESD) will be prepared based on FFS
  - Operating Properly and Successfully (OPS) document will be prepared to support property transfer
  - Land Use Controls to be established in the deed

U.S. AIR FORCE

Property Transfer

CRSWL AR # 770 Page 28 of 87

U.S. AIR FORCE

Property Transfer

- WSA – 247 acres
  - Radiation survey completed at Bunker 8531 in January 2005
  - EOD Clearance required prior to transfer
    - Limited funding available in FY05 Program

TAB A

TRANSCRIPTS

MS. BOX: OKAY. LET'S GET STARTED, I GUESS. WELCOME THIS EVENING. I AM CHRIS BOX, COMMUNITY CO-CHAIRMAN. I GOT MY NAME STILL ON. SEE. THAT'S ME. I CAME STRAIGHT FROM CAMPUS. WE ARE IN THE MIDDLE OF FINALS. SO I WOULD LIKE TO, SINCE I HAVE INTRODUCED MYSELF, I WOULD LIKE EVERYONE ELSE TO INTRODUCE THEMSELVES. AND THEN WE WILL LOOK AT A FEW OTHER THINGS. YOU ARE FIRST.

(AUDIENCE INTRODUCTIONS.)

MS. BOX: OKAY. THANK YOU VERY MUCH. I HOPE EVERYONE PICKED UP A COPY OF THE MINUTES, PARTICULARLY THOSE OF YOU WHO ARE MENTION THE THEREIN. DO WE HAVE ANY COMMENTS OR CORRECTIONS ON THE MINUTES? THEN WE WILL ACCEPT THIS AS READ BECAUSE THEY ARE PRETTY DARN GOOD. YOU READ THEM. I DIDN'T. I MEAN, I DID. BUT I DIDN'T READ THEM OUT LOUD.

LET'S SEE. DO WE HAVE THE WESTWORTH 3 DEVELOPMENT AUTHORITY UPDATE YET? NO. SO WE ARE NOT GOING TO DO IT IN ORDER. SEE. WE WILL START WITH NORMA. THE ROLL-OFF BASE AND ALL OF THAT FUN STUFF.

NORMA: OKAY. I AM JUST GOING TO GIVE YOU AN UPDATE OF OUR CURRENT PROGRAM.

THE WITNESS: OKAY. JUST PROJECT

STATUS AND TALK ABOUT SOME PROPERTY TRANSFER. WE BEGAN A PROJECT ON THE RADIOLOGICAL MAINTENANCE MUNITIONS WASTE SURVEY. LAST YEAR WE DID THE SURVEY AND FOUND SOME RADIATION IN ONE OF THE BUNKERS, 8531, AND THE RADIATION WASN'T AT, LEVEL SO WE TOOK SOME SAFETY MEASURES. WE PUT A LOCK ON THE BUNKER AND PUT A SPINE UP. IN JANUARY, WE ALSO DID ANOTHER SURVEY TO DETERMINE EXTENT OF THE RADIATION WHERE WE DID SOME SCALPING TO TRY TO SEE HOW DEEP THE RADIATION WENT INTO THE CONCRETE. DURING SCALPING, SOME OF THE CONCRETE WAS REMOVED AND THE WASTE WAS EXPOSED TO BE DISPOSED OFFSITE TOMORROW, GOING TO REMOVE IT TOMORROW. AND WE HAVE STILL, UNFORTUNATELY, SOME RADIATION REMAINS ABOVE, LEVELS. WE ARE PREPARING A REPORT THAT WILL BE SUBMITTED TO EPA REGION VI AT THE END OF NEXT MONTH AND WE ARE ALSO ASSESSING WHETHER WE ARE GOING TO DO FURTHER REMEDIAL ACTION ON THE RADIATION THAT'S LEFT.

THE NEXT PROJECT IS THE SANITARY SEWER SYSTEM, SWMU 66 ON FORMER CARSWELL AIR FORCE BASE. FIELD WORK WAS CONDUCTED IN JULIE JUNE, JULY, NOVEMBER OF LAST YEAR. WE EVALUATED THE DATA AND IT LOOKS LIKE WITHOUT HAVING TO DO ANY FURTHER FIELD WORK, WE ARE GOING TO BE ABLE TO CLOSE THE SITE, MEANING THE TCQ RISK REDUCTION STANDARD TO CLOSURE

CRITERIA AND THE REPORT, THE DRAFT RFI WILL BE SUBMITTED TO THE REGULATORS BY THE END OF SEPTEMBER. HOME WE WILL GET CLOSURE BY THE END OF THE YEAR.

WRONG BUTTON. SORRY ABOUT THAT. ANOTHER THING WE DID WAS THE FIVE YEAR REVIEW. LAST YEAR, YOU WERE -- LAST FEBRUARY, 2004, R.A.B. MEETING, YOU WERE NOTIFIED THAT WE WERE GOING TO START A FIVE-YEAR REVIEW AND PUT A NOTICE IN THE FORT WORTH TELEGRAM, AND THEN IT WAS DONE. AND THEN IT SAT ON VARIOUS DESKS UNFORTUNATELY BECAUSE WE DIDN'T REALLY KNOW. OUR AGENCY DIDN'T REALLY KNOW HOW WE WERE PROCESSING IT SINCE I GUESS NOT A TYPICAL REPORT THAT THE A RCRA-PERMITTED SITE DOES. SO ANYWAY, WHAT WE DID DURING THE FIVE YEAR REVIEW, WAS WE LOOKED AT 19 OF THE BRAC SITES AND THIS IS OUR FIRST REVIEW UNDER THE FIVE YEAR REVIEW. IT'S A CIRCLE PROGRAM AND WE LOOKED AT, OF COURSE, SWMU 66 STILL UNDERGOING CLOSURE AND REALLY WAS JUST MENTIONED AS STILL UNDER CLOSURE, SO WE DIDN'T LOOK AT IT ANY FURTHER, BUT IT WILL BE ASSESSED IN THE NEXT AND FUTURE FIVE YEAR REVIEWS.

10 OF THE SITES THAT WE LOOKED AT HAVE BEEN CLOSED UNDER THE RISK REDUCTION STANDARD 1, BASICALLY CLOSURE 2, BACKGROUND, SO SINCE THERE WAS NO HAZARDOUS SUBSTANCES LEFT IF PLACE AND IT

ALLOWS FOR UNLIMITED USE OF THE AREA, THERE IS THE 5 YEAR REVIEW GUIDANCE DOES NOT REQUIRE US TO CONTINUE REVIEWING OR TO REVIEW THE SITES ANY LONGER. SO WE HAVE LEFT EIGHT SITES THAT WERE CLOSED UNDER THE RISK REDUCTION STANDARDS WE ARE HAZARDOUS SUBSTANCES WERE LEFT IN PLACE AND WE HAVE THE RESTRICTIONS THAT ARE CERTIFIED ON THE DEED AND SO THESE ARE THE ONES THAT ARE GOING TO BE REQUIRED AND INCLUDING IN THE FUTURE STAN TERRY SYSTEM TO BE REVIEWING EVERY FIVE YEARS.

THESE ARE THE SITES. SEVERAL LANDFILLS AND WASTE PILES. SEVERAL OF THE SITES ARE OUT AT THE WEAPONS STORAGE AREA AND THERE IS ALSO THE GROUND MAINTENANCE. THEY HAVE BEEN DECERTIFIED. THEY HAVE ALL RECEIVED CLOSURE AND WE HAVE DETERMINED THAT THE REMEDY IS STILL PROTECTIVE.

THE REVIEW ALSO RECOMMENDS THAT WE DO ANNUAL VISUAL SITE INSPECTIONS AND IT'S REQUIRED UNDER OUR LAND USE CONTROL PLAN THAT WE HAVE. WE WILL BE INSPECTING THE LANDFILL CAP TO ENSURE THERE IS NO EROSION. WELL MAKE SURE THAT THERE IS WELL INTEGRITY THAT, YOU KNOW, THE PADS ARE STILL IN PLACE NOBODY HAS DESTROYED THEM AND IF SO, WE WILL NEED TO ABANDONED THEM IN PLACE AND PUT IN SOME NEW WELLS.

ALSO, AT THIS POINT IN TIME SINCE AT THE WEAPONS STORAGE AREA WHERE THE EOD, ALSO ORGANIZE GANZ DISPOSAL RANGE WAS WE DON'T HAVE CLEARANCE AND WE ARE GOING TO -- WE ARE WORKING TO GET THAT CLEARANCE. THERE IS NO DIGGING ALLOWED IN THAT AREA, REALLY NO -- NOT EVEN COWS ARE ALLOWED TO GRAYS ANYMORE.

SO LET ME SEE. WE CAN'T INSTALL ANY GROUNDWATER EXTRACTION WELLS AT ANY OF THE SITES BECAUSE WE DON'T WANT TO IMPACT ANY OF THE GROUNDWATER REMEDIES THAT HAVE BEEN PLACED -- THAT ARE IN PLACE ON BASE.

AND, ALSO, NO BUILDING WILL BE BUILT ABOVE CONTAMINATED GROUNDWATER AND THE DRAFT REPORT BEING READY TO SEND TO THE LEG LATE TOWARDS FOR COMMENT NEXT MONTH, AND, ALSO, WE WILL BE PUTTING THE DRAFT REPORT IN THE ADMIN RECORD AT THE LOCAL LIBRARY, AND I COULDN'T -- CHRIS, I CAN ALWAYS LET YOU GUYS KNOW, THE R.A.B. MEMBERS KNOW THAT WE HAVE DONE THAT.

AND THEN THE REPORT WILL BE SENT UP TO OUR HEADQUARTERS FOR THE DIRECTOR'S SIGNATURE. SOME ADDITIONAL PROJECTS THAT WE ARE STILL WORKING ON IS WE ARE GOING TO COMPLETE THE FOCUS FEASIBILITY STUDY FOR THE SOUTHERN PORTION TCE PLUME THAT GOES

ON TO THE GAVEL COURSE PROPERTY. AND WE ARE GOING TO DEVELOP AN EX-UPONICIANS SIGNIFICANT DIFFERENCE. IN ORDER TO TRANSFER THE PROPERTY WE ARE GOING TO ALSO CONDUCT AN OPERATING PROPERLY AND SUCCESSFULLY FOR THE REMEDIES THAT ARE PUT IN PLACE FOR THE T EC PLUME AND, OF COURSE, WE WILL CONTINUE OUR MONITORING ON THE GOLF COURSE BUT TO A SMALLER DEGREE SINCE AIR FORCE PLANT 4 IS TAKING OVER THE LARGER PORTION OF THE MONITORING. . AND WE ARE ALSO STILL HOPING TO GET OUR EOD CLEARANCE SURVEY DONE FOR THE WEAPONS STORAGE AREA. AND THIS IS JUST A MAP OF PROPERTY TRANSFER. EVERYTHING HERE HAS BEEN TRANSFERRED AND THESE TWO PARCELS HAVE BEEN TRANSFERRED TYPE OF THE ONLY THING LEFT IS THIS AREA AND THE GOLF COURSE AND, ALSO, THE WEAPONS STORAGE AREA. AND AS I MENTIONED BEFORE, AS WE FINISH OFF THE FOCUS FEASIBILITY STUDY AND ESD AND OPERATING SUCCESS FILL FULLYLY, WE WILL ALSO DEVELOP FINDING A SUITABILITY OF TRANSFER AND BE ABLE TO TRANSFER THAT PROPERTY.

THEN, ALSO, WE ARE GOING TO ESTABLISH OUR LAND USE CONTROLS IN THE DEED FOR THE PROPERTY. AND THIS IS THE WEAPONS STORAGE AREA. AND THE CIRCLE, THE HALF CIRCLE AND THE HASHED EVERY RUNNING ALONG THE DRY CREEK BED ARE THE AREAS WE ARE

GOING TO HAVE TO CLEAR. AND, ALSO, WE WILL HAVE TO ADDRESS THE RADIATION IN THE BUNKER BEFORE WE CAN TRANSFER THE PROPERTY. AND THAT'S ABOUT 247 ACRES. WE HAVE A LOT OF INTEREST IN THE PROPERTY. MR. ROBERT DOWELL WHO HAS NOW BOUGHT MR. LAMBERT'S PROPERTY IS INTERESTED FROM BUYING THE 247 ACRES. THE ARMY IS INTERESTED IN PUTTING IN A JOINT TRAINING CENTER IN THE AREA. AND THEN THERE IS A COUPLE OF DEVELOPERS THAT ARE LOOKING AT IT, ALSO.

SO WE ARE GETTING QUITE A FEW PHONE CALLS. UNFORTUNATELY, OUR FUNDING IS LIMITED THIS FISCAL YEAR SO WE ARE NOT SURE WE WILL GET ENOUGH FUNDING TO BE ABLE TO DO THE CLEARANCE THIS YEAR.

