



# WILLIAMS AFB ARIZONA

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 1610



**DEPARTMENT OF THE AIR FORCE  
AIR FORCE CIVIL ENGINEER CENTER**

11 June 2013

**MEMORANDUM FOR SEE DISTRIBUTION**

**FROM: AFCEC/CIBW**  
706 Brooks Road  
Rome NY 13441

**SUBJECT: Restoration Advisory Board Meeting Minutes, 13 November 2012**

1. Attached please find the final minutes from the 13 November 2012 Williams Restoration Advisory Board (RAB) meeting held at the Arizona State University Polytechnic Campus as approved by the RAB members at the 19 February 2013 meeting.

2. If you have any questions or comments, please contact Ms. Linda Geissinger at (916) 643-6420 x109.

A handwritten signature in black ink, appearing to read "Catherine Jerrard", is positioned above the printed name.

CATHERINE JERRARD, PE  
BRAC Environmental Coordinator

Attachment:  
Final RAB Meeting Minutes, 13 November 2012

**DISTRIBUTION LIST**  
**Final 13 November 2012 Williams RAB Meeting Minutes**

**Electronic Copy**

Col. Len Fuchs, RAB Community Co-Chair  
Catherine Jerrard, RAB Co-Chair, AFCEC  
Dale Anderson, RAB, Gila River Indian  
Community  
Scott Bouchie, RAB, City of Mesa  
Don Atkinson, RAB, ADEQ  
Matt Fesko, RAB, ASU graduate student  
Lonnie Frost, RAB, Gilbert Public Works  
Carolyn d'Almeida, RAB, USEPA  
Lisa Marie Gerdel, RAB, Gilbert resident  
James Holt, RAB, Queen Creek resident  
Tom Zuppan, RAB, Gilbert resident  
Alan Ruffalo, RAB, Power Ranch resident  
Dennis Orr, RAB, Gateway Airport  
Pat Tennant, RAB, ASU  
Teresa Harris, RAB, Gilbert resident  
Doug Ashline, Citizen  
Dominic Hernandez, Citizen  
Dana Koziel, Citizen  
Don Lyon, Citizen  
Ben Shunk, Gilbert resident  
Leo Pessin, Gilbert resident  
Beverly Selvage, Mesa resident  
Thom Schuett, Queen Creek resident  
Don Smallbeck, AMEC  
Everett Wessner, AMEC  
Julie Hamilton, AMEC  
Emily Corker, AMEC  
Chris Courtney, AMEC  
Linda Geissinger, AFCEC/CIBW  
Brian Sytsma, Napkin Communications  
Scott Johnston, Napkin Communications  
Mary Hall, AFCEC Public Affairs contractor  
Geoff Watkin, Cherokee Nation Gov. Services  
Calvin Cox, Cherokee Nation Gov. Services  
Patrick Banger, Town of Gilbert - City Manager  
Sharalyn Barnby, ASU  
Angela Creedon, ASU  
Latonja West, ASU  
Steve Nielson, ASU

Joshua Hoyt, ASU  
Steve Hunter, ASU  
Richard Malloy, ASU  
Theodore Betkie, ASU student  
Thomas Butler, USEPA  
Eva Davis, USEPA  
Collin DeWitt, Gilbert Fire Dept.  
Lawrence Dough, Able Engineering  
Victor Gamez-Grijalva, CH2MHILL  
Colleen Gilbert, Congressional Military Affairs  
Mark Holmes, City of Mesa  
Jim Husbands, Booz Allen Hamilton  
Angie Kannada, Tierra Dynamics  
Dan Kelley, Terra Dynamics  
Adam Mahamed, ADEQ  
Wayne Miller, ADEQ  
Delfina Olivares, ADEQ  
Travis Barnum, ADEQ  
Felicia Calderon, ADEQ  
Laura McNamara, HGL  
Kimberly Vaughn, HGL  
Roger A. Fitzpatrick, HGL  
John Pekala, Environmental Corporation  
Kathy Rall, Town of Gilbert  
Martin Sepulveda, Sepulveda Group  
Brian Sexton, Gateway Airport  
Brian Snowden, Arizona Green Magazine  
Glenn Stark, Gila River Indian Community  
Glen Stephens, Ch. 11 Mesa public access  
Art Thomason, Arizona Republic  
Phil Whitmore, CH2MHILL  
Janet Workman, URS  
Jay Harbin, URS  
Elspeth Sharp, URS  
Devan Phelan, Terra Therm  
John Meter, City of Mesa  
Dianna Saenz, AFCEC  
Steve Willis, UXO Pro, ADEQ contractor  
Bill Mabey, Tech Law

**Former Williams Air Force Base (AFB)  
Restoration Advisory Board (RAB)  
Meeting Minutes**

**November 13, 2012, 7:15 p.m.  
Arizona State University Polytechnic Campus  
Peralta Hall #132  
7171 E. Sonoran Arroyo Mall  
Mesa, AZ**

***Attendees:******Name******Organization***

Ms. Michelle Lewis	Air Force Civil Engineer Center (AFCEC) /Base Realignment and Closure (BRAC) Environmental Coordinator (BEC)/Air Force Co-chair (outgoing)
Mr. Len Fuchs	RAB Community Co-chair/Gilbert resident
Ms. Cathy Jerrard	Air Force Civil Engineer Center (AFCEC) /Base Realignment and Closure (BRAC) Environmental Coordinator (BEC)/Air Force Co-chair (incoming)
Mr. Scott Johnston	AFCEC Public Affairs/ Napkin Communications
Ms. Mary Hall	AFCEC Public Affairs/Napkin Communications
Mr. Dennis Orr	Phoenix-Mesa Gateway Airport
Mr. Don Atkinson	Arizona Department of Environmental Quality (ADEQ)
Mr. Geoff Watkin	Cherokee Nation Government Solutions, AFCEC support contractor
Mr. Dale Anderson	Gila River Indian Community
Mr. Jim Holt	RAB Member/Queen Creek resident
Mr. Glen Smith	Gilbert resident
Mr. Alan Ruffalo	Gilbert resident
Ms. Lisa Gerdl	RAB Member/Gilbert
Mr. Tom Zuppan	RAB Member/Gilbert
Mr. Everett Wessner	AMEC
Mr. Don Smallbeck	AMEC
Ms. Kim Meacham	US Army Engineers
Mr. Roger Fitzpatrick	US Army ESCH
Mr. John Lewis Jr.	US Army ESCH
Mr. Leo Pessin	Gilbert resident
Mr. Tim Temple	Cherokee Nation Government Solutions, AFCEC support contractor
Mr. Scott Bouchie	City of Mesa
Mr. Victor Gamez-Grijalva	CH2MHILL
Mr. Matt Fesko	Arizona State University (ASU) student/RAB member
Ms. Pat Tennant	Arizona State University (ASU)
Mr. Steve Willis	UXO Pro, ADEQ technical support contractor
Ms. Pam Walrath	Arizona State University (ASU)
Mr. Theodore Baltrie	Arizona State University (ASU) student
Mr. Greg LeCheminant	Queen Creek resident

Mr. Len Fuchs called the meeting to order at 7:15 p.m. and asked the attendees to introduce themselves. The RAB approved the August 2012 meeting minutes without changes. Mr. Fuchs announced the November RAB meeting will be the last for Williams BRAC coordinator and Air Force Co-Chair Michelle Lewis, who will be leaving to take an Air Force position in Germany.

Ms. Michelle Lewis introduced Ms. Cathy Jerrard as her replacement.

Ms. Lewis thanked everyone for their support and for taking time out of their evening to attend the Williams RAB meeting. She thanked ASU representative Pat Tennant and Phoenix-Mesa Gateway Airport representative Dennis Orr, among others, for the cooperative and productive support that they provided as part of the Williams team.

Ms. Lewis reviewed the action item from the August RAB meeting: Mr. Zuppan asked what the availability for the ST012 Focused Feasibility Study would be. Ms. Lewis responded that it is not quite ready yet, but that it should be ready for review by the February RAB meeting.

***Status Updates for UST 1114, ST035, ST012, FT002, SS017 and LF004***

Mr. Everett Wessner presented updates for each site, see attached slides for more information. RAB and community discussions for each site are presented below.

***UST 1114 (Underground Storage Tank, VORTAC facility)***

Mr. Wessner stated that UST 1114 was an underground storage tank located on the flight line; it was removed in 1993. To support site closure, ADEQ required sampling under the former tank for volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs). Samples were collected and analyzed in April; there were no detections that exceeded cleanup levels established for unrestricted use. A report was submitted to ADEQ and regulatory approval for unrestricted site closure was received in October.

***ST035, Former Base Gasoline Station Building 760***

Mr. Wessner summarized the slides presenting the site background, contaminants, and cleanup methods in place. Soil vapor extraction (SVE) continues to remove fuel contaminants from the soil; groundwater monitoring is ongoing. The goal is to achieve site closure under Underground Storage Tank (UST) regulations.

Groundwater flow continues to trend to the east. The last groundwater sampling event was conducted at 13 wells in August. Benzene was detected in eight (8) wells, down from nine (9) wells during the May sampling event. Of the eight (8) wells where benzene was detected, seven (7) were below or right at the ADEQ UST Tier 1 Corrective Action Standard of 5 µg/L. The concentrations of benzene in groundwater have significantly decreased since SVE startup in 2010 indicating that the soil cleanup action has reduced further impacts to groundwater. The fuel additive 1,2-dichloroethane (1,2-DCA) was detected in six (6) wells in August, up from five (5) wells in May. One well was less than the standard and five (5) wells exceed the standard (also 5 µg/L), but not by large margins. Concentrations of 1,2 DCA remained similar in the source area but decreased below the standard in the down gradient well.

The fuel components toluene and xylenes, and the fuel additives methyl tert-butyl ether (MTBE) and ethylene dibromide (EDB), continue to be below ADEQ UST Tier 1 Corrective Action Standards in all wells. The next quarterly sampling for existing wells is scheduled for November 2012. Groundwater wells are being added to further characterize the source area and to determine if there has been plume migration down gradient to the southeast. Well installation in the former source area began in October 2012 and completion of the new down gradient wells is anticipated for November 2012. The new wells will be sampled in January or February 2013. The Air Force will continue evaluating groundwater monitoring data in order to define the plume area and determine if cleanup actions are effective or if additional actions are needed.

The SVE system had a 99.6 % operational uptime and removed 646 gallons of petroleum hydrocarbons during the July-September period, down from 878 gallons removed during the April-June period. This shows that as mass is removed the rate of removal is decreasing as expected. A total of 16,500 gallons have been removed to date and 11 of 15 wells are currently operating. The next SVE system performance sampling is scheduled for November 2012. Mr. Wessner stated the path forward will include continuing SVE operation, completing groundwater characterization, and performing groundwater remediation as needed. Ultimately, the Air Force and AMEC want the site cleaned to regulatory standards and closed for unrestricted use.

#### **Questions asked during ST035 presentation:**

Mr. LeCheminant asked if characterization would be what the profile of contamination is. Mr. Wessner explained that characterization is the process of defining the type and distribution of contaminants in groundwater using the data collected from the new and existing wells. The results of characterization may indicate that something more needs to be done or that the current approach is resulting in site cleanup.

Mr. LeCheminant asked if there is an anticipated date for site closure. Mr. Wessner responded that closure is anticipated within the next 7 years. Mr. Wessner stated that he expects closure would occur sooner than 7 years but it is dependent on the progress of SVE and the extent to which groundwater remediation may be needed.

Mr. Fesko asked if there are any GCMS chromatograms for results of some of the sampling being done on the groundwater and soil that would show the distribution of the contaminants over the carbon number ranges. Mr. Smallbeck responded that the lab reports and data packages would be in the quarterly monitoring reports which are available at the repository. The analytical data and reports are provided on CD as an appendix to the quarterly monitoring reports. Mr. Fesko responded that frequently the heavier fractions are left behind. Mr. Smallbeck responded that there are not many heavy fractions here because it was a gasoline site. Mr. Fesko stated that he would be interested in seeing the chromatograms.

#### ***ST012, Former Liquid Fuels Storage Operation***

Mr. Wessner summarized the slides presenting the site background, contaminants, cleanup methods in place, and the path forward. The primary contaminants for the site are petroleum hydrocarbons and benzene.

The deep vadose zone, which is defined as greater than 25 feet below ground surface, is currently being treated with an SVE system. Groundwater at the site is also impacted by contaminants. The water table is approximately 154 feet, up from 245 feet in 1978. Mr. Wessner stated that the rising groundwater is part of the problem. After the petroleum hydrocarbons were released, groundwater levels have risen, which has resulted in a portion of the material being submerged and trapped within the groundwater. An SVE system for the deep soil operated at 93.6 % uptime during July-September. There has been a 50 percent improvement in the removal rate, with 3,490 gallons removed from July through September compared to 2,225 gallons from April through June. This is due to SVE system enhancements that have been completed. As a result of remedial operations to date, nine of 27 wells continue to operate. The next monitoring for the SVE system is scheduled for November 2012.

The OU-2 ROD groundwater pump-and-treat remedy was ineffective, so a pilot test for steam enhanced extraction technology was conducted. Currently, a Focused Feasibility Study (FFS) is being completed to evaluate new groundwater cleanup alternatives including steam enhanced extraction. In the meantime, the extraction wells used for the pilot test have been modified to provide some capture and cleanup of groundwater at the site. The containment system has been useful in capturing groundwater in the central site area and reversing the gradient to minimize off-site migration of groundwater contaminants. Operations were suspended in August for retrofitting. The system was restarted in September and is working effectively. Seven million gallons of groundwater have been extracted and 130 pounds of benzene have been removed from January to September 2012. Operation of the containment system will

be continued into 2013 as the new groundwater remedy for the site is established.

The final FFS will be submitted in November 2012. Based on the FFS, a Proposed Plan will present a preferred alternative and a public comment period will occur in winter 2012-13. The Air Force, EPA and ADEQ will then sign a Record of Decision to establish the new groundwater selected remedy.

A Remedial Design/Remedial Action Work Plan for the new remedy should be ready by fall 2013.

**Questions asked during ST012 presentation:**

Mr. Alan Ruffalo asked if there are 27 systems or 27 wells. Mr. Wessner responded that there is one big system and 27 wells.

Mr. Fesko asked how many combustion units there are for the whole site. Mr. Wessner responded that there is one big combustion unit for all the wells at site ST012.

Mr. LeCheminant asked if the blue lines on slides 34-35 represent the spread of the plume. Mr. Wessner responded that they show just the water surface, and the changes in elevation represented by the lines indicate the direction of groundwater flow.

Mr. Fesko asked how many extraction wells are at the site and what the flow rates are for them. Mr. Smallbeck responded that two extraction wells are currently operating. The flow rate is 24 gallons per minute, which is being extracted strictly from the lower zone.

Mr. Ruffalo asked if the 24 gallons is water with contamination in it or is that the contamination itself. Mr. Smallbeck responded that it is water.

Mr. Ruffalo asked if Power Ranch water wells were to stop pumping, would that increase the groundwater flow gradient. Mr. Smallbeck stated that it would probably increase the gradient a little bit, but the gradient is pretty flat at this time and the Power Ranch wells are a distance away. Mr. Wessner added that AMEC is monitoring the water levels quarterly, annually, and semi-annually across the site. On a yearly basis they have a site-wide map that would show changes like that if they were to occur. Mr. Watkin added that currently it doesn't appear that pumping of those wells has any significant influence on the southern part of the base anyway. Mr. Wessner added that if Power Ranch were to shut down its wells and there was an impact, AMEC and the Air Force would recognize it as a result of evaluating periodic groundwater level measurements.

Mr. Ruffalo asked for an explanation of the first line of slide 36. Mr. Wessner responded that potentiometric is a fancy word for the surface of the water and the direction that it is flowing. The containment system has been able to affect the potentiometric surface in order to reduce the groundwater flow gradient, provide a degree of hydraulic capture within the contaminant source area, and reduce offsite contaminant migration.

Mr. Fesko asked what is the natural direction that groundwater will flow? Mr. Wessner used slide 34 to show that the natural direction of groundwater flow is to the east.