AND THAT'S ALL I HAVE. DOES ANYBODY HAVE ANY QUESTIONS? OKAY. THANK YOU.

MR. WALTERS: WELL, FOR PUBLIC AFFAIRS TO NOTE WE HAVE THREE MEMBERS OF THE WATER DEPARTMENT HERE BUT NO ACTUAL MEMBERS OF THE PUBLIC OTHER THAN OUR CO-CHAIR. SO MY PRESENTATION WAS WRITTEN MORE FOR THE PUBLIC AND, ALSO, MY OTHER SPEAKER GOING TO BE DOING MOST OF THE TALKING.

ANYWAY, TONIGHT, I AM GOING TO TALK ABOUT THE FOLLOWING ITEMS. ONE THING I AM EXPOSED D.O.B. IS GO THROUGH MY BUDGET EVERY YEAR AND GET A HEAD NOD AND THE THREE PEOPLE FROM THE WATER

DEPARTMENT ARE THE PUBLIC TONIGHT AND CHRIS, SO AFTER I GET TO THAT, YOU PLEASE NOD FOR ME. AND THEN WE ARE GOING TO HAVE U.S. GS AND EARTH TECH TALK ABOUT THE INVESTIGATIONS THEY HAVE DONE AND HAVE TO DO HAVE DONE RECENTLY BACK IN OCTOBER AND NOVEMBER. THEY GOT THE RESULTS IN, THEY REVIEWED THEM AND WE ARE DISCUSSING IT WITH THE REGULATORS RIGHT NOW.

THIS IS MY PROGRAM FOR '06, THE PAPERWORK IS IN DRAFT RIGHT NOW. THESE ARE A RANGE OF WHERE THE PROJECT WILL PROBABLY BE /TP*UTD AT. MY CONTRACT ORDERS WILL PROBABLY LOOK AT THE LEFT NUMBER, NOT THE RIGHT NUMBER. HOW WE DO IT IS, I PREPARE THE BUDGET BASED UPON COMMENTS FROM OUR REGULATORS AND INPUT FROM EVERYBODY. MY HEADQUARTERS CONFUSED IT, THEY BEAT ME UP, THEY TELL ME WHETHER IT'S TOO HIGH, THEY DON'T LIKE IT OR WHATEVER. THEN THEY APPROVE IT IN AUGUST. CONGRESS PUTS OUT A BUDGET, SOMETIMES IN THE FALL. SOMETIMES IT CAN GO INTO FEBRUARY OR MARCH IF THEY ARE FIGHTING AMONGST EACH OTHER AND THEN THEY GIVE ME THE MONEY IN FEBRUARY AND THEN I GIVE THE MONEY TO THE GUY RIGHT BACK THERE. AND HE PUTS IT ON CONTRACT. HE FIGHTS THE CONTRACTORS ON THE -- ON THE NICKELS AND DIMES, TO MAKE SURE THE AIR FORCE IS

GETTING WHAT WE, HOPEFULLY WANT AND THEN THE PROJECT BEGINS ARE YOU FAMILIAR THREE MONTHS LATER SO ACTUALLY MY '06 PROJECT, THE WORK ACTUALLY GETS DONE IN '07, A LOT OF IT.

AGAIN, THE FUNDING IS VERY TIGHT. I ASSUME IT'S ALL GOING TO RCRA. IF YOU LIKE LOOKING AT THE AIR FORCE BUDGET AND HOPEFULLY THE BUDGET CAN GET THEY, THEY CAN LOOK UP THE DENIX WEBSITE, FOR WHAT GROWS INTO THE BUDGET, ARMY, MARINES, NAVY AND DOE AND ALL OF THE OTHER PEOPLE WHO FIGHT FOR THE SAME RESTORATION FUNDS THAT THE AIR FORCEFIES FOR.

SO PC. BS, HOPEFULLY THE PUBLIC GETS THIS SENT OUT IN THE MINUTES AND THE DRAFTS, THEY WILL ENJOY THIS BETTER BECAUSE IT WAS WRITTEN HOPEFULLY FOR THEM AND MOST OF THE PEOPLE KNOW ABOUT PCBS, SO ACTUALLY I WASN'T GOING TO READY ANY OF THIS TO THE PUBLIC BUT JUST SO THE PUBLIC KNOWS WHAT THE VERY COMPLICATED BY PENAL COLOR EASE CAN GET ATTACHED TO ALL OF THESE DIFFERENT NODES WHICH IS WHY THERE ARE OVER 209 TYPES OF PCBS, VERY STABLE, USED IN LOTS OF ELECTRICAL EQUIPMENT, DOES NOT LIKE WATER, LIKES SEDIMENT. WE HAVE SAMPLED THE LAKE WORTH WATER FOR MANY YEARS AND LUCKILY OUR CONCENTRATIONS ARE ZERO, NON-DETECT. THERE ARE

WEBSITES OUT THERE WHERE YOU CAN SEE WHAT YOU GET PCBS IN YOU FROM JUST HE'D /AO*ETING NORMAL P CS BS IN IT THAT'S NOT UNFORTUNATELY NON-DETECT, MILK, FISH, EGGS, BEEF. MOST PEOPLE AVERAGE LESS THAN ONE PART PER WITH. KILLER WELLS IN THE PACIFIC, THEY ARE TOP OF THE FOOD CHAIN UNLESS SOMETHING RUNS THEM OVER WITH A PROPELLER, YOU KNOW, THEY EAT ALL OF THE SAM SALMON THAT HAVE PCBS AND THEY OVER 250 IN SOME OF THEM, AND WHEN WE WERE AT THE CONFERENCE IN MONTERREY A YEAR AGO, THEY TALKED ABOUT HOW THEY WOULD GO OUT AND TACH FAT ADDITIONAL SAMPLES OFF OF THEM AND RUN THEM IN AND I SAID, I HAVE GOT TO LOOK THIS UP ON THE INTERNET SO YOU CAN CHECK THAT OUT FOR YOURSELF. THE FACT SHEET IS FROM ATSDR AND IT HAS ALL OF THE THINGS THAT PCBS, THE FURTHERS, BASED ON CERTAIN DOSAGES THAT YOU MIGHT INJECT.

JUST FOR THE PUBLIC AND PCBS WERE DEVELOPED AND USED. FDA SET A THRESHOLD FOR EATING, YOU HAD FOOD THAT HAD SOME PCBS, THEY WOULD THROUGH YOU UP TO FIVE PARTS PER MEDICAL AND LATER ON, THEY DROPPED IT TO TWO TYPE OF TODAY WHEN YOU BUY COMMERCIAL FISH IF IT HAS PCBS IN IT, YOU COULD GET UP TO 2 PARTS PER MILLION. THE STATE OF TEXAS DOESN'T ALLOW THAT. IT ALLOWS 10 TIMES LESS THAN THAT.

TO REDUCE YOUR EXPOSURES, AGAIN, OLD T VS, OLD TUBES THAT WERE T VS, WHENEVER THEY HEAT UP, THEY GIVE OFF PCB FUMES, REFRIGERATORS, SO MANY APPLIANCES THAT HAVE PCBS IN THEM. WE ARE SEEING THAT PAINT, OLD SEALANTS AND GROUNDS, SINKS, LOTS OF STUFF MADE IN THE OLD DAYS HAD PCBS. IT'S A FLAME RETARD AUNT AND A GOOD SOLVENT FOR, YOU KNOW, GROUP TO EXTRUDE. AND I AM SURPRISED I GUESS THERE ARE PEOPLE OUT THERE THAT ACTUALLY COLLECT CAPACITY TOWARDS AND TRANSFORMERS AND PROBABLY SELL THEM ON E BAY.

THIS IS EVERYTHING WE HAVE DONE ON SEARCHING PCBS AND OUR OUR INVESTIGATIONS. AGAIN, THAT'S OUR WEBSITE. SO YOU CAN CHECK THE WEB SITE OUT AND CHECK EVERY DOCUMENT IN MY ADMIN RECORD. WE USED TO HAVE THEM ON CDS FOR YOU AT THE LIBRARY BUT THEN THE LIBRARY SAID WE CAN'T LET PEOPLE PUT THOSE CDS INTO OUR COMPUTERS. THEY HAVE TO BRING THEIR LAB LAPTOP SO WE IF I COULD OUT THEY WERE AFRAID IT MIGHT HAVE A ADVISORY AND CONTAMINATE. SO IT WAS NICE SOMEONE CAME UP WITH A WEBSITE. PDF FORM YOU CAN CLICK EVERY DOCUMENT WHEN I AM TALKING TO CONTRACT TOWARDS WITHIN 30 SECONDS I CAN FIND PAGE 405 AND CHECK IT OUT. SO THIS IS THE CHRONOLOGY OF EVENTS ON EVERYTHING WE HAVE DONE. AIR FORCE PAID

THE U.S. GS FOR THE FISH STUDY. WHEN WE GOT THE RESULTS IN, WE DECIDED WE NEEDED TO DO SOME MORE WORK AND WE FUNDED SEVERAL PHASES PETE IS GOING TO BE TALKING ABOUT THAT HERE IN A SECOND.

BACK IN '04, WRAPPING IT UP CLOSER TO THE FACILITY, WE HAD YOU THINK TECH DO SOME STUDIES AND THEY ARE COMING UP HERE IN A SECOND TO GIVE US THE RESULTS. THAT MIGHT BE IT.

THE WITNESS: OKAY. SO THE ORIGINAL STUDIES THAT WE HAD DONE AGAIN WITH THE FISH STUDY ALL AROUND THE LAKE, AND THEN WHEN WE FOLLOW THAT UP, WE DID SIMPLY ALL AROUND THE LAKE IN YELLOW. UNFORTUNATELY, THAT ND LIKE HERE IS THE MAIN BODY OF THE LAKE THAT GOES OUT TOWARD THE LEFT, LOOK LIKE THE HIGHER CONCENTRATIONS ARE IN THE COVE SO WE DID PHASE TWO, CONCENTRATED IN THIS COVE, AND THEN PETE IS ALWAYS COMING UP WITH SOME GOOD IDEAS ON SAMPLE DEVICES. YOU HAVE THE WATERSHED PICTURE?

MALE SPEAKER: YES, I DO.

MR. WALTERS: A GREAT BIG WATER SHE HAD THAT CLOTHES TO THIS AREA AND WE FUNDED THAT. I GUESS THAT'S PART OF THE PHASE II RESULTS AND THEN DAVE PARS AND HIS GROUP FOCUSED ON ONE OF OUR LANDFILL SCENARIOS AND I WILL TURN IT OVER TO THEM, AND THEY WILL ALL BE AVAILABLE FOR COMMENTS

AFTERWARDS IF YOU HAVE ANY. SO PETE, ARE YOU GOING FIRST?

PETE: YEAH.

MR. WALTERS: LOAD PETE UP.

THE WITNESS: THAT'S A NICE PICTURE. I LIKE THAT.

MR. WALTERS: YOU WANT IT?

PETE: YEAH. I DON'T KNOW GEORGE I WILL SEND IT TO YOU.

PETE: SOME OF THESE FIRST SLIDES MAY LOOK VERY FAMILIAR IF YOU WERE HERE SIX MONTHS AGO OR WHENEVER WE FIRST SHOWED THIS BUT I WASN'T SURE WHO WOULD BE HERE TONIGHT SO SOME OF THIS IS BACKGROUND. BUT U.S.G.S. IS NON-REGULATORY FEDERAL SCIENTIFIC AGENCY. WE DO A LOT OF WORK WITH THE MILITARY AND WITH OTHER FEDERAL AGENCIES AS WELL AS STATE AND LOCAL AGENCIES. I THINK GEORGE PRETTY WELL OUTLINED THE PCB ISSUE IN A LOT MORE DETAIL THAN WHAT I HAVE ON THIS SLIDE. SO LET ME JUMP ON PAST THAT. I GUESS THE 1.-- THE BOTTOM LINE THAT TRIGGERED ALL OF THIS IS THE OCCURRENCE OF THE P /KHR-FPLT BS IN FISH. YOU HAVE ALREADY HEARD WHAT PCBS ARE. SO LET'S CUT TO THE CHASE. THIS IS A MAP OF THE LAKE SHOWING THE THE RESULTS OF OUR ROUND ONE, PHASE I SEDIMENT SIMPLYING IN 2001 AND EACH OF

THESE YELLOW LABELS ON HERE IS HER WE TOOK AN OFFICIAL SEDIMENT SAMPLE AND ANALYZEED IT FOR PCBS. NON-DEAD TECH ACTIONS UP HERE, REPORTING LEVEL AND A RANGE OF ABOUT 5 PARTS PER BILLION. WE DID SAMPLE IN FRONT OF THESE COVES AND LITTLE DRAINAGE AREAS COMING OFF OF CARSWELL AS WELL AS UP HERE IN WOODS INLAND, YOUR AIR FORCE PLANT 4. AND MOST OF THESE ARE DOWN AT WHAT WE WOULD CALL BACKGROUND LEVELS. THE ONLY PLACE WE SAW ANYTHING HIGHER IS WHERE WHAT'S THE HIGHEST VALUE AT 139 CLEAR UP THE INLET.

SO THAT LED US TO COME UP WITH A PHASE II DESIGN WHERE IT DID LOOK LIKE THERE WAS AN ELEVATED PCBS IN WOODS INLET AND WE WANTED TO GO BACK THERE AND MAP THEM IN A LOT MORE DETAIL IN THE BOTTOM SET OF THE WOODS INLET AND ALSO SEE WHAT WE COULD LEARN ABOUT SOURCES. THERE ARE A LOT OF URBAN SOURCES OF PCBS SWELLING INDUSTRIAL, AND SO WE DIDN'T KNOW RIGHT OFFHAND IF THE SEDIMENTS IN WOODS INLET, FROM THE PCBS WERE COMING FROM URBAN AREAS FROM THE SOUTH AND WEST THERE OR IF THEY WERE COMING FROM THE AIR FORCE PLANT. TWO MAJOR KINDS OF SIMPLEING. ONE WAS MORE OF THE SEDIMENT COREING. FOR SOME OF THAT COREING, WE TAKE THESE LONG CORES, JUST A TUBE OF MUD BUT IN A RESERVOIR LIKE LAKE WORTH,WHICH WAS BUILT IN 1916, I BELIEVE, 14 OR 16,

SEDIMENTS ACCUMULATE OVER TIME. AND IN THIS CASE, THEY HAVE ACCUMULATED ABOUT 6 FEET OF SEDIMENT UP THE INLET AND THOSE SEDIMENTS CARRY SOMETHING OF A CHEMICAL SIGNATURE OF WHAT WAS GOING ON AT THE WATERSHED AT THE TIME THEY WERE ERODED AND DEPOSITED IN THE LAKE. SO WE WILL TAKE THESE LONG CORES ANDS SLICE THEM INTO LITTLE PIECES ALL THE WAY UP THE CORE AND WE CAN USE SOME DIFFERENT TECHNIQUES TO AGE DATE THEM AND FIGURE OUT HOW WOULD THE LAYERS ARE AND HERE IS ONE OF THE LITTLE SAMPLES WE HAVE CUT OFF FROM A CORE AND MEASURE THE CHEMISTRY OF THEM AND IT'S A WAY TO LOOK BACK IN TIME AT WHAT KIND OF WATER QUALITY OR CHEMICAL CONTAMINATION THERE WAS. AGAIN WE ALSO DID A LOT OF SURFACE SEDIMENT SAMPLE SO THIS IS WHAT WE SEE IN THE OFFICIAL SET AND OF IT THE 22 CENTIMETERS WHICH WAS ABOUT AN INCH OF SEDIMENT SO THIS IS ALL SEDIMENT THAT YOU WOULD VIEW AS BEING DEPOSITED IN THE LAST YEAR OR TWO AT THE TIME WE SAMPLED.

THE -- VERY AMATEUR EFFORTS AT COMPUTER AMPUTATION. THIS ONE, WE CALL GRUBBS' CREEK BECAUSE THERE IS A PARK OVER HERE CALLED GRUBBS' PARK. I DON'T THINK IT'S OFFICIALLY NAMED THAT. AND THEN THERE IS A LITTLE ONE RIGHT IN HERE THAT COMES IN FROM THE TEXAS INTERNATIONAL GUARD

FACILITY AND THERE IS A LITTLE BIT OF URBANIZATION DOWN THERE AND THEN THERE IS MEANDERING ROAD CREEK THAT COMES IN ALONG SIDE THE FACILITY. SO IF YOU LOOK AT THE DISTRIBUTION OF CONCENTRATIONS OUT THERE, IT'S PRETTY EASY TO KIND OF EYEBALL CONTOUR LINES AROUND THESE. AND WHAT WE SEE, THE HIGHEST CONCENTRATIONS ARE DOWN HERE IN FRONT OF WHERE MEANDERING ROAD CREEK COMES IN AND THEY DROP OFF INTO THIS 30 TO 60 RANGE IN HERE UP THE INLET DOWN IN THE 20S, TEENS AND BELOW 10. AND THERE ARE SORT OF INTERMEDIATE BUT LOWER LEVELS ON BOTH OF THE OTHER TRIBUTARY ARMS SO ON THE MAP OF CONCENTRATIONS, IT LOOKS LIKE A LOT OF THE PCBS ARE COMING OUT OF THE MEANDERING ROAD CREEK.

MALE SPEAKER: YOU SAID THESE REPRESENT LEVELS THAT SHALL BEEN DEPOSITED IN THE PAST TWO YEARS.

PETE: BASED ON THE LONG-TERM SEDIMENTATION RATE, THAT 2 CENTIMETERS IS A YEAR OR TWO OF AVERAGE SEDIMENTATION.

MALE SPEAKER: SO THIS, THE LEVELS HERE ASSOCIATED WITH THE EVENTS THAT HAVE OCCURRED IN THE LAST TWO YEARS?

PETE: YES. THESE SAMPLES ARE COLLECTED IN 2003. SO, YOU KNOW, 2001 OR 2. JUST

IN VERY RENTSET SEDIMENTS.

MALE SPEAKER: SO WHAT WE ARE SEEING HERE IS THERE IS CONTINUING PCB CONTAMINATION COMING INTO LAKE WORTH?

PETE: YES, AND WE HAVE A MORE DIRECT WAY OF LOOKING AT THAT, TOO, BECAUSE WE HAVE DONE WORK IN THE STREAMS AS WELL. LET ME SHOW YOU THE TIME SERIES IN THOSE LONG TERMS HERE. LADY LADY PETE, A CLAIRE FIX WHEN YOU SAY TIDE TO EVENTS, THAT IMPLIES THAT SOME SUDDEN THING HAPPENED.

PETE: YOU SAID EVENT. I THINK IN TERMS OF STORM EVENTS. NOT A HUMAN RELEASE BUT WHEN YOU SAID "EVENT," I AM THINKING OF A STORM OR A RAIN RUN-OFF EVENT BECAUSE THAT'S WHEN THE PCBS GET TRANSPORTED IN SEDIMENTS IN ANY URBAN SETTING. THAT'S WHAT I -- I DIDN'T UNDERSTAND WHAT YOU MENU MEANT.

MALE SPEAKER: I AM NOT SO MUCH CONCERNED WITH THE METH OF HOW THEY GET THERE BUT THE FACT THEY ARE STILL COMING IN. I THINK SOME OF THE CONCERN HAS BEEN -- I MEAN, WE HAVE KNOWN HISTORYCALLY THAT PCBS HAVE BEEN USED IN THE PAST AND EXPECT TO FIND THEM IN THE LOWER SEDIMENT LEVELS BASED ON WHAT WAS GOING ON THE '60S AND THAT TYPE OF THING.

BUT SOME CONCERN THAT WE ARE STILL SEEING PCBS ENTERING INTO THE LAKE WORTH WATERSHED.?

MALE SPEAKER: REGARDLESS OF HOW YOU GET THERE.

PETE: NOT TO MINIMIZE THE ISSUE HERE BUT YOU DO SEE THEM IN NEW SEDIMENTS IN JUST ABOUT EVERY URBAN LAKE IN THE COUNTRY, TOO, AND IN STREAM FLOW IN URBAN SETTINGS DURING STORM EVENTS. SO WE SEE -- WE SEE LEVELS ON PAR WITH THESE IN FOSS I CAN LAKES.

MALE SPEAKER: THAT LEVEL?

PETE: YES.

MALE SPEAKER: THE HUNDRED PLUS?

PETE: I WOULD HAVE TO LOOK BECAUSE WE SAMPLED ALL OF THOSE A FEW YEARS AGO. 100 PLUS AT THE TOP WAS PROBABLY A LITTLE HIGHER THAN WHAT WE SEE IN THOSE.

HERE IS WHAT THE CORES LOOK LIKE IF YOU LOOK DOWN THOSE LONG TUBES OF MUD SLICED UP AND WE TRY TO ASSIGN TIME INTERVALS TO THE CORE.

Q. WE TOOK THREE LONG CORES, THE BLUEEST LEVEL HAD THE HIGHEST CONCENTRATIONS IS FROM THIS SITE RIGHT HERE. SO THE PATTERN IN THOSE -- AND THEN THE NEXT-HIGHEST ARE HERE AND THE LOWEST ARE OVER HERE. SO THAT TEMPORAL PATTERN FITS THE ROUGH

IDEA OF THE MAP AS WELL.

SO WE DO SEE, THOUGH, THAT -- AND THIS IS ALL /*FR ALSO A VERY TYPICAL PROFILE OF PCBS NICOLE AUBRY IN AN URBAN LAKE WHERE THEY ARE DOWN BY A FACTOR OF TEN OR TWENTY SINCE THE PEAK CONCENTRATION IS BACK IN THE 1960S. SO YES, WE DO SEE THEM IN THE NEW SEDIMENTS BUT WE ALSO SEE THAT THEY ARE MUCH LOWER THAN IN THE -- IN THE OLD DAYS.

THE MORE DIRECT EVIDENCE OF WHAT'S HAD AING RIGHT NOW COMES FROM OUR STORM WATER SAMPLES IN THE CREEKS. AND WE HAD -- THIS IS STILL THE PHASE II STUDY THAT WAS DONE IN 2003. WE HAD FIVE STORM WATER SAMPLING SITES ON THE CREEKS AROUND HERE. HERE IS THAT GRUBBS CREEK ARM THAT DRAINS THIS AREA OVER HERE.

AND THEN HERE IS A SITE THAT'S RIGHT THE TEXAS GUARD SITE.

AND THEN WE HAVE GOT WHAT WE CALL THE UPPER MEANDERING ROAD CREEK BUT IT'S UP STREAM FROM WHERE YOU GET ALONG SIDE THE AIR FORCE FACILITIES. SO THESE THREE ARE WHAT WE WERE CONSIDERING OUR REFERENCE SITES TO TELL US WHAT MIGHT BE COMING IN FROM THE URBAN AREA OR SEPARATE FROM THE FACILITIES. AND THEN WE HAD A SITE RIGHT HERE IN THE LOWER MEANDERING ROAD CREEK RIGHT WHERE IT ENTERS THE LAKE

AND THEN ON ONE OF THE MAIN OUT FALLS FROM THE FACILITY, OUTFALL NO. 4 THAT DRAINS THIS BLUE AREA ALL ALONG THAT SIDE OF THE FACILITY SO THIS IS A PIPE COMING OUT OF THE -- OUT OF AIR FORCE PLANT 4 THAT ENTERS INTO ME AND DRINK ROAD CREEK RIGHT HERE AND THEN WE HAVE GOT THIS UP STREAM/DOWNSTREAM COMPARISON ON THE CREEK.

?

Q. WE DEVELOPED THIS AT MOUNTAIN CREEK LAKE AT STUDIES WE WERE DOING THERE ABOUT 10 YEARS AGO LOOKING AT THESE HYDRO PHOBIC CONTAMINANTS. THE PY BS DON'T LIKE TO DISSOLVE IN WATER. SO THEY STICK TO SEDIMENT AND PARTITION INTO TISSUES WHICH IS WHY THEY ARE A PROBLEM WITH IOTA AND FOR PEOPLE. AND SO IF YOU GET A STANDARD WATER SIMPLYING YOU PROBABLY WON'T DETECT THEM SO WE HAVE DONE THIS SPEC EYESED SAMPLING WHERE WELL COLLECT THESE REAL LARGE VOLUME SAMPLEINGS. THIS IS ONE OF OUR SAMPLERS IN THE BOTTOM OF THE ONE OF THE CREEKS, A BIG STEEL DRUM WITH A 25-LITER CLEAN BLASTIC JUG INSIDE THAT FILLS IN?

THE WITNESS: THE STORM WATER COMES UM THE CREEK AND FILTER IT ON TO TEFLON FILTERS SO WE CAN ISOLATE A LOT OF THE SEDIMENT AND ANALYZE THE CHEMISTRY OF IT DIRECTLY. WE DID 3 HERE ARE WHAT

THOSE NUMBERS LOOK LIKE. A LITTLE BIT DIFFERENT TOTAL PCB, WAY OF CALCULATING IT THAN THE LAKE SAMPLES BUT IT'S NOT THAT IMPORTANT HOW YOU CALCULATE IT.