Mr. LeCheminant asked how many pounds of benzene are estimated to have been lost. Mr. Smallbeck responded that benzene is a pretty small percentage of a petroleum hydrocarbon product; it is generally in the percent or less than a percent range. The estimates for the free product released during the active lifetime of the former base is anywhere from 2 million to 4 million gallons.

***FT002 Former Fire Training Area No. 2***

Mr. Wessner stated soil contamination is the problem at this site and the chemicals of concern (COC) are benzene, chloroform, and 1,4-dichlorobenzene. There is no evidence that the site has impacted groundwater. A ROD was put in place in 1996. It had a bioventing remedy for the soil but the soil cleanup goals were not achieved with that remedy and the system was shut down. There is currently a Declaration of Environmental Use Restriction (DEUR) to prohibit residential use on the site because the goals were not met. The DEUR also requires applicable soil management procedures for excavations below 5 feet. AMEC has submitted a Soil and Soil Vapor Sampling Work Plan for regulatory review to

conduct verification sampling to determine if the ROD cleanup goals have been achieved through natural attenuation. Soil and soil vapor sampling will occur in December 2012 and January 2013. If unrestricted cleanup levels are achieved, then AMEC hopes to have the site closed by June 2013.

**Questions asked during FT002 presentation:**

Mr. Fesko asked what the goal level for benzene is. Mr. Wessner responded that he believes the benzene cleanup goal is five within soil \*. Mr. Smallbeck added the ROD goals for the cleanup are slightly higher than that because the ROD was done in 1996.

*\* The OU-3 ROD cleanup goal for benzene in soil is 1.4 mg/kg and the current ADEQ residential Soil Remediation Level is 0.65 mg/kg. The benzene groundwater MCL is 5 µg/L but groundwater impacts have not been identified at FT002.*

Ms. Walrath asked what is being verified specifically. Mr. Wessner responded that contaminants of concern are benzene, chloroform, and 1,4-dichlorobenzene.

***SS017, Former Pesticide/Paint Shop***

Mr. Wessner provided background and a status update for SS017. SS017 is the old pesticide/paint shop and the chemical of concern is dieldrin in both the soil and groundwater. There was a removal action in 2000 when soil contaminated with dieldrin was excavated. AMEC continues to monitor the groundwater to evaluate the presence of dieldrin. There are levels of dieldrin in some wells that intermittently exceed screening levels but there is no regulatory standard for dieldrin. The annual sampling was completed in August 2012. The groundwater flow direction continues to be toward the east. The results from the August sampling show dieldrin concentrations above screening levels in three (3) of the four (4) wells. Dieldrin has not been detected in the up gradient well since 1999. There have been no reported detections of dieldrin above the EPA drinking water health advisory. Based on the completed removal action and ten years of groundwater monitoring data, the Air Force is preparing an updated risk evaluation and if it supports unrestricted use, an Amended Proposed Plan will be prepared and presented to the public.

**Questions asked during SS017 presentation:**

Ms. Tennant asked when AMEC anticipates the final ROD. Ms. Lewis answered that at this time there is no anticipated date.

Mr. Ruffalo asked if the evaluation of the groundwater will be down to the 300-foot level or will that be the deep water wells that go down 860 to 1,000 feet. Mr. Wessner responded that the water table is 155 feet and the evaluation will be for shallow groundwater.

Mr. Ruffalo asked if that information would be made public. Mr. Wessner responded that AMEC will have an annual report that comes out of this next sampling and it will be available in the Administrative Record. Mr. Smallbeck added that it is important to realize that there are no concentrations above the drinking water health advisory levels.

***LF004, Former Solid Waste Landfill***

Mr. Wessner said that the OU-1 ROD dealt with soil contaminants at LF004, including dieldrin and beryllium in surface soil, and the remedy, a permeable cap, was successfully implemented. The groundwater has started to rise and has picked up some contamination and it must be addressed. The chemicals of concern for groundwater and subsurface soil are perchloroethylene (PCE) and trichloroethylene (TCE).

The landfill cap is inspected annually and the last inspection was completed in October 2012. The landfill cap inspection report and recommendations are in preparation. The semi-annual groundwater sampling event was conducted in November 2012 and the report will be submitted in early 2013. Regulatory comments on the Focused Feasibility Study are under Air Force review.

The Proposed Plan presenting the preferred alternative should be ready for public review and comment by spring 2013. The Air Force, EPA and ADEQ will then sign a Record of Decision to establish the new



groundwater selected remedy. A remedial design/remedial action work plan should be in place by fall 2013.

**Questions asked during LF004 presentation:**

Mr. Fesko asked where he could find the latest groundwater data for the site. Mr. Smallbeck responded that the latest data was presented at the May RAB meeting. Mr. Fesko asked what the concentrations for the last semi-annual sampling were. Mr. Smallbeck responded that the presentation is available at the repository, but in general the concentrations decreased a little bit. The saturated unit is separated into three zones, an upper, middle and lower zone. The upper is just slightly above the cleanup level. Most of the contamination is in the middle zone and that has decreased from the last sampling in November 2011. The lower zone is right at the cleanup level. The contamination does not appear to be moving into the other zones. It is staying in the middle zone and has decreased. That slowly declining trend has been seen for the last two years.

Mr. Bouchie asked if there was any idea what the cleanup method would be. Mr. Wessner responded that it will be some sort of in situ treatment. The vadose zone will probably be treated with SVE. The groundwater treatment will be somewhat dependent on what is learned from the initial well. If the well develops as predicted, then there are two treatment options. One would be in-well air stripping. This technology uses opposing flows of air and contaminated groundwater to strip the contaminants from the groundwater. The circulation of groundwater through the wells creates a current around the well that allows for localized groundwater cleanup. The other technology would be chemical oxidation, which would be injecting peroxone or hydrogen peroxide. Both options were evaluated in the feasibility study and both could be used effectively at LF004.

Mr. Bouchie asked if rising groundwater levels are being seen at the site. Mr. Smallbeck responded yes, but less so. The groundwater has slowed down considerably in the last few years. It has risen less than a foot in the last year. In previous years the rise has been over three feet.

Mr. Anderson asked how the dieldrin and beryllium issues were addressed. Mr. Smallbeck responded that they were addressed as part of the cap in the mid-1990s.

***Contracting Update***

Ms. Lewis provided an update on contracting issues.

Regarding the MMRP site (XU403) located east of the landfill, Ms. Lewis provided site background information (see attached slides). The Army Corps of Engineers has released a Request for Proposal for the final munitions response action. Site excavation will begin in spring 2013. Ms. Lewis also provided an update on SS017. The OU-6 ROD is still pending with URS. URS is still on task to complete the OU-6 ROD. A Proposed Plan meeting is planned for early spring of 2013.

***Meeting Wrap-up***

That concluded the information portion of the evening. There were no action items identified as a result of the meeting.

No topics were suggested for the next meeting. Ms. Lewis reiterated that Ms. Cathy Jerrard will be the Air Force Williams Program Manager and RAB co-chair following Ms. Lewis's re-assignment.

Ms. Jerrard introduced herself and stated that she has been working for the Air Force since the mid-1990s on both soil and groundwater contamination projects in New York, South Carolina, and Louisiana.

Mr. Fuchs asked for any agenda items for the February RAB meeting. There were none. Mr. Fuchs thanked Ms. Lewis for her RAB service and adjourned the meeting at 8:35 p.m.


The next Williams RAB meeting is scheduled for Tuesday, February 19, 2013 at 7:15 p.m. at the Arizona State University Polytechnic Campus.

*Attachments:*

Sign-in Sheet

November 12, 2012 RAB meeting slide presentation

Please sign in. If your information has changed since you last attended, please place an asterisk (\*) next to your name.

	NAME/ORGANIZATION	ADDRESS	PHONE	E-MAIL
1.	Kim Meacham US Army Eng/Sup Center Hunts			
2.	Roger A Fitzpatrick USA ESC H			
3.	John W. Lewis Jr USA ESC H			
4. ✓	DENNIS ORR Phoenix Mesa Gateway Airport			
5.	LEO PESSIN GILBERT RESIDENT			
6.				
7. ✓	Donald SMALLBECK AM EC			
8. ✓	EVERETT WESSNER AM EC			
9. ✓	(ADEQ) DON ATKINSON			
10.	Scott Bochie			
11.	Victor Gamez Goplva			
12.	Matt Foske			
13.	Pat Tomrant			
14. ✓	Dale Anderson			
15.				

# ***Headquarters U.S. Air Force***

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## **Former Williams AFB Restoration Advisory Board (RAB)**



November 13, 2012

Arizona State Polytechnic Campus  
Peralta Hall Room 132  
7171 E. Sonoran Arroyo Mall Rd.  
Mesa, AZ

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# ***Headquarters U.S. Air Force***

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## **Welcome & Introductions**



Presented by:  
Mr. Len Fuchs / Ms. Michelle Lewis,  
RAB Community Co-Chairmen  
and Scott Johnston



# ***Welcome & Introductions***

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- Mr. Len Fuchs, RAB Community Co-Chair
  
- Ms. Michelle Lewis, Air Force Civil Engineer Center (AFCEC), PM/BEC and RAB Co-Chair
  
- Ms. Carolyn d'Almeida, Project Manager, U.S. Environmental Protection Agency (EPA), Region 9
  
- Mr. Donald Atkinson, Project Manager, Arizona Department of Environmental Quality (ADEQ)



# Agenda

<u>Time</u>	<u>Topic</u>	<u>Presenter</u>
7:15 PM	<u>RAB Meeting Convenes</u> <ul style="list-style-type: none"><li>Welcome and introductions</li><li>Community co-chair remarks</li><li>Review Aug 2012 meeting minutes and action items</li></ul>	Mr. Len Fuchs Ms. Michelle Lewis Mr. Scott Johnston
7:30-8:30 PM	<u>Program Updates</u> <b>UST 1114 Status Update</b>  <b>ST035 Update</b> <ul style="list-style-type: none"><li>Aug 2012 Ground Water (GW) Results</li><li>Jul-Sep 2012 Soil Vapor Extraction (SVE) Performance Results</li><li>GW Characterization</li></ul> <b>ST012 Status Update</b> <ul style="list-style-type: none"><li>Jul-Sep 2012 SVE Performance Results</li><li>Groundwater Containment Study Results</li><li>Path forward</li></ul>	Ms. Michelle Lewis Mr. Everett Wessner



# Agenda Continued

<u>Time</u>	<u>Topic</u>	<u>Presenter</u>
7:30-8:30 PM	<u>Program Updates <i>continued</i></u>	Mr. Everett Wessner
	<b>FT002 Status Update</b> <ul style="list-style-type: none"><li>• Path Forward</li></ul>	
	<b>SS017 Status Update</b> <ul style="list-style-type: none"><li>• Aug 2012 GW Results</li><li>• OU6 Record of Decision (ROD) status</li></ul>	
	<b>LF004 Status Update</b> <b>Contracting Update</b>	Ms. Michelle Lewis
8:30 p.m.	<u>Meeting wrap-up</u> <ul style="list-style-type: none"><li>• Review action items for next meeting</li><li>• Call for agenda items for next meeting</li><li>• Propose next RAB meeting – Feb 19, 2013</li></ul>	Ms. Michelle Lewis
9:00 p.m.	<b>Adjourn</b>	Mr. Len Fuchs





# ***Minutes and Action Items***

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- Review Aug 2012 RAB meeting minutes
- Action items from Aug 2012 RAB meeting

Presented by:  
Mr. Scott Johnston  
Napkin Communications

# ***Headquarters U.S. Air Force***

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## **Program Updates**

**Sites UST1114, ST035, ST012,  
FT002, SS017, and LF004**

Presented by:  
Ms. Michelle Lewis, AFCEE  
Mr. Everett Wessner, AMEC

# ***Headquarters U.S. Air Force***

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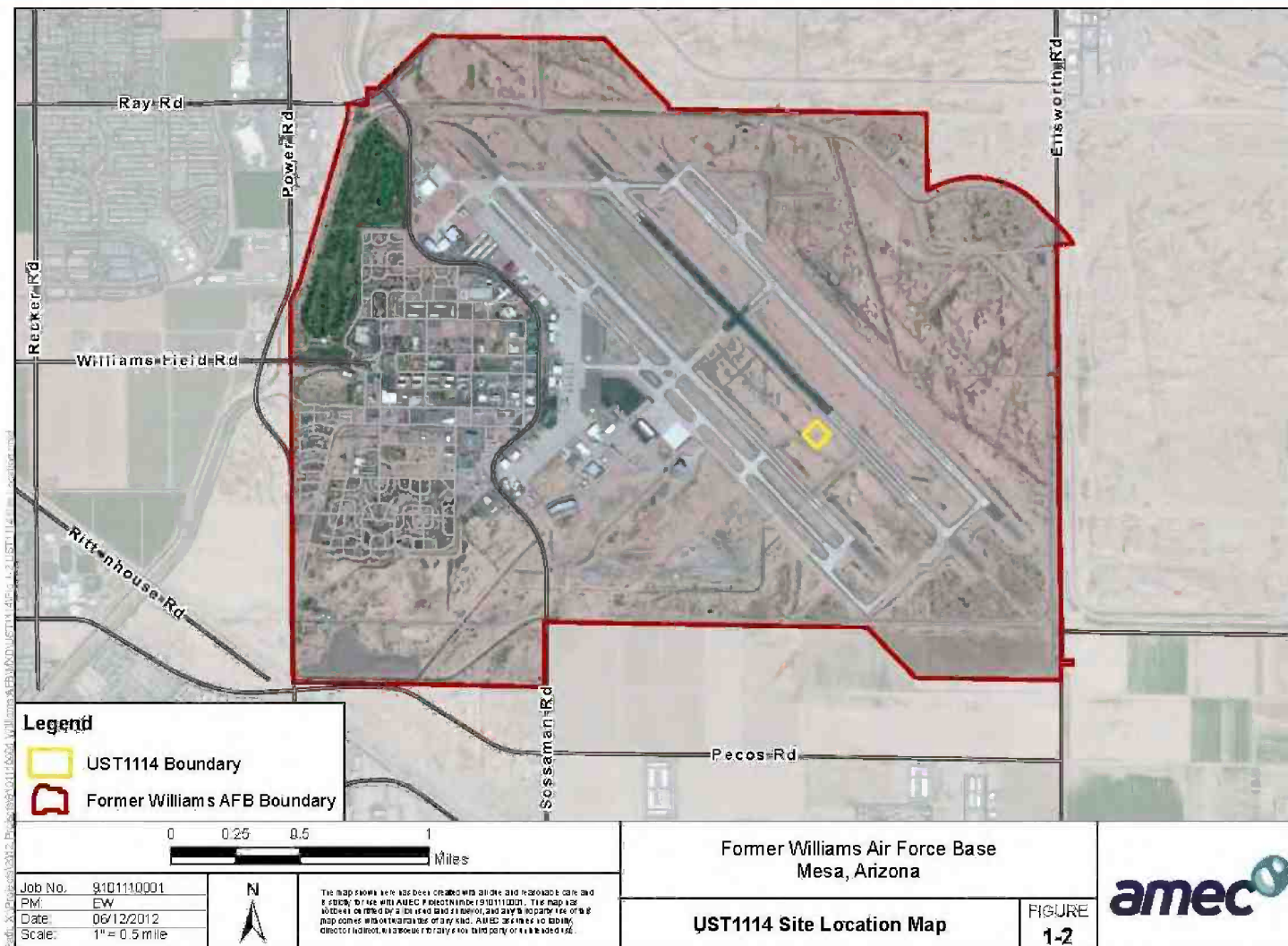
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## **Former UST 1114**



# Former UST 1114 Location Map





# ***Former UST 1114 Site Background***

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- **Underground storage tank (UST) source of release; removed in 1993**
- **Volatile organic compounds (VOCs) and polyaromatic hydrocarbons (PAHs) in soil**
- **Verification soil sampling**
- **Goal: Site closure under Tier 1 UST regulations by ADEQ**



# ***Former UST 1114 Site Update***

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- **Verification sampling performed week of Apr 2012**
- **No detections above cleanup levels for unrestricted use**
- **Site closure documentation submitted to ADEQ  
Sep 2012**
- **Received regulatory approval for site closure Oct 2012**