BUT IT'S A SUM OF INDIVIDUAL PCB CONGENERS, THE 2009 THAT GEORGE MENTIONED YOU CAN HAVE FOR PCBS WHERE YOU ANALYZE FOR ABOUT 28 OF THOSE THAT ARE FAIRLY IMPORTANT ONES AND WHEN WE SUM THOSE UP, THESE ARE THE TOGETHER WE GET SO WHEN WE LOOK AT THE CONCENTRATIONS THAT ARE 3 WE SEE NUMBERS IN THIS 15, THE ND MEANS NON-DETECTION SO WE DIDN'T GET ANY DEBT HE CAN ACTIONS FOR ANY CONGENERS IN THOSE SAMPLES AND THEN WE SEE HIGHER CONCENTRATIONS OVER HERE COMING OFF OUT OF OUTFALL 4 AND STILL AT LOWER ME AND DEGREE DRINK ROAD CREEK. AND SO THESE ARE FOUR STORM EVENTS THAT HAPPENED IN 2003. THE THING WE DON'T HAVE HERE AND IT'S MUCH MORE EXPENSIVE TO GET AT AND DIFFICULT TO GET AT IS THE LOAD, IS THE TOTAL MASS OF PCBS THAT ARE AM COMING INTO THE LAKE RIGHT NOW. WE KNOW THE CONCENTRATION BUT THEY ARE NON-FLOW IN THAT. IT'S NOT THAT LARGE AND THE SALT WATER FAIRLY CLEAR. SO WE HAD TO USE A LOT OF WATER TO ISOLATE THE SEDIMENT TO MEASURE THOSE CONCENTRATIONS SO IT DOES SAY THEY ARE PCBS COMING OFF THE SITE. WHAT IT DOESN'T TELL US IS HOW

BIG THAT LOAD IS.

WE ALSO DID BOTTOM SEDIMENT SAMPLES IN THE STREAM ONE OF THE REASONS WE DID THIS WAS IT'S VERY DIFFICULT TO TAKE THE SMALL SAMPLE TO ISOLATE THEM. FOR BOTTOM SEDIMENTS IN THE CREEK, YOU CAN DIRECT A LOT OF SEDIMENT AND GET A MORE ACCURATE MEASUREMENT OF IT AT THE LAB. AND WE SEE VERY SIMILAR PATTERN WHERE CONCENTRATIONS. WE DIDN'T DO BOTTOM SEDIMENTS ON THE OUT FALL BECAUSE IT'S CONCRETE PIPE, BUT WE DO SEE THAT THE BOTTOM SEDIMENTS ARE ELEVATED, LAW YOU GET DOWN BELOW THERE.

APPEARED SO THAT HAS LED US TO -- IT'S NOT WANTING TO GO DOWN. IT HAD TO THINK A LONG TIME. SO THAT LEADS US TO THIS FALL AND I AM GOING TO SHOW YOU SOME OF THE ADDITIONAL STUFF WE DID IN THE OUT FALLS AND IN THE CREEK. AND DAVE IS GOING TO SHOW YOU A LOT MORE DETAILED WORK THAT'S BEEN DONE ON SITE BY EARTH TECH TRYING TO TRACK DOWN WHERE THESE MIGHT BE COMING FROM WITHIN THE FACILITY OVER HERE. THIS IS JUST ZOOMED IN A LITTLE CLOSER, AND WE DID TWO KINDS OF SAMPLEING THIS FALL. ONE WAS TO GO ALL DOWN THE CREEK AND COLLECT STREAM BED SEDIMENT SAMPLES IN THE CREEK, AND IN EACH CASE, THE BRACKET, THESE OUT FALLS, ONE OF THE THINGS WE FELT

LIKE WE LEARNED FROM THAT, THE DATA I WAS JUST SHOWING YOU A SECOND AGO WAS THAT THERE WERE PCBS COMING OUT OF OUTFALL 4 BUT THAT WAS THE ONLY OUTFALL WE SAMPLED. WE HADN'T SAMPLED -- THERE IS ANOTHER ONE A LITTLE BIT TO THE SOUTH HERE NAMED "SSO" FOR STORM WATER OUTFALL, I GUESS.

AND THEN THERE IS OUTFALL 5 UP HERE. AND THEN WITHIN THESE OUTFALL DRAINAGE, THERE ARE A LOT OF PIPES THAT GO BACK INTO THE FACILITY THAT THERE ARE, AT LEAST ONE OTHER PLACE THAT WE COULD GET TO THE WATER TO SAMPLE RIGHT HERE.

SO WE WANTED TO BRACKET THOSE OTHER OUT FALLS AND SEE IF -- AND THEN TO SAMPLE THESE OTHER OUT FALLS AND SEE IF THIS IS THE ONLY PLACE THAT THEY WERE COMING IN OR IF THERE MIGHT BE PCBS COMING IN FROM OTHER PLACES.

AND HERE, WHAT WE SEE ARE NON-DEBT TECH ACTIONS AT THIS LEVEL IN THE STREAM UP STREAM FROM THE OUT FALLS, WE GET A LITTLE BIT OF A DETECTION RIGHT ABOVE THE OUTFALL. WE ARE NOT SURE WHAT THAT MEANS BUT THERE AND ANY OTHER MAJOR OUT FALLS UP HERE. BUT AND THEN WE DO PICK THEM UP ON DOWN THE STREAM. NOW, THE PINK DOTS HERE ARE WHERE WE DID THE SUSPENDED SEDIMENT AGAIN AND WE SEE RESULTS THAT LOOK PRETTY CONSISTENT WITH WHAT WE GOT

TWO YEARS AGO, BUT IT DOES LOOK LIKE OUTFALL 4 IS AT LEAST BASED JUST ON THE CONCENTRATIONS HERE, THE MORE LIKELY SOURCE OF PCBS TODAY.

THE OTHER THING WE CAN DO AND I DON'T REALLY EXPECT YOU TO ABSORB WHAT'S ON THIS GRAPH BECAUSE I HAVEN'T BEEN ABLE TO ABSORB IT ALL VERY WELL. THE PCBS A WHOLE BUNCH OF RELATED CHEMICAL COMPOUNDS, AND THEY TEND TO HAVE -- YOU CAN LOOK AT THOSE COMPOUNDS AS A FINGER PRINTING TECHNIQUE TO TELL YOU SOMETHING ABOUT THE SOURCES OF THE PCBS. AND THESE ARE A WHOLE BUNCH OF DIFFERENT SAMPLES WHERE WE ARE LOOKING AT SIX OF THE INDIVIDUAL PCB CONGENERS, JUST IN THE RELATIVE DISTRIBUTION IN THE SAMPLE. AND THAT'S WHY THESE LINES ARE GOING ACROSS LIKE THEY ARE. AND I WILL SHOW YOU IN A SECOND WHAT WE HAVE DONE STATISTICALLY TO TRY TO HAVE A MORE ROBUST WAY OF LOOKING AT THIS THAN US JUST SAYING, WELL, I THINK THIS ONE LOOKS LIKE THAT ONE BUT A STATISTICAL COMPARISON OF ALL OF THESE TO TRY TO SAY WHICH OF THEM ARE ALIKE. BUT IF YOU LOOK HERE AT THE CREEK ARM AND THE TEXAS GUARD ARM, YOU WILL SEE THESE SLOPE UPWARD AS YOU GO THROUGH THESE DIFFERENT CONGENERS AND OVER HERE IN WOODS INLET, BOTTOM SEDIMENTS, YOU SEE THAT SAME PATTERN OVER IN THE GRUGGS CREEK ARM WHERE IN THE

LOWER ME AND DEGREE ROAD CREEK, IT'S THE SITE THAT RIGHT WHERE IT DUMPS INTO THE LAKE, WE SEE THIS KIND OF PATTERN THAT LOOKS VERY SIMILAR TO WHAT YOU SEE OUT IN THE MIDDLE OF WOODS INLET AND UP THAT MEANDERING ROAD CREEK ARM SO THIS IS ONE OF THE OTHER THINGS WE COULD DO WITH THE PCB DATA TO TRY TO SEE HOW WELL WE CAN LINK WHAT WE SEE IN THE BOTTOM SEDIMENTS IN THE LAKE TO DIFFERENT POSSIBLE SOURCE AREAS AND THIS IS COPIED FROM OUR.

THIS IS WHAT WE GET WHEN WE DID WHAT'S CALLED A CLUSTER ANALYSIS THAT'S A STATISTICAL TECHNIQUE TO TAKE ALL OF THOSE DIFFERENT PATTERNS, COMPARE THEM AND TRY TO GROUP THEM TOGETHER STATISTICALLY AND SAY WHAT SAMPLES TRY TO LOOK LATER ON LIKE OTHER SAMPLES AND IT TELLS US WHAT WE JUST SAW VISUALLY IS THAT THE SAMPLES COMING DOWN MEANDERING ROAD CREEK LOOK CHEMICALLY, THEIR SIGNATURE, LIKE WHAT YOU SEE CLEAR OUT THROUGH THE BAY WHERE THE SAMPLES FROM THESE OTHER ARMS FALL OUT AS LOOKING DIFFERENT. AND WE HAVE -- WE HAD A FISH REPORT OUT THAT FROM 1999. I GUESS THE REPORT CAME OUT IN 2000. I HAD 2000 IN THERE EARLIER, SO GEORGE HAD THE DATE AS '99 WHICH IS CORRECT. THAT'S NOT UP HERE BUT THEN THIS IS THE REPORT THAT WE PUT OUT FROM THE PHASE ONE SAMPLING AN THIS ONE IS NOT

POSTED ON THE WEB YET BUT I WILL SEE IF I CAN GET THEM TO POST IT ON THERE.

THIS IS THE NEWEREST ONE THAT KIM OUT FROM THE PHASE TWO SAMPLING AND HERE IS THE WEB SITE WHERE YOU CAN GET TO THAT. ANY QUESTIONS?

DAVE, READY?

DAVE: WHILE THE U.S. GS INVESTIGATIONS FOCUSED PRIMARILY ON LAKE WORTH AND MEANDERING ROAD CREEK AND THEN THE OUT FALLS, WHAT EARTH DECK DID WAS WE CAME IN BASED UPON THE U.S.G.S. FINDINGS THAT THE PCBS IN LAKE WORTH LOOK A LOT LIKE WHAT WE HAVE AT AIR FORCE PLANT 4 SO WE TOOK THAT INFORMATION AND WE LOOKED FOR SOURCES AT AIR FORCE PLANT 4 FOR THE PCBS THAT WE SEE IN LAKE WORTH. OUR INVESTIGATION HAD FOUR PRIMARY GOALS. THE FIRST BEING TO DETERMINE THE SOURCE OF THE PCBS THAT PETE IDENTIFIED AT OUTFALL 4, JUST DISCUSSED, THE SECOND GOAL WAS TO DETERMINE IF ANY OTHER STORM SEWER SYSTEMS ON THE WEST SIDE OF AIR FORCE PLANT 4 CONTRIBUTED PCBS TO LAKE WORTH. AND HERE IS WHERE YOU SEE ALLEGATIONS OF THE OVERLAP BETWEEN OUR INVESTIGATION AND PETE'S. THAT WAS ONE OF OUR GOALS BUT PETE SORT OF ANSWER THAT HAD QUESTION THAT THERE ARE OTHER STORM SEWER SYSTEMS CONTRIBUTING PCBS AND I WILL TALK ABOUT OUR RESULTS.

THE THIRD GOAL WAS TO DETERMINE IF THE PCBS THAT WE KNOW ARE IN THE DNAPL WE HAVE ON AIR FORCE PLANT 4 CONTRIBUTED TO THE PCBS WE SEE IN DROP THE FINAL THING TO LOOK FOR ANY OTHER SOURCES OF PCBS OUT THERE OTHER THAN AIR FORCE PLANT 4 CONTRIBUTING TO LAKE WORTH. SO TO TRY TO ANSWER THOSE QUESTIONS BETWEEN OCTOBER AND FEBRUARY OF THIS PAST YEAR, WE WENT AND DID A BUNCH OF SAMPLING. OUR SAMPLING -- OUR SAMPLES ARE A LITTLE DIFFERENT THAN WHAT PETE AND THE U.S.G.S. DID. THEY USED CORE SAMPLING IN THE LAKES TO LOOK AT WHAT'S COMING OFF OF AIR FORCE PLANT 4. WE DIDN'T DO THAT. WE TOOK -- WE LOOKED AT CATCH BASINS AND MANHOLES THROUGHOUT THE WESTERN SIDE OF ARROW PLANT 4 LOOKING FOR THE SOURCE OF PCBS THAT PETE IDENTIFIED AT OUTFALL 4 AND SSO. SO OUR SAMPLES WERE A LITTLE LESS CONSISTENT THAN THE SAMPLES PETE GET. WE GRABBED WHATEVER WE COULD GET BASICALLY AT ANY CATCH BASIN SEDIMENT. IF THAT WASN'T THERE, WE I DON'T TAKE A CONCRETE CHIP SAMPLE AND WE USUALLY COLLECTED A WATER SAMPLE, ALSO.