# ***Headquarters U.S. Air Force***

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**Site ST035, Former  
Building 760 USTs**





# Site ST035 Location Map







## ***Site ST035 Site Background***

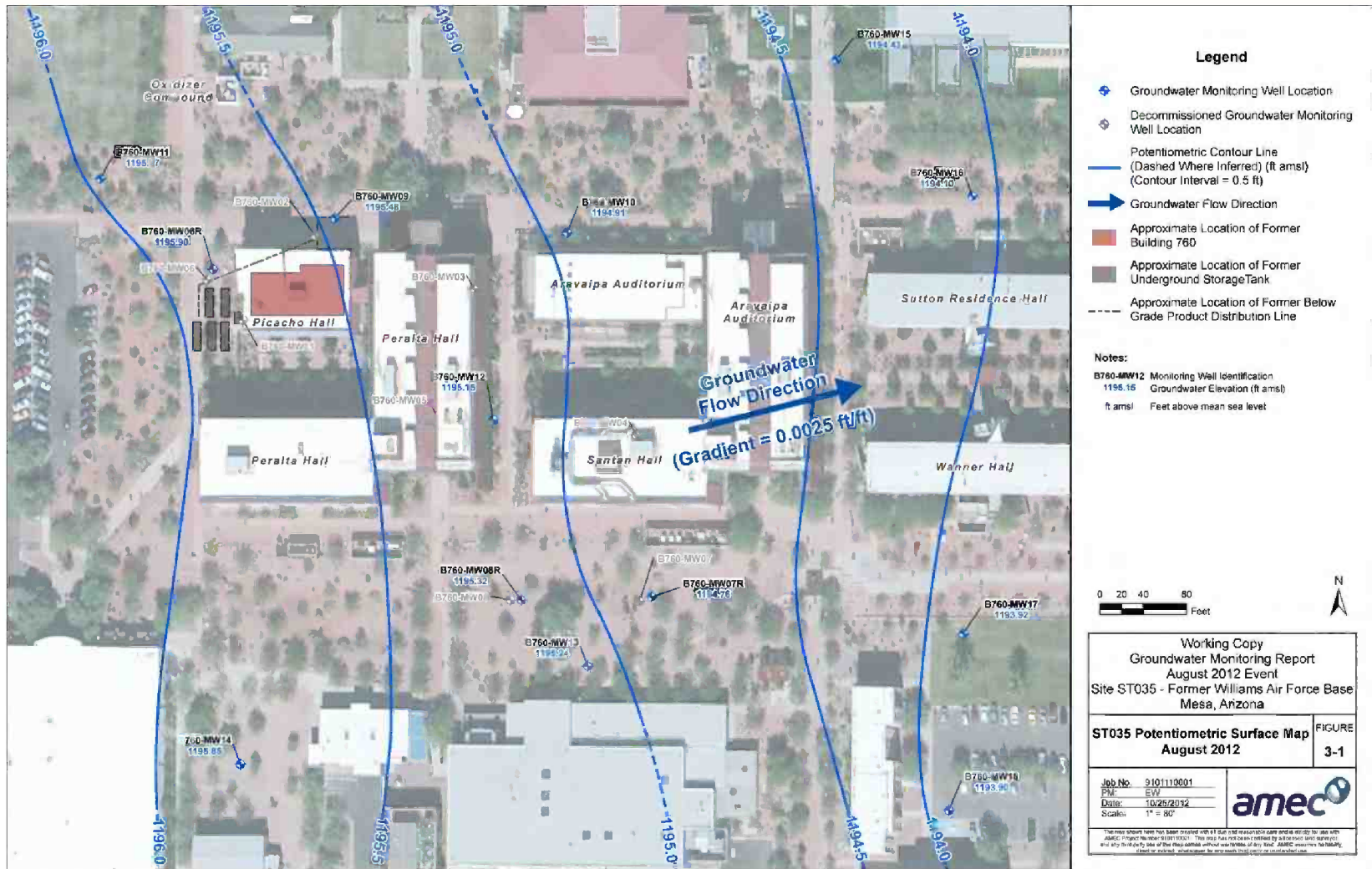
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- **Building 760 gas station and oil/water separator**
  - **Gas dispensing until 1986**
  - **Tank and dispensing equipment removed in 1993-1994**
  - **Oil/water separator removed in 1996**
- **Vadose zone soil chemicals of concern (COC)**
  - **Benzene**
- **Groundwater COCs**
  - **Benzene, toluene, ethylbenzene, xylenes (BTEX)**
  - **1,2 –Dibromoethane (EDB)**
  - **Methyl tertiary butyl ether (MTBE)**
  - **1,2-Dichloroethane (DCA)**
- **Soil Vapor Extraction (SVE) system to treat COCs in vadose zone soil in operation**
- **Site cleanup regulated by ADEQ under Leaking Underground Storage Tank (LUST) regulation (R18-12-263)**



# Site ST035 Groundwater Monitoring Update

## Aug 2012 Groundwater Flow Direction





Williams, AR # Page 27 of 75

# **Site ST035 Groundwater Monitoring Update**

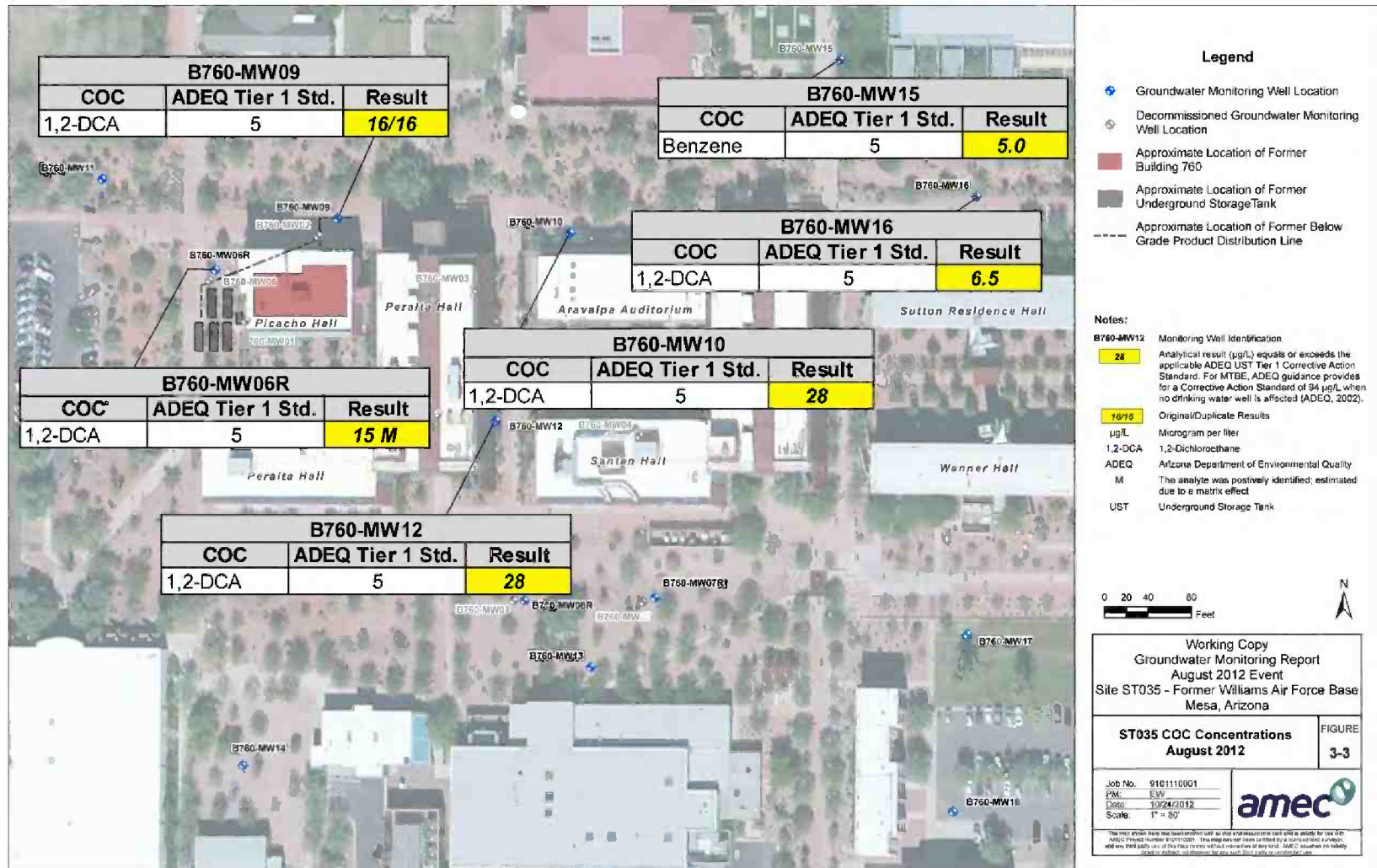
## **Aug 2012 Sampling Event Site ST035**