WE ALSO, AS PETE DID, WE DID SOME SEDIMENT SAMPLING ON MEANDERING ROAD CREEK AND SOIL SAMPLEINGS ADJACENT TO THE SSO, WE DID A CAMERA SURVEY OF THE A COUPLE OF LINES OF THE STORM SEWERS.

THE GOAL THERE WAS TO TRY TO SEE IF WE COULD SEE ANY EVIDENCE OF CONTAMINATION SEEPING INTO THE STORM LINES THAT DISCHARGED TO MEANDERING ROAD CREEK AND FOLLOWING THE WORK THAT U.S. GENERALLY SPEAKING DID WE ALSO DID THE SAME KIND OF PRINTINGING TRYING TO BE CONSISTENT WITH WHAT THE U.S.G.S. DID. THIS IS A CERTAINLY MAP THAT DOESN'T REALLY SHOW ANYTHING VERY WELL TYPE OF THIS IS THE WESTERN SIDE OF AIR FORCE PLANT UP. WASHED OUT AND THEN THE NEXT TWO FIGURES I WILL SHOW, HOPEFULLY SHOW A LITTLE BIT BETTER ARE A BLOW UP OF OUR STUDY HERE ON THE WEST SIDE OF AIR FORCE PLANT 4.

A LITTLE BETTER SO NOW WE ARE INTO THIS BLOWN-UP AREA AGAIN, LAKE WORTH AND MEANDERING CREEK ON THE WEST SIDE OF AIR FORCE PLANT 4, THE TWO LANDFILLS WE HAVE IN THE AREA, ALL OF THESE AREAS HIGHLIGHTED IN ORANGE OR YELLOW ARE THE AREAS WE TARGETED DURING OUR INVESTIGATION. GOING BACK TO OUR FOUR GOALS HERE, THE FIRST GOAL WAS TO SEE WHAT -- TRYING TO FIGURE OUT WHAT THE SOURCE WAS FOR THE PC PS AT OUTFALL 4. NOW AGAIN THIS IS AIR FORCE PLAN, HERE IS OUTFALL 4 HERE, THE BLUE DOTS ON THE MAP REPRESENT AREAS THAT WE SAMPLED OUT FALLS, CATCH BASINS, CREEK LOCATIONS, SO FOR OUT -- FOR THE OUTFALL 4 STORM SEWER SYSTEM, THIS SHOWS THE LINES

SHOW WHERE THE STORM SYSTEMS GO. IT DOESN'T SHOW ALL OF IT BUT IT SHOWS SOME OF IT AND BASICALLY, THIS STORM COLLECTION SYSTEM CAP TOURS A LOT OF WATER ON THE WEST SIDE OF AIR FORCE PLANT 4.

AND WE HAD A PRETTY SIMPLE APPROACH TO WHAT WE WERE DOING CUT HERE. WHAT WE DID WAS WE STARTED AT THE OUTFALL CAN COLLECTED THIS SAMPLE AND BASICALLY WENT UP STREAM, THE WATER DOES CHARGES OUT HERE. WE WENT UP STREAM AND EVERYONE THERE IS A SPLIT IN THE LINE, WE WENT UP TO THE NEXT AVAILABLE SAMPLING POINT AND GRABBED THE SAMPLE. THERE IS A SPLIT HERE, WE CAME DOWN, FORKLIFT SPLIT AGAIN. WE GRABBED THE SAMPLE HERE. THE INTENTION WAS IF THERE IS PCBS HERE AND THIS SOIL SAMPLE HERE, WE KNOW THAT THE STORM SYSTEM APPEARS CONTRIBUTING TO PCBS TO OUTFALL 4.

SO WE HAD A SPLIT HERE, COLLECTED A SAMPLE HERE, WE ALSO COLLECTED ON THE OTHER LINES OF THE OUTFALL FOR DRAINAGE SYSTEM. AGAIN, YOU KNOW, IT SHOWS THAT IT STOPPING HERE BUT ACTUALLY THIS POINT HERE WILL TELL US WHAT'S COMING IN THROUGH THE SYSTEM IN THIS AREA THAT THIS PART DRAINS.

SO THAT WAS OUR APPROACH TO TRYING TO FIGURE OUT WHERE THE PCBS WERE COMING FROM WITH THE OUTFALL 4 SYSTEM. AND AGAIN, ALL OF THESE --

THIS IS AN OPEN PLUME THAT WE SAMPLED BUT THE REST OF THEM ARE CATCH BASINS THAT WE JUST WENT IN AND GRABBED SEDIMENT SAMPLES FROM.

THE SECOND GOAL WE HAD WAS TO TRY TO FIGURE OUT IF THERE WERE OTHER SOURCES OR OTHER STORM SEWER SYSTEMS THAT WERE CONTRIBUTING PCBS INTO LAKE WORTH, TO MEANDERING ROAD CREEK AND WE SAMPLED OUT FALL CREEK A LITTLE BIT TO THE NORTH, OUTFALL 5 TYPE OF THERE IS A LITTLE OUTFALL HERE, NORTH BOMBER ROAD, STORM SEWER OUTFALL. NOT REALLY EVEN AN OUTFALL. ALL IT IS IS A LITTLE DITCH DRAINS ACROSS THE ROAD AND WE SAMPLED IT ANYWAY. OUTFALL 4, WE ALSO SAMPLED HERE THE SSO THAT PETE IDENTIFIED WHICH IS RIGHT HERE. AND IT'S GOT A PRETTY SMALL AREA IT DRAINS OR STORM SEWER SYSTEM. THAT'S IT FOR THE STOP STIWER SYSTEM ALTHOUGH IT DRAINS THIS EVERY OTHER HERE SO THAT WAS WHAT WE DID TO LOOK FOR OTHER STORM SEWER SYSTEMS CONTRIBUTING PCBS.

THE THIRD GOAL WAS TO SEE IF THE DEAN A.M. THAT WE KNOW EXISTS, THERE IS DNAPL IN THIS AREA IN BEDROCK AND TERRACE MOVEMENT IN THIS AREA AND WE KNOW THAT THE PCBS HAVE SIGNIFICANT LEVELS -- I'M SORRY THE DEAN A.M. HAS SIGNIFICANT LEVELS OF PCBS SO WE WANT TO SEE IF THE PCBS ANDS DNAPL ARE IN THE SSO AND ULTIMATELY LAKE WORTH SO WE

DID A BUNCH OF SAMPLING ASSOCIATED WITH THE DNAPL IN THIS AREA IN ADDITIONAL TO THE STORM SEWER SAMPLING AND THE FINAL THING WE WANTED TO LOOK AT WAS ANY UPGRADING SOURCES, UP STREAM SOURCES THAT MAY ALSO BE CONTRIBUTING TO PCBS TO LAKE WORTH AND SO WE HAD THREE SAMPLING LOCATIONS DOWNSTREAM OF OUR OUT FALLS AND THAT SORT OF GAVE US A FEEL FOR WHAT AIR FORCE PLANT 4 IS CONTRIBUTING TO THE CREEK AND LAKE. WE ALSO SAMPLED THREE LOCATIONS UP STREAM OF AIR FORCE PLANT 4 TO TRY AND GET A FEEL FOR OTHER SOURCES THAT MIGHT BE OUT THERE CONTRIBUTING TO WHAT WE SEE IN LAKE WORTH TYPE OF.

SAME MAP, NOW WE GOT SOME CONCENTRATIONS ON HERE. THESE, ALL OF THE CONCENTRATIONS, I WILL TALK THROUGH THEM, ARE ALL TOTAL PCBS SO WE JUST SUMMED THE ARROW COLORS TO THERE ARE A LOT DIFFERENT THAN CONGENERS, THE RED LINES HERE SHOW AREAS THAT HAVE BEEN IMPACTED BY PCBS. THE GREEN LINES SHOW AREAS THAT WE DID NOT FIND ANY PCBS AT.

SO AGAIN, I WILL START WITH THE OUTFALL 4 SYSTEM, WE FOUND TOTAL OF 43.PER BILLION IN THE SEDIMENT WE COLLECTED THAT LOCATION AND THEN SORT OF MOVING UP STREAM, WHAT WE FOUND, UNFORTUNATELY THERE IS A LOT OF RED ON OUR MAP AND

THERE IS NOT MUCH GREEN. IF YOU LEAKING LOOK AT THESE CONCENTRATIONS, 160 PARTS PER BILLION, 180, 130, 77 AND 130 PARTS PER BILLION, WE HAD A PRETTY CONSISTENT, LOW LEVEL PCB DETECTS ACROSS THE AREA. WE ONLY HAD ONE LOCATION, RIGHT HERE, THAT CAME BACK AS NON-DETECT. AND THE NON-DETECT TOLD US THAT WHATEVER WATER DRAINS FROM HERE THROUGH THIS POINT DOESN'T LOOK LIKE THAT AREA IS CONTRIBUTING PCBS TO OUTFALL 4. YOU KNOW, WE WERE REALLY HOPING THAT WE WOULD SORT OF FIND THE SMOKING GUN, THAT WE WOULD HAVE ONLY ONE POINT THAT WOULD SHOW UP WITH PCBS AND EVERYTHING YOU SEE HERE IS AM COMING FROM A SINGLE POINT. WE DIDN'T GET THERE. WE GOT TO A POINT WHERE YOU SEE PCBS SORT OF SPREAD THROUGHOUT THE AREA AND AGAIN, THEY ARE LOW-LEVEL PCBS.

AS FAR AS THE OTHER STORM SEWER SYSTEMS, OUTFALL 3 IS TO THE NORTH. WE SAMPLED THAT AND DIDN'T FIND ANY PCBS. WHEN WE SAMPLED OUTFALL 4 OR OUTFALL 5 HERE, WE ACTUALLY DIDN'T FIND ANY PCBS AND SO WE WERE AT THAT POINT READY TO SUGGEST THAT MAYBE THAT'S NOT CONTRIBUTING ANY PCBS TO THE LAKE. PETE HAS SINCE COME FORWARD WITH HIS INFORMATION THAT 29 PARTS PER BILLION, I THINK IT WAS SO IT LOOKS LIKE MAYBE THERE ARE SOME LOW LEVEL PCBS COME FROM THIS PART OF THE PLANT BUT REAL, REAL, LOW

LEVELS TYPE OF.

DIDN'T SEE ANYTHING IN THE NORTH BOMBER ROAD STORM SEWER SYSTEM.

DOWN HERE AS FAR AS JUST WHAT WE FOUND IN THE STORM SEWER SYSTEM, WE HAD 60 PARTS PER BILLION AT THE SSO OUTFALL SO ABOUT WHAT WE WERE SEEING DOWN HERE AND THEN 53 AND 210 PARTS PER BILLION AND AGAIN THOSE ARE SEDIMENT SAMPLES SELECTED FROM THE CATCH BASIS INS WITHIN THE STORM SEWER SYSTEM SO BASED UPON TOTAL PCB CONCENTRATIONS WHAT WE WERE FINDING IS SIMILAR CONCENTRATIONS DOWN HERE IN THE SSO OUTFALL SYSTEM THAT WE WERE FINDING HERE IN THE OUTFALL 4 SYSTEM.

I WILL GO ON AND TALK A LITTLE BIT MORE ABOUT THE DEAN A.M. WE ALSO DID A BUNCH OF SAMPLEING. I WILL TALK ABOUT THAT IN A MINUTE. AS FAR AS CREEK LOCATIONS, WE FOUND ALL THREE LOCATIONS DOWNSTREAM OF OUR STORM WATER OUT FALLS HERE IS SSO. THE FIRST NEAREST POINT RIGHT HERE, 21 PARTS PER BILLION, THE NEXT ONE WAS DOWNSTREAM FROM THE OUTFALL 4. THAT'S AT 68 PARTS PER BILLION THEN WHEN YOU GET DOWN TO JUST BEFORE ME APPEARED DRINK ROAD CREEK DUMPS INTO LAKE WORTH WE WERE AT ABOUT 100 PARTS PER BILLION. SO, YOU KNOW, THAT'S EVIDENCE THAT BOTH THESE OUTFALL SYSTEMS OR STORM

WATER SYSTEMS ARE CONTRIBUTING TO ME AND DRINK ROAD CREEK. THE THREE LOCATIONS WE SAMPLED UP STREAM FROM OUR SSO WERE ALL CLEAN AND SO THAT'S, AGAIN, SORT OF FALLS IN WITH WHAT PETE WAS FINDING DOESN'T LOOK LIKE THERE WAS ENOUGH OUT THERE OTHER THAN AIR FORCE PLANT 4 OTHER THAN THE PCBS OUT HERE.