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- **13 wells sampled, groundwater flow direction toward the East.**
- **Benzene detected in 8 wells (9 wells in May 2012):**
  - **ADEQ UST Tier 1 Corrective Action Standard = 5 µg/L**
  - **7 wells < 5 µg/L - (8 wells in May 2012)**
  - **1 well = 5 µg/L - (1 well in May 2012)**
- **1,2-DCA detected in 6 wells (5 wells in May 2012)**
  - **ADEQ UST Tier 1 Corrective Action Standard = 5 µg/L**
  - **1 well < 5 µg/L – (1 well in May 2012)**
  - **5 wells > 5 µg/L – (4 wells in May 2012)**
- **Concentrations of MTBE and EDB continue to be below ADEQ UST Tier 1 Corrective Action Standards in all wells**



# Site ST035 Groundwater Monitoring Update Aug 2012 Sampling Results







## ***Groundwater Summary***

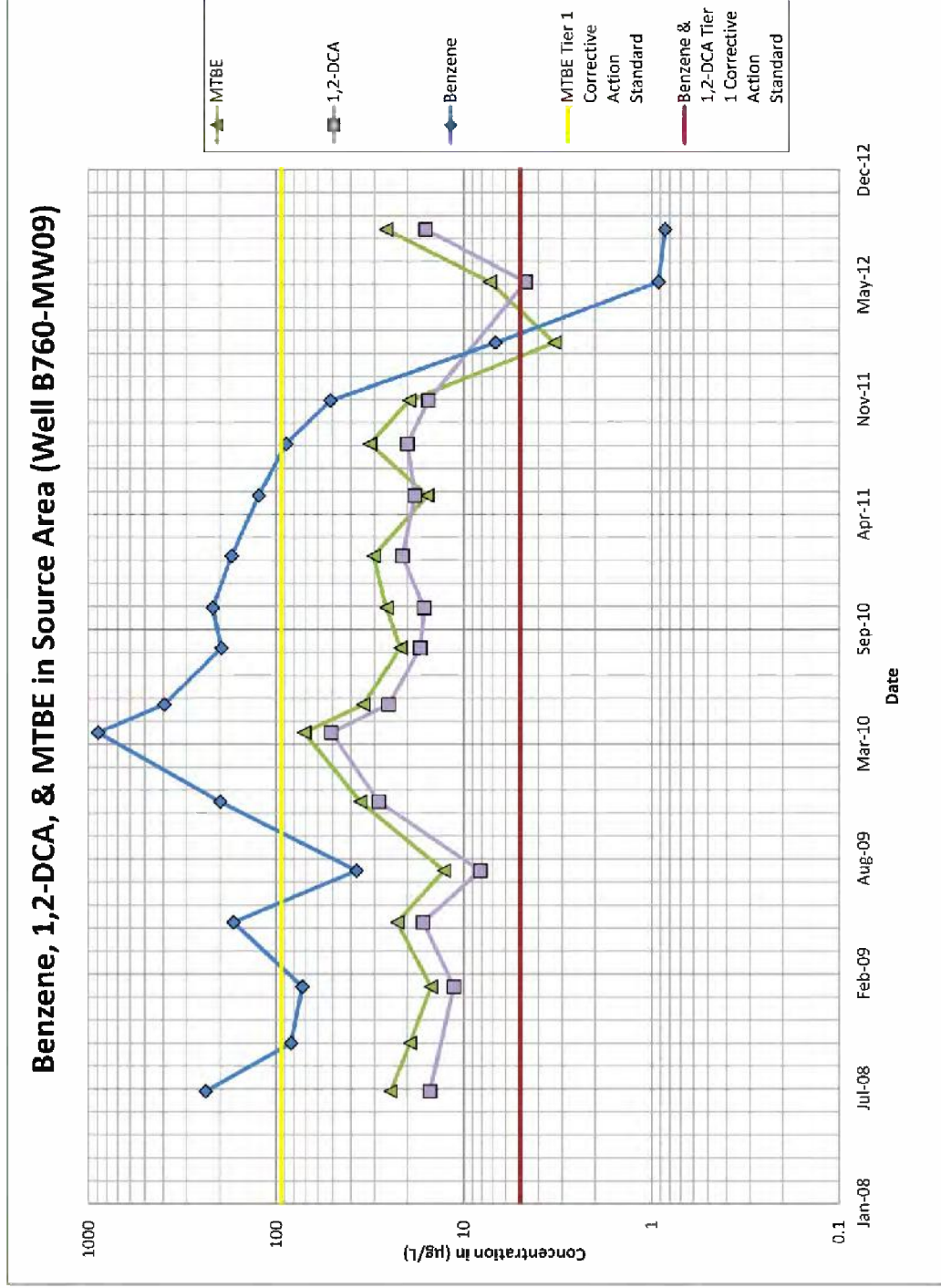
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- **Concentrations of benzene in the source area have significantly decreased since SVE startup in 2010**
- **Toluene, Xylenes, MTBE, and EDB are below ADEQ UST Tier 1 Corrective Action Standards (all wells)**
- **Concentration of 1,2-DCA similar in the source area and decreased to below the UST corrective action standards in the downgradient well (B760-MW17).**
- **Next quarterly groundwater sampling - Nov 2012**



# Site ST035

## Source Area Concentrations since 2008





# Site ST035 SVE System Update

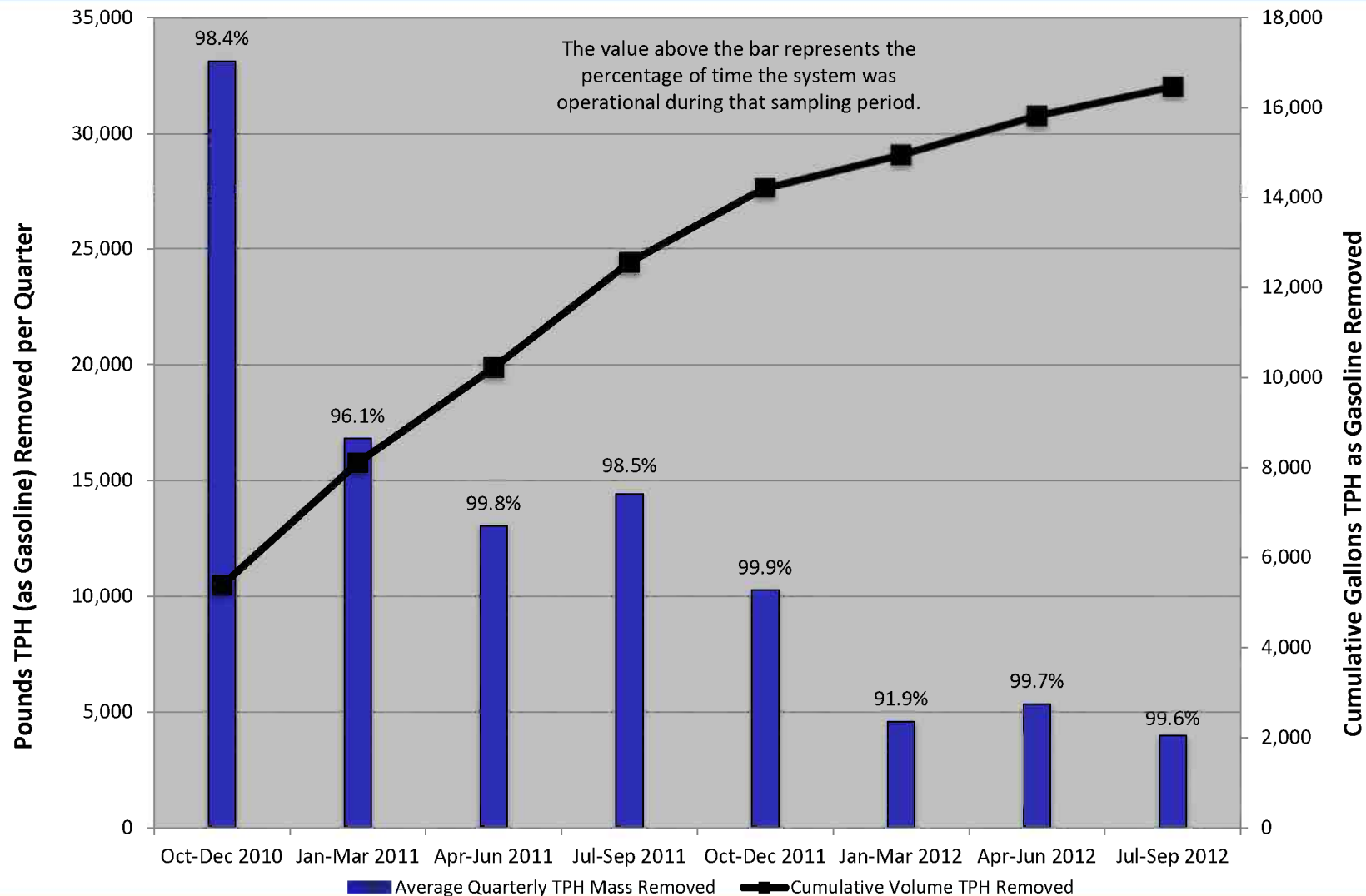
**Jul - Sep 2012**

- **99.6% operational uptime**
- **PHC removed – 3,980 pounds or 646 gallons- (878 gallons Apr-Jun 2012)**
- **11 of 15 SVE wells operating**





# Site ST035 SVE System Performance







# ***Site ST035 SVE System Summary***

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- **Average mass removal of PHC is declining as expected**
- **16,500 gallons of PHC removed to date**
- **SVE system continues operation within permit emission requirements**
- **Next performance sampling Nov 2012**



# ***Groundwater Characterization***

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- **Well installation in former source area commenced in Oct 2012**
- **Downgradient monitoring well completion anticipated in Nov 2012.**
- **Sampling scheduled for Jan-Feb 2013**



# **Site ST035 Path Forward**

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- **Complete groundwater characterization and perform remediation as needed.**
- **Continue SVE operation and groundwater monitoring**
- **Achieve site closure under LUST regulation (R18-12-263.04)**

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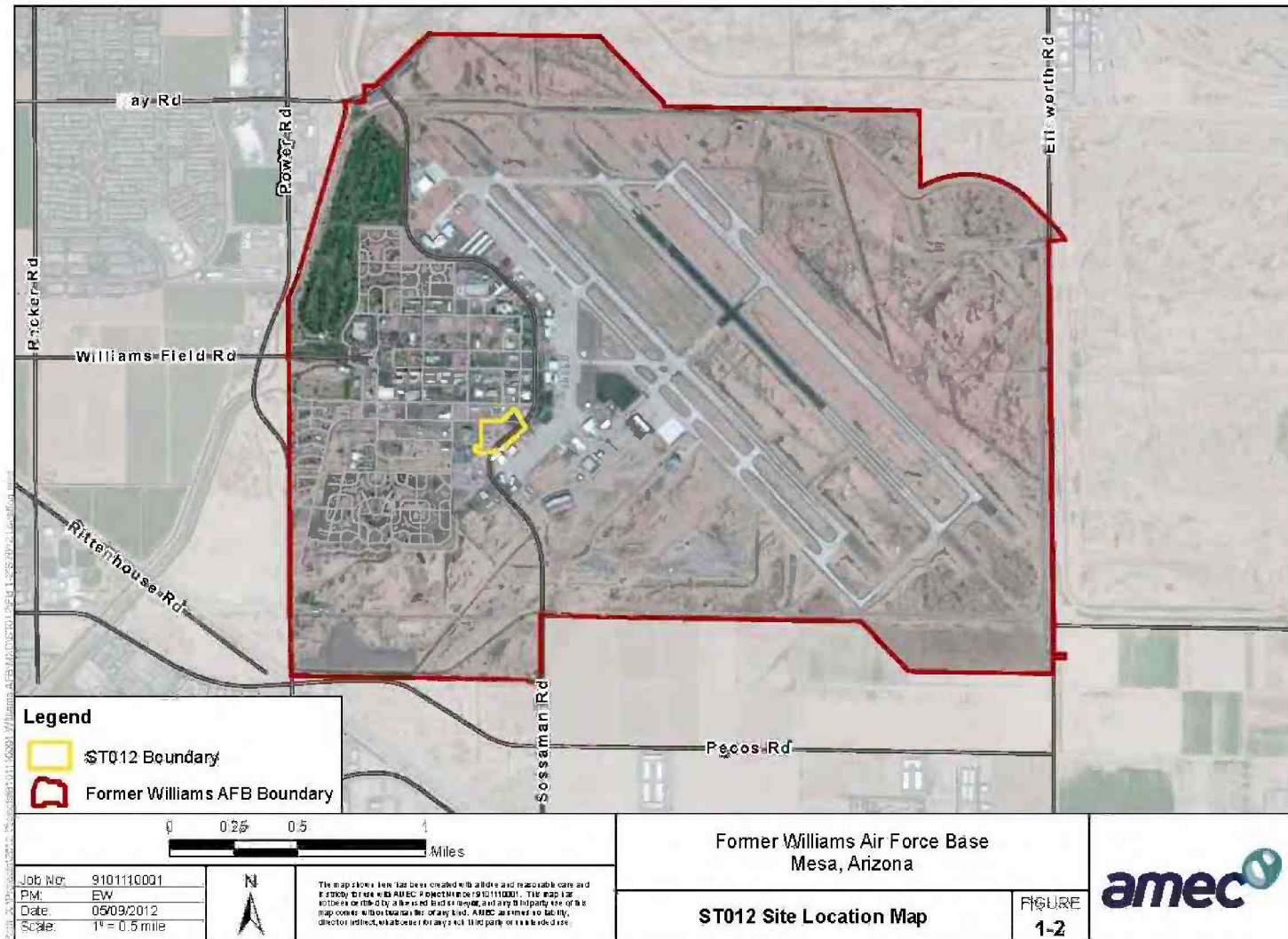
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**Site ST012, Former  
Liquid Fuels  
Storage Area**



# Site ST012 Location Map





# ***Site ST012 Site Background***

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- **Former liquid fuels storage operation**
- **19 USTs and piping were removed in 1990**
- **COCs in soil and groundwater are petroleum hydrocarbons and benzene**
- **Shallow soil (< 25 feet deep) cleanup achieved (1996): OU-2 ROD 1992**
- **Deep vadose zone soil (> 25 feet deep) currently being treated by SVE: OU-2 ROD 1992**
- **Current water table at ~154 feet up from ~245 feet in 1978**
- **OU-2 ROD Groundwater pump and treat remedy ineffective- alternative remedies being evaluated in a Focused Feasibility Study (FFS)**