THIS, I DON'T CARE IF YOU GUYS CAN SEE THIS BUT WE DO HAVE DASHED BLUE LINES ON THE MAP AND IT GIVES YOU A FEEL FOR WHAT THE DRAINAGE BASIN IS FOR FOR THE OUT 44 SYSTEM. IT DRAINS THIS ENTIRE AREA OVER HERE.

SO THE SUMMARY OF TOTAL PCB RESULTS I JUST WENT THROUGH PRETTY MUCH EVERYTHING ON THIS SLIDE SO I WON'T GO BACK THROUGH IT AGAIN. JUST A NOTE, I GUESS, WE ALSO, AND I WILL TALK A LITTLE BIT MORE ABOUT THIS BUT WE HAVE COLLECTED SAMPLES OF DNAPL AND RUN IT FOR PCBS AND WE HAVE PCBS IN THE DNAPL ITSELF AS FAR AS 310,000 PARTS PER BILLION SO THAT'S PRETTY HIGH DESPITE THE FACT THAT YOU SEE IT AS HIGH AS THAT IN THE DNAPL AT 310,000 PARTS PER BILLION WE ONLY GOT AS HIGH AS 210 PARTS PER BILLION WHICH IS RIGHT NEXT TO THE DNAPL SO THAT SORT OF IS SOME EVIDENCE THAT THE PCBS AND DNAPL ARE NOT GETTING INTO THE SSO.

MALE SPEAKER: WHAT DOES DNAPL STANDS

FOR?

DAVE: DOES EVERYBODY KNOW WHAT DNAPL IS? A NAPLE,, A NON-ATE TREEIUS GASOLINE OR OIL IS A NAPLE,. IF YOU DUMP GASOLINE INTO THE EYE, IT'S GOING TO SIT ON TYPE OF WATER. IT SITS AS PRODUCT ON TYPE OF WATER. GASOLINE IS AN EXAMPLE OF A LIGHT NON-ACQUIIAS PHASE OR L NAPLE,. PRIMARY, WE HAVE DENSEER, THEY SINK AND SO WE CALL THEM DENSE NON-ACQUIIUS PHASE LIQUIDS. THAT'S MY EXPLANATION.

MALE SPEAKER: HOW DEEP?

MALE SPEAKER: YOU ARE LOOKING A LOT DNAPL, NO DEEPER THAN 30 FEET ON THE WEST SIDE OF THE PLANT.

ON THE EAST SIDE OF THE PLAN, DNAPL, UNDER THE PLANT OF 30, 40 FEET AND THEY ARE PRACTICALLY GONE FROM THE REMEDIATION EFFORT. IN TERMS OF THE DNAPL DAVE IS TALKING ABOUT, THE WEST SIDE, SIT IN THAT WEST PACKING LOT AROUND 30 FEET AND ARE CONTAINED IN THEREBY A VERY, VERY WELL CEMENTED LIMESTONE. THEY ARE NOT MIGRATING DOWN OR LATERALLY. THEY ARE STUCK WHERE THEY ARE.

MALE SPEAKER: DID IT EVER LOOK LIKE THEY POSSIBLY EVER DISCHARGED INTO THE STREAM BEFORE YOUR CONTAINMENT?

MALE SPEAKER: MAYBE NOT THE DIRECT

DNAPL BUT WE HAVE SOME OF THE WORK THAT EARTH TECH DID THAT THERE WAS SOME LOW LEVEL DECOMPOSITION COMPOUNDS THAT MAY HAVE MIGRATED BUT WE MONITOR THE CREEK EVERY OTHER MONTH, IN ADDITION TO WHAT DAVE HAS SHOWN AND WE HAVE NEVER SEEN THE SURFACE WATER INDICATE THE PREFERENCE ABOVE TRACE OR ANY DEBT TEXT AT ALL. IT'S A VERY, VERY, VERY, VERY FREQUENT MONITORING PROGRAM IN THERE.

DAVE: THIS IS ACTUALLY A FIGURE WE SOLD FROM THE U.S.G.S. AND IT'S ACTUALLY OLD NOW. THEY HAVE CHANGED HOW THEY LOOK AT THEIR CON GENERALER DATA. WE FOLLOW THAT AND YOU CHANGE IT UP ON THAT. SO WE ARE NOT EXACTLY CONSISTENT WITH THEIR METHODOLOGY AS WE HAD HOPED TO BE BUT PETE HAD INITIALLY SHOWN THAT THE TWO BLUE LINE HERE AND AGAIN WE WILL TALK ABOUT WHAT THIS IS. IT'S JUST THE RATIO OF CONGENERS IN A SAMPLE BUT THE TWO BLUE LINES WERE SAMPLES THAT THEY COLLECTED FOR OUT IN WOODS INLET AND THE YELLOW LINE HERE IS THE RATIO OF CONGENERS THAT THEY FOUND IN THE SAMPLE FROM OUTFALL 4.

AND SO, HEADING INTO OUR INVESTIGATION, THAT'S WHAT WE HAD TO GO BY, THIS KIND OF DATA THAT PETE HAD AND SO IT REALLY LOOKED LIKE WHAT WE WERE SEEING AT OUTFALL 4 MATCHED WHAT

THEY WERE SEEING IN THE LAKE, IN THE CREEK.

SO WHAT WE DID WAS WE DID THE SAME KIND OF ANALYSIS WITH THE SAME CONGENERS HE JUST LOOKED AT.

NOW, PETE'S -- PIZZA' SAMPLE, THE U.S.G.S. SAMPLES, ARE BETTER IN A WAY IN THAT THEY ARE MORE CONSISTENT, SUSPENDED SEDIMENT SAMPLES COLLECTED IN A UNIFORM MANNER. THE SAMPLES I COLLECTED LIKE I SAID OR WE COLLECTED WAS WHATEVER WE COULD GET, SEDIMENT CATCH BASINS, CONCRETE CHIP SAMPLES SO IT'S THE LITTLE -- A LITTLE HARDER TO LOOK AT AND THERE IS A LITTLE MORE NOISE PROBABLY IN THE DATA, BUT THIS IS OUR DATA FROM THE OUTFALL 4 SO THE THE THREE YELLOW LINES HERE SHOW WHAT WE FOUND IN MEANDERING CREEK SO WE ARE USING THAT AS OUR STARTING POINT, WE DIDN'T USE ANY LAKE SAMPLING SO WE USED WHAT'S IN THE LAKE TO COMPARE AGAINST AND SO, YOU KNOW, IT'S ROUGH BUT YOU SEE A SIMILAR WITH THE BLUE LINES AS YOU DO THE YELLOW. ONE THINK THAT WE ALWAYS FOUND IN THE OUTFALL 4 SYSTEM IS THAT THE PCB CON GINGER 52 WAS ALWAYS LESS THAN WHAT WE HAD FOR 118 AND THAT'S PRETTY CHARACTERIST FOR THE SAMPLES IN THE OUTFALL 4 SYSTEM.

SO IT'S A LITTLE ROUGH, I GUESS, BUT, YOU KNOW, IT GIVES US A SENSE THAT MAYBE THE

PCBS WE ARE SEEING THROUGHOUT THE OUTFALL 4 SYSTEM ARE SIMILAR TO WHAT WE ARE SEEING IN THE MEANDERING ROAD CREEK.

THIS IS -- I AM GOING TO SKIP TO THE SSO OUTFALL SYSTEM. THIS MAP SHOWS AGAIN THE OUTFALL SYSTEM, THE BLUE LINES ARE THE STORM LINES. THIS MANHOLE RIGHT HERE, SBR 01 IS THIS PICTURE RIGHT HERE. WHAT WE DID THERE WAS WE POPPED A MANHOLE AND ACTUALLY USED COMBINED SPACE ESSENTIALLY TO GET DOWN IN THERE AND COLLECT WATER SAMPLES OR SEDIMENT SAMPLES. SO LOOKING OFF IN THIS DIRECTION TO JUST SEA THE OTHER SIDE OF THAT WHITE TRUCK, THAT LINE RIGHT THERE IS THE SAME AS THIS LINE RIGHT HERE, AND THEN SO THE WATER DRAINS THIS WAY, BREAKS 90 DEGREES TO THE WEST AND DOES CHARGES THAT SSO.

SO LIKE I SAID EARLIER, WE HAD -- WE HAD TWO DIFFERENT KINDS OF SAMPLES IN THE SSO SAMPLE OR WE HAD -- OR AREA. SAMPLES FROM CATCH BASINS, ITSELF, LIKE THIS ONE AND THE OUTFALL AND THAT SORT OF TOLD US WHAT WAS GOING ON WITH STORM WATER AS FAR AS PCBS GO BUT WE ALSO COLLECTED A BUNCH OF SAMPLES AN THE AREA AND I WILL SHOW YOU A CROSS SECTION. THERE ARE A COUPLE OF WELLS OUT HERE F 214 AND W 5 THAT WE KNOW HAVE DNAPL IN THEM SO WE COLLECTED A SAMPLE FROM THERE AND THAT'S WHERE WE GOT HIGH

LEVELS OF PCBS. WE ALSO DID SOME SOIL BORINGS AROUND THE AREA OF THE SSO.

NEXT MAP, THE DAN SCHULTZ SPECIAL. AGAIN, IT SHOWS OUR -- THIS IS NOW THE SAME MANHOLE HOLD WE WERE LOOKING AT ANY PICTURE CROSS SECTION WITH THE OUTFALL, WATER DISCHARGING TO OUTFALL, SS OUTFALL THAT DIRECTION. AND SO AGAIN, WE COLLECTED SEDIMENT SAMPLES AT THE BOTTOM OF THIS MANHOLE AND ALSO WATER SAMPLES BUT WE ALSO COLLECTED SAMPLES FROM WELLS AND THE WELLS ARE ACTUALLY SCREENED DOWN INTO THE BEDROCK THERE SO THEY ARE A LITTLE DEEPER AND THESE ARE TWO FRENCH DRAINS BASICALLY DESIGNED TO CATCH THE CONTAMINATION BEFORE IT GETS TO THE OUTFALL 4 SYSTEM. SO WE HAD TWO DIFFERENT KINDS OF SAMPLES HERE. SAMPLES FROM WITHIN THE STORM SYSTEM AND THEN SAMPLES FROM AROUND THE STORM SYSTEM.

AND THIS IS WHAT WE SEE NOW. AND AGAIN, THE YELLOW LINES ARE THREE CREEK SAMPLES AND IT'S THE SAME PARENT THAT YOU SAW BEFORE. AND NOW, WE ARE SEEING A PRETTY DIFFERENT SIGNATURE IN THE SAMPLES FROM THE AREA AROUND SSO. AND MOST OF THESE SAMPLES ARE ACTUALLY NOT FROM -- WE ONLY HAD THREE SAMPLES RELATED TO THE STORM SYSTEM, IT'S SELF. THE REST OF THEM WERE DNAPLE SAMPLES AND SO FORTH AND EVERY ONE OF THEM BASICALLY HAD PCB 52 AT A HIGHER

NUMBER THAN WE SAW PC THE B WHICH IS THE EXACT OPPOSITE RELATIONSHIP WE SAW PREVIOUSLY.

THIS IS GOOD NEWS IN THAT THE SAMPLES FROM THE DNAPL DON'T SEEM TO MATCH WHAT WE ARE SEEING IN LAKE WORTH MAKING THE ARGUMENT THAT EVEN THOUGH WE HAVE HIGH CONCENTRATIONS OF PCBS IN THE DNAPL, THAT STUFF IS NOT MAKING ITS WAY TO MEANDERING ROAD CREEK AND LAKE WORTH TYPE OF.

WE DO HAVE A COUPLE OF GREEN LINES IN HERE THAT MATCH PRETTY CLOSELY WHAT WE SEE IN THE CREEK, AND THOSE ARE ACTUALLY SAMPLES FROM MANHOLES IN THE STORM SEWER SYSTEM SO WHAT WE FOUND WAS THAT THE DEAN A.M. AND RELATED SAMPLES DIDN'T SEEM TO MATCH, THE SAMPLES FROM THE STORM SYSTEM DO SO IT SEEMS LIKE WHATEVER FLOW OVER LAND GETTING INTO THE STORM WATER SYSTEM HAS PCBS THAT ARE SIMILAR TO WHAT WE FOUND AT OUT FALL 4 AND IN MEANDERING ROAD CREEK AND LAKE WORTH.