# Site ST012 SVE System Update

**Jul – Sep 2012**

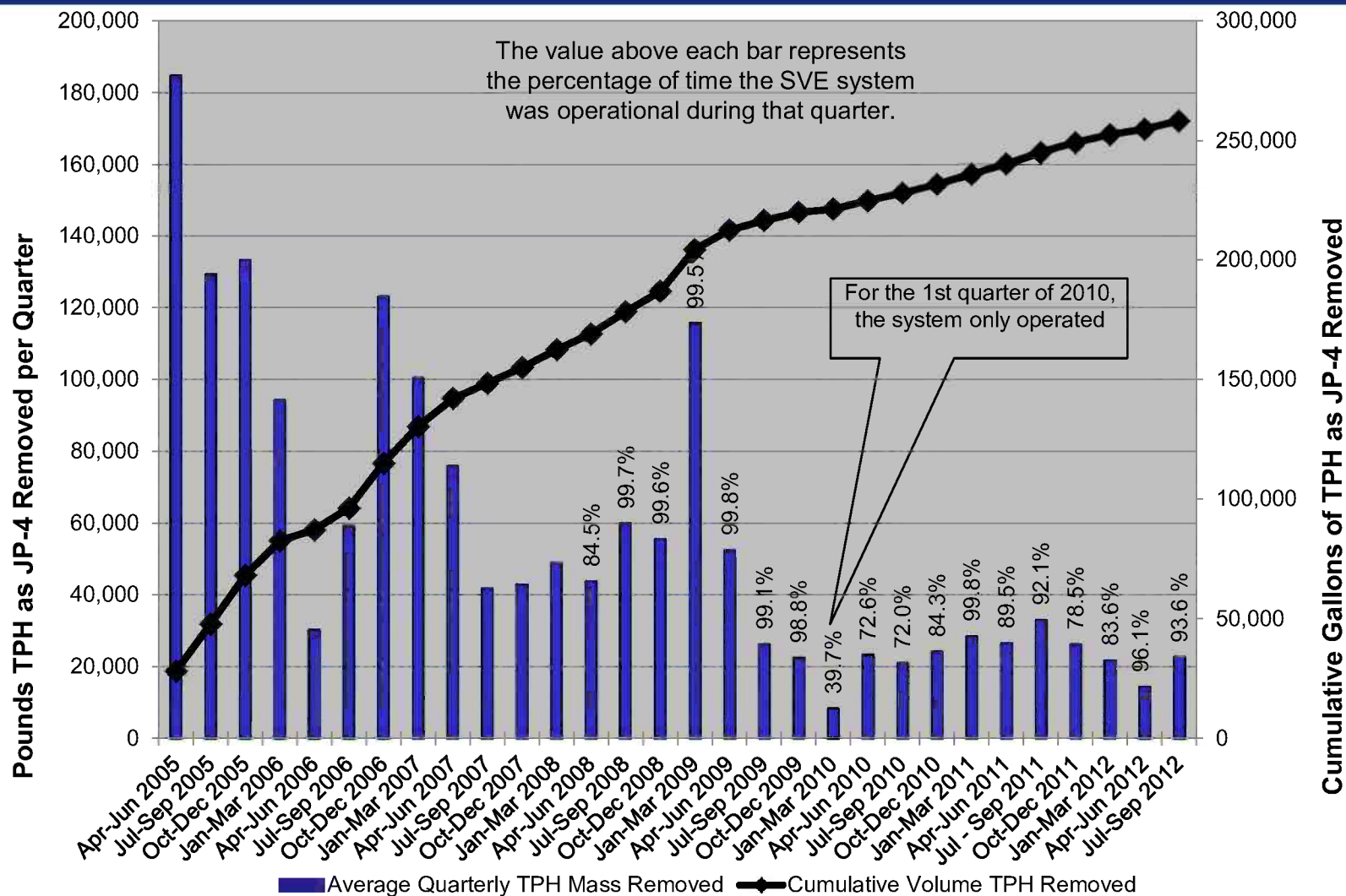
- **93.6% operational uptime**
- **PHC removed – 22,900 pounds or 3,490 gallons- (2,225 gallons in Apr-Jun 2012)**
- **9 of 27 SVE wells operating**







# Site ST012 SVE System Performance







# ***Site ST012 SVE System Summary***

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- **Average PHC mass removal rate increased during the quarter as a result of SVE system improvements.**
- **PHC removed to date – 258,000 gallons**
- **Next SVE performance monitoring Nov 2012**



Wildcats AR # Page 42 of 75

# **Site ST012 Groundwater Containment System**

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- **Existing extraction wells and equipment configured to allow operation of a modified pump-and-treat system**
- **Lower Saturated Zone (LSZ) extraction wells targeted for pumping**
- **Extraction operations began in Jan 2012**
- **Operations temporarily suspended in Aug 2012 for retrofit; restarted in Sept 2012**

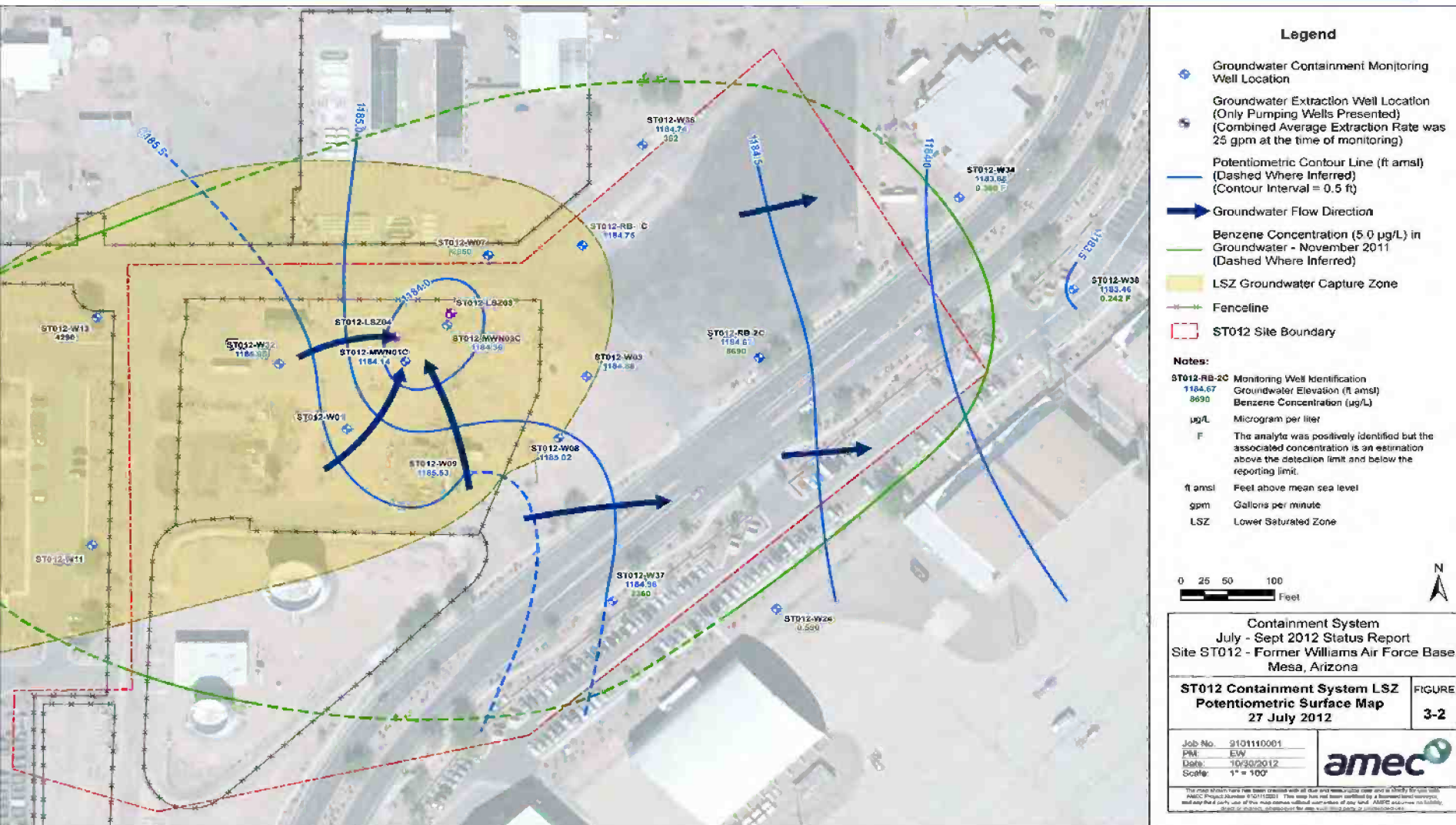


# ***ST012 Groundwater Containment System System Retrofits***





# Site ST012 Groundwater Containment System LSZ Potentiometric Surface Map Jul 2012 - 25 gpm Extraction