SO AGAIN, OUR CONCLUSION, GENCON CLUSIONS OF OUR INVESTIGATION SEEMS LIKE THERE ARE TWO DIFFERENT FINGERPRINTS OUT HERE, THE OUTFALL 4 STORM SYSTEM, ENTIRE STORM SYSTEM, THE SSO OUTFALL SYSTEM, ME AND DRINK ROAD AND LAKE WORTH ARE ALL PRETTY SIMILAR IN THEIR PCP FINGERPRINTS. THE DEAN A.M. LOOKED TO BE PRETTY DIFFERENT. IT APPEARS BOTH

OUTFALL 4 AND THE SSO OUTFALL CONTRIBUTE TO THE PCBS WE ARE SEEING IN LAKE WORTH. IT DOESN'T APPEAR THAT THE DNAPL IS A SIGNIFICANT CONTRIBUTOR TO THE PCBS WE ARE SEEING IN LAKE WORTH. WE DIDN'T FIND THE SMOKING GUN OUT THERE, YOU KNOW, THE GOAL WAS TO TRY TO GET OUT THERE AND FIND OUT EXACTLY WHERE THIS STUFF WAS COMING FROM. WE DIDN'T DO THAT WITH OR SAMPLE EFFORT. INSTEAD, WE FOUND OUT THAT INSTEAD OF IN ONE HOT SPOT, ONE SOURCE, WHAT WE SEEM TO HAVE IS LOW-LEVEL PCB CONCENTRATIONS IN THE STORM SEWER STEPS ON THE WEST SIDE OF 4. ONLY ONE LOCATION WE HAD DIDN'T HAVE ANY PCBS. BUT AGAIN, THEY ARE PRETTY LOW-LEVEL CONCENTRATIONS.

AND THEN FINALLY, WE DIDN'T FIND ANY EVIDENCE OF OTHER SOURCES OUT THERE SUGGEST THAT AIR FORCE PLANT 4 IS THE PRIMARY CONTRIBUTEER TO PCBS WE ARE SEEING IN LAKE WORTH.

JUST TO GIVE YOU A LITTLE FEEL FOR WHAT OUR CONCENTRATIONS AT AIR FORCE PLANT 4 ARE LIKE, AGAIN, OUR CONCENTRATIONS RANGED FROM IN THAT NON-DETECT TO AS HIGH AS 210 PARTS PER BILLION AND THE STORM SEWER SYSTEM AND MEANDERING ROAD CREEK, WE WERE BETWEEN 21 AND 100, I THINK, PARTS PER BILLION IN THE CREEK SEDIMENT. TC EQ, THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY HAS COME UP WITH A CLEAN-UP

GOAL FOR SEDIMENT FOR PCBS. AND THAT CLEAN-UP GOAL IS 155.6. NOW, IN THE CREEK, IN THE LAKE, WE ARE CURRENTLY BELOW THAT LEVEL WHICH IS A GOOD THING.

THE BAD THING, I GUESS, IS THAT THAT'S BASED UPON THE ORGANISMS, THE LITTLE CRITERS THAT LIVE IN THE SEDIMENT, AND WHILE THE CONCENTRATIONS WE HAVE ARE PROBABLY PROTECTIVE OF THAT, WHAT WE DO SEE IS THAT THE FISH, AS YOU ALL KNOW BECAUSE WE HAVE A FISHING ADVISORY IN THE LAKE, THAT FISH TEND TO BIO EXCUSE ME YOUR LATE SO WE SEE SOME ELEVATED CONCENTRATIONS IN THE FISH. JUST A COUPLE OF OTHER SIDES, THE HUDSON RIVER IN NEW YORK, SUPER FUND SITE, Y'ALL HAVE PROBABLY HEARD ABOUT, THEIR CLEAR UP AGAIN IS ACTUALLY 1,000 PARTS PER BILLION. THEY ARE SO GROSSLY CONTAMINATED THEY HAVE TO CLEAN UP TO A THOUSAND PARTS PER BILLION WHEREAS HERE, YOU KNOW, WE ARE TALKING ABOUT UNDER 100 PARTS PER BILLION IN A LOT OF OUR SAMPLES SO,, YOU KNOW, DIFFERENT ORDER OF MAGNITUDE THERE.

THE FISH ADVISORY, AND I HAVE HEARD PEOPLE TALK ABOUT A FISHING BAN TYPE OF IT'S NOT ACTUALLY A FISHING BARB. THE TCEQ FISH ADVISORY, WHAT THEY DID WAS THEY LEAKED AT THE MEAN PCB CONCENTRATION IN FISH ANDS WHAT WE FOUND WAS A PCB CONCENTRATION, AVERAGE CONCENTRATION OF 218 PARTS

PER BILLION SO THEN, TC EQ THEN WENT THROUGH AND FIGURED OUT HOW MUCH FISH YOU COULD EAT BASED UPON BODY WEIGHT SO IF YOU WAY 150 POUNDS, ASSUMING THE FISH, AN AVERAGE FISH AT 218 PARTS PER BILLION, YOU CAN EAT A FISH EVERY FIVE WEEKS. IF YOU HAVE 200 POUNDS, YOU CAN EAT A FISH EVERY FOUR WEEKS SO THAT'S WHAT THE FISHING ADVISORY IS BASED ON. EPA ALSO HAS A SIMILAR METHODOLOGY FOR COMING YOU WITH FISH ADVISE OTHERS. AGAIN, BY HOW MUCH FISH YOU CAN EAT BASED ON THE CONCENTRATIONS IN THE SAMPLE AND YOU CAN SEE HERE, WE HAD OUR AVERAGE CONCENTRATION,AGAIN, IS 218 PARTS PER BILLION IN THE CREEK SO WE FALL INTO THIS RANGE AND SO BASED UPON THE E PA, YOU WOULD ONLY BE ABLE TO EAT ONE FISH IMMEDIATELY SO TO GIVE YOU A FEEL FOR IT'S REALLY COMPLICATED TRYING TO FIGURE OUT, LOOKING AT CONCENTRATIONS TO FIGURE OUT WHAT THEY MEAN. THE GOOD NEWS OUT HERE IS AS PETE SHOWED, THE CONCENTRATIONS IN THE LAKE SEDIMENTS HAVE COME DOWN DRASTICALLY SINCE THE 1960S, THAT THE FISH IN THE LAKE HAVE BEEN SAMPLED TWICE OVER THE LAST FOUR OR FIVE YEARS, BECAUSE OF 99 AND 2003, THEY WERE SAMPLED AND THEY HAVE COME DOWN SIGNIFICANTLY IN THE CONCENTRATIONS IN THE FISH AND SO THINGS LOOK LIKE THEY ARE POINTED IN THE RIGHT DIRECTION. ANY

QUESTIONS? DEAD SILENCE?

MALE SPEAKER: I DON'T KNOW IF IT'S A QUESTION FOR YOU OR WHOEVER ELSE, BUT HAS THERE BEEN ANY WORK DONE ON WHAT CAN BE DONE TO CLEAN UP THE CONCENTRATIONS THAT EXCEED THE TCEQ LEVEL ON SITE AT AIR FORCE PLANT 4?

DAVE: YOU KNOW, THIS IS ALL PRETTY NEW DATA AT THIS POINT. IT'S THE FIRST TIME WE ARE PRESENTING. WE JUST IN AND OUT PUT OUT A REPORT BUT THAT'S WHAT, YOU KNOW, THE AIR FORCE NEEDS TO SIT DOWN WITH REGULATE TOWARDS AND THINK ABOUT WHAT TO DO. THE TCEQ CLEAN UP GOAL OF 155 PARTS PER BILLION IS BASED ON SEDIMENT AND SO IT REALLY, I DON'T THINK IT WOULD BE APPROPRIATE TO COMPARE CONCENTRATIONS ON, SAY, DO I LOOK AT WHAT'S IN THE CREEK AND LAKE AND ACTUALLY CURRENTLY, I THINK PETE ARE YOU STILL FINDING EVERYTHING IS BELOW THAT ONE 55 OR CLOSE TO IT?

PETE: SURFACE, THE ONLY SAMPLES WE HAVEN'T GOT HIGHER THAN THAT ARE THOSE DEEPER SEDIMENTS, OLDER SEDIMENTS.

DAVE: RIGHT. AND LIKE I SAID, IT'S PRETTY COMPLICATED TRYING TO FIGURE OUT WHAT NUMBERS YOU WANT TO LOOK AT BECAUSE THAT ONE 55 IS GOOD IN THAT IT'S PROTECT I HAVE OF THE GUYS LIVING IN THE

MUD BUT IT'S NOT REALLY --

PETE: YOU ARE LINKING THOSE TO WHAT YOU WOULD EXPECT TO SEE IN THE FISH IS NOT EASY TO DO.

MALE SPEAKER: BECAUSE I THINK AS FAR AS THE CITY OF FORT WORTH IS CONCERNED, WE WANT TO SEE THE FISH ADVISORY LIFTED.

DAVE: SURE.

MALE SPEAKER: BASICALLY, THAT MEANS IDENTIFYING WHERE YOUR SOURCES ARE, ELIMINATING THE SOURCES, AND THEN LOOK AT, YOU KNOW, THE ALTERNATIVES FOR THE CLEANUP OR CAFFEINE OR WHATEVER NEEDS TO BE DONE TO TRY TO GET THE PROCESS GOING SO THAT THE FISH POPULATION RECOVERS AND THE PCP LEVELS GO DOWN AND FISH TISSUE.

SOME CONCERN AS LONG AS THERE ARE STILL ACTIVE SOURCES MIGRATING FROM AIR FORCE PLANT 4 INTO THE LAKE. I THINK THAT WOULD BE SOMETHING THAT WE WOULD CERTAINLY WANT TO SEE ELIMINATED.

DAVE: AND WE ARE HAVING CONVERSATIONS WITH TC EQ AND THEIR DML GUYS THAT, YOU KNOW, I THINK WE ARE PRETTY EARLY ON. THIS IS ALL WITHIN THE LAST COUPLE OF YEARS AND I THINK, YOU KNOW, WE ARE HEADING THAT DIRECTION NOW.

MALE SPEAKER: TO ADDRESS YOUR

CONCERNS -- I AM WITH EPA, BUT TALKING ON BEHALF OF T C EQ WORKING WITH THEM, THEIR TOTAL MAXIMUM DATA LOAD PROGRAM IS CALCULATING A T M.D. L FOR ABOUT FOR PCBS IN FISH.

MALE SPEAKER: RIGHT.

MALE SPEAKER: AS YOU CAN TELL, THIS IS A WEALTH OF INFORMATION AND THERE IS KIND OF A DISCONNECT HERE BECAUSE OF ALL OF THE VALUES AND DIFFERENT STATUTORY AUTHORITIES AND WHAT-NOT.

MALE SPEAKER: YEAH.

MALE SPEAKER: YOUR POINT IS WELL TAKEN. THERE IS ONGOING RELEASES OF PCBS TO LAKE WORTH SHOWN TO BE OCCURRING AND THAT CAN BE, WHEREAS IT DOESN'T EVOKED STATUTORY AUTHORITY PRESENTLY TO EVOKED CLEAN UP AT THOSE LEVELS, THOSE LEVELS ARE STILL PROBLEMATIC FOR LIFTING OF FUTURE FISHING BAN AND EPA AND TC EQ FULLY UNDERSTAND THAT AND SO YOUR POINT IS WELL TAKEN.

WE HOPE TO WORK OVER THE NEXT NEAR TERM, A YEAR OR SO, WITH THE T M.D. L PROGRAM TO DEFINE WHAT THAT IS. WHAT IS, IF ANY, WHAT IS THE ACCEPTABLE CONTINUING LOAD OF PCBS INTO LAKE WORTH. IS IT 100 PARTS PER BILLION OR 500 OR 5? WE DON'T KNOW THE NUMBER. BUT WE HOPE TO WORK WITH THE CITY AND TC EQ AND THE CORP AND ALL OF THE STEAK HOLDERS

TO DETERMINE THAT. BUT THIS DATA SHOWS IT'S BROSKY PROBLEMATIC FOR US AS WELL BECAUSE WE ARE HOPING THROUGHOUT SOME OF THIS WORK TO FIND A SOURCE, AND WE HAVEN'T.

MALE SPEAKER: YEAH.

MALE SPEAKER: SO THAT IS AN ISSUE THAT NEEDS TO BE ADDRESSED AND WORK THROUGH. SO YOUR POINT IS WELL TAKEN. WHAT THE DATA DOES SHOW IS THAT IT'S JUST RECENTLY BEEN PRESENTED TONIGHT IS THAT THERE IS CONTINUING RELEASES OF PCBS INTO LAKE WORTH. AND THAT NEEDS TO BE ADDRESSED AND WE WILL DO THAT THROUGH THE T M.D. L PROGRAM.

DAVE: HOW OFTEN DOES TCQU ADD (INAUDIBLE.)

PETE: ACTUALLY TEXAS DEPARTMENT OF HEALTH. I THINK MAYBE FIVE YEAR.

MALE SPEAKER: GEORGE HAS DONE THE RESEARCH, IF I MAY KIND OF BRING IT ALL TOGETHER, THE FDA, THE FOOD AND DRUG ADMINISTRATION PUTS A LEVEL OF PCBS INTO CONSUMPTION OF FISH AT 2000 PARTS PER BILLION IN FISH TISSUE.

THE FDA CALCULATES THAT NUMBER USING FDA STANDARDS INDEPENDENT OF EPA AND OTHERS THAT CONSIDERS YOUR CONSUMPTION FROM FISH IS FROM A LARGE VARIETY OF SERVICES SOURCES FROM INDEED EVEN

INTERNAL WATERS, YOU EAT DIFFERENT TYPES OF FISH IN YOUR FISH CONSUMPTION, SO WHEN YOU CONSIDER ALL OF THESE THINGS THAT YOU EAT, A LOT OF DIFFERENT TYPES OF FISH FROM DIFFERENT WATERS, FROM DIFFERENT WATER BODIES THROUGHOUT THE WORLD, YOUR TOTAL PCB CONSUMPTION UNDER THE FDA STANDARDS IS 2 PARTS PER BILLION OR 2,000 PART PER BILLION.

NOW, IN TEXAS, TEXAS DEPARTMENT OF HEALTH SETS A STANDARD THAT INSTEAD OF TWO,000 PARTS PER BILLION, 200 PARTS PER BILLION BECAUSE TEXAS PUTS A SAFETY FACTOR IN THERE OF 10. IT'S THAT SIMPLE BECAUSE AT LIKE LAKE WORTH, IF YOU ARE A FISHERMAN OF LAKE WORTH, YOU WILL EAT MOSTLY JUST FISH FROM LAKE WORTH, NOT A GREATER FDA WORLD OF DIFFERENT FISHES FROM DIFFERENT PLACES. SO WE PUT A SAFETY FACTOR IN, TC EQ DID OR TDH. EXCUSE ME, TEXAS DEPARTMENT HEALTH PUTS A SAFETY FACTOR OF STEP IN THEIR FISH ADVISE OTHERS SO AT 210-PART PER BILLION, AS YOU SAW HERE, RENT FISH IS 218. SO IT'S JUST ABOVE --

PETE: OUTSIDEER DON'T SET A FIRM NUMBER AT 200. YOU GIVE THEM YOUR FISH DATA AND THEY RUN THROUGH ALL OF THEIR CALCULATIONS AND SO THE 218, THEY RAN THROUGH THEM ALL AND THEY CAME UP WITH SOME LIFETIME CANCER RISK OR 30-YEAR EXPOSURE

RISKS. THIS IS HAD A WE WENT THROUGH AT MOUNTAIN CREEK LAKE SEVEN YEARS AGO AND THEN THEY DECIDE WHETHER THAT, THAT RISK OF ONE CANCER IN 2000 CASES OF PEOPLE EITHER FISH FOR 30 YEARS, THEY WILL MAKE A DECISION ON WHETHER THAT'S A TOO HIGH A RISK AND ISSUE THEIR WARNING. THE WAY THEY WOULD SAY IT, WE DON'T HAVE A FIRM NUMBER LIKE 200. WE WILL GO THROUGHS THOSE CALCULATIONS.

MALE SPEAKER: SO THEY ARE WARNING SITE SPECIFIC?

MALE SPEAKER: WARNING SITE SPECIFIC SO AT THE LEVEL OF 218, THEY FELT IT WAS APPROPRIATE TO ISSUE A WARNING THAT SUGGESTED THESE INTAKE LEVELS, ONE FISH CONSUMPTION FOR SO MANY WEEKS VERSUS YOUR KILOGRAMS.

OKAY, NOW, THAT'S PCBS IN FISH TISSUE AT PART PER BILLION SO THEN, NOW WE ARE TALKING A WHOLE DIFFERENT MEDIA, PCBS IN SEDIMENT. SO ARMS AND ORANGES COMPLETELY. THE MEDIA MAKES IT DIFFERENT. AND SO THEN, THESE NUMBERS, LIKE THE TCEQ CONTACT NUMBERS, ARE FOR BENT I CAN ORGANISMS LIKE HE EXPLAINED, THAT THAT'S FOR THE BENT I CAN ORGANISM, INVERT BATE'S THAT DWELL IN THE MUD. WELL, THAT ISN'T WHAT THE FISH ADVISORY IS BASED ON SO THERE IS EVEN A GREATER DISCONNECT THERE BUT

THOSE NUMBERS ARE THE ONES HE SHOWED YOU, THE THRESHOLD LEVEL OF 34. THAT'S WHAT WE CALL IN AN EPA SCREENING LEVELS,IF NUMBERS ARE AT, AROUND, OR BELOW 34 FROM SEDIMENTS AND RISKS, RISK TO HUMAN HEALTH AND BENT I CAN ORGANISMS, FISH, THEN WE WOULDN'T POSE, THEY WINT WOULDN'T THIS HOLD IT WOULD POSE UNDUE RISK TO BIOTA BUT THERE IS THE DOES CONNECTS. SO REGULATORYLY, THE NUMBERS WE KEEP SEEING ARE WITHIN THE THRESHOLD LEVEL AND THE PROBABLE AFRICA HE WAS LEVEL 32 PER 477 OF SEDIMENT SO NOTHING STATUTORYLY FROM/AEFPLEPA OR TC EQ SAYS THIS IS A HARM TO HUMAN HEALTH TODAY THAT NEEDS TO BE ADDRESSED. THERE IS NO BELLS AND WHISTLES FOR THAT BUT THE GREATER ISSUE IS EXACTLY AS YOU SAID, THERE IS A FINISHING ADVISORY, WE NEED TO LIFT THAT FISHING ADVISORY, TC EQ AND AGREE THAT NEEDS TO BE LIFTED IN THE FUTURE AND HOW DO WE GET THERE? THANK YOU.

MR. WALTERS: I HAVE GOT BOTH OF THE -- WELL, TDH'S REPORT THEY DID. I DON'T KNOW IF I HAVE THAT AVAILABLE ON E-MAIL. IF YOU GIVE ME YOUR BUSINESS CARD, I AM E-MAIL IT TO YOU. I THINK I HAVE THAT AND I ASKED TDH IF THEY WOULD EXPLAIN HOW I CAN EXPLAIN HOW I CAN GET MY 2 PARTS PER BILLION AT THE LOCAL GROCERY STORE BUT TEXAS IS, YOU KNOW,

10 TIMES LESS AND THEY SENT ME KIND OF A PH.D. RESPONSE WHICH --

MALE SPEAKER: IN SUMMARY, RIGHT. DIFFERENT WATERS AND DIFFERENT FISH.

MR. WALTERS: YEAH. I CAN E-MAIL YOU THAT, ALSO.

MS. BOX: ALL RIGHT. DOES THAT ANSWER THOSE QUESTIONS? GOSH. SAT TOO LONG IN ONE SPOT.

LET ME SEE. WE ARE EXPOSED TO HAVE A TARGET DISCUSSION OF THE R.A.B. CHAPTER. AS THE ONLY MEMBER OF THE GROUP HERE, I COULD TECHNICALLY, I COULD TALK ABOUT IT AND VOTE ON IT BUT IT SOUNDS KIND OF DICK AT THAT TIME TORIAL TO ME. SO WHAT I THINK WE OUGHT TO DO IS POSTPONE THAT UNTIL THE NEXT MEETING. MAYBE WE WILL HAVE SOMEBODY ELSE HERE THEN. SO WHEN WILL THAT BE? I HEAR THROUGH THE LITTLE GRAPEVINE THAT WE PROBABLY AREN'T GOING TO HAVE THE MEETING IN AUGUST UNLESS --

MR. WALTERS: I WILL ASK NORMA. UNLESS NORMA THINGS SHE IS GOING TO HAVE SOMETHING TO TALK TO BRAC.

NORMA: NO PROBABLY NOT BECAUSE. PROBABLY NOT.

MR. WALTERS: UNLESS -- ARE YOU GOING

TO HAVE ANYTHING MR. DODYK?

MR. DODYK: NO.

MR. WALTERS: LONG-TERM MONITORING THE PRODUCT FROM THE RESULTS THAT ARE OUT IN THE FILLED RIGHT NOW. DAN? YES? UNTIL 2:00 O'CLOCK IN THE MONTH,?

MALE SPEAKER: AUGUST? YEAH. WE WOULD PROBABLY HAVE AT LEAST PRELIMINARY RESULTS BY THEN.

MS. BOX: YEAH, NOVEMBER WOULD BE THE NEXT, NEXT TIME. THAT HAD GIVE US SIX MONTHS.

MALE SPEAKER: CERTAINLY BY THEN.

MS. BOX: BESIDES, WELL, WE WON'T BE OUT WANDERING AROUND ON VACATIONS AND THINGS LIKE THAT, TOO. SO HOW ABOUT WHAT DO YOU GUYS THINK ABOUT HAVING THE NEXT MEETING IN NOVEMBER?

MR. WALTERS: TENTATIVE.

MS. BOX: TENTATIVELY, YEAH. AS PART OF THE R.A.B. CHARTER AMENDMENTS THAT WE WERE LOOKING AT CHANGES WAS TO ELIMINATE THE NOVEMBER MEETING BUT SINCE WE HAVEN'T CHANGED IT YET, THEN WE CAN STILL HAVE IT IN NOVEMBER OR THEREABOUTS AND I THINK THAT WOULD BE, IF THAT'S AMENABLE TO EVERYONE. WE WILL SEE IF WE CAN GET SOME MORE PEOPLE HERE THEN. AT LEAST SEE MY CLASSES WILL BE IN SESSION

AND SO I CAN GIVE EXTRA CREDIT IF THEY SHOW UP AND ASK GOOD QUESTIONS. THEY WILL LIKE THAT EXTRA CREDIT STUFF. I GAVE THEM 15 POINTS LAST TIME.

SO ARE THERE ANY QUESTIONS OR ANY TOPICS FOR OPEN DISCUSSION?

NORMA: CHRIS, I HAVE A COMMENT.

YOU KNOW, MAYBE YOU MIGHT WANT TO SEND THE CHARTER OUT TO YOUR R.A.B. MEMBERS AND ASK FOR COMMENTS, YOU KNOW, ON THE CHARTER.

MS. BOX: WE HAVE DONE THAT. MORAL NORMAL AND YOU DIDN'T GET ANYTHING?

MS. BOX: WE DID HAVE SOME INPUT SO NOW IT'S A MATTER OF THESE ARE THE CHANGES WE WOULD LIKE TO MAKE. EITHER YES OR NO. AND I DON'T WANT TO BE THE ONLY ONE TO SAY "YES" OR "NO." THAT'S JUST UNCOOL.

NORMA: OKAY.

MR. WALTERS: SIR YOU SHOWED UP LATE. MAKE SURE YOU GET COPIES OF EVERYTHING. DO YOU HAVE ANY QUESTIONS ON ANYTHING?

MALE SPEAKER: NO.

MS. BOX: OKAY. YES, SIR?

MR. DODYK: I NOTICED THE SECOND THURSDAY IN NOVEMBER IS THE 10TH WHICH MEANS THAT THE NEXT DAY, FRIDAY, IS THE 11TH, WHEN ALL OF THE

GOVERNMENT WORKERS WILL HAVE ALL. I DON'T KNOW IF THEY ARE GOING TO BE IN TOWN THAT DAY FROM OUT OF TOWN TYPE OF WE MIGHT WANT TO THINK OF SOMETHING ALTERNATE. DO YOU WANT TO HAVE IT ON WEDNESDAY OR NEXT WEEK?

MS. BOX: THE WEEK AFTER WOULD BE GETTING CLOSE TO THANKSGIVING.

NORMA: THE FIRST WEEK OR 3RD?

MR. DODYK: NOVEMBER 3RD.

MS. BOX: THE TENTATIVE NEXT MEETING WILL BE THE FIRST THURSDAY IN NOVEMBER.

MR. WALTERS: THAT WORKS.

MS. BOX: ANYTHING ELSE? THANK YOU. THANKS FOR COMING TO ENTERTAIN US TODAY.

(MEETING CONCLUDED AT 7:24 P.M.)

TAB B

NO ACTION ITEMS AVAILABLE

TAB C

NO ADS AVAILABLE

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE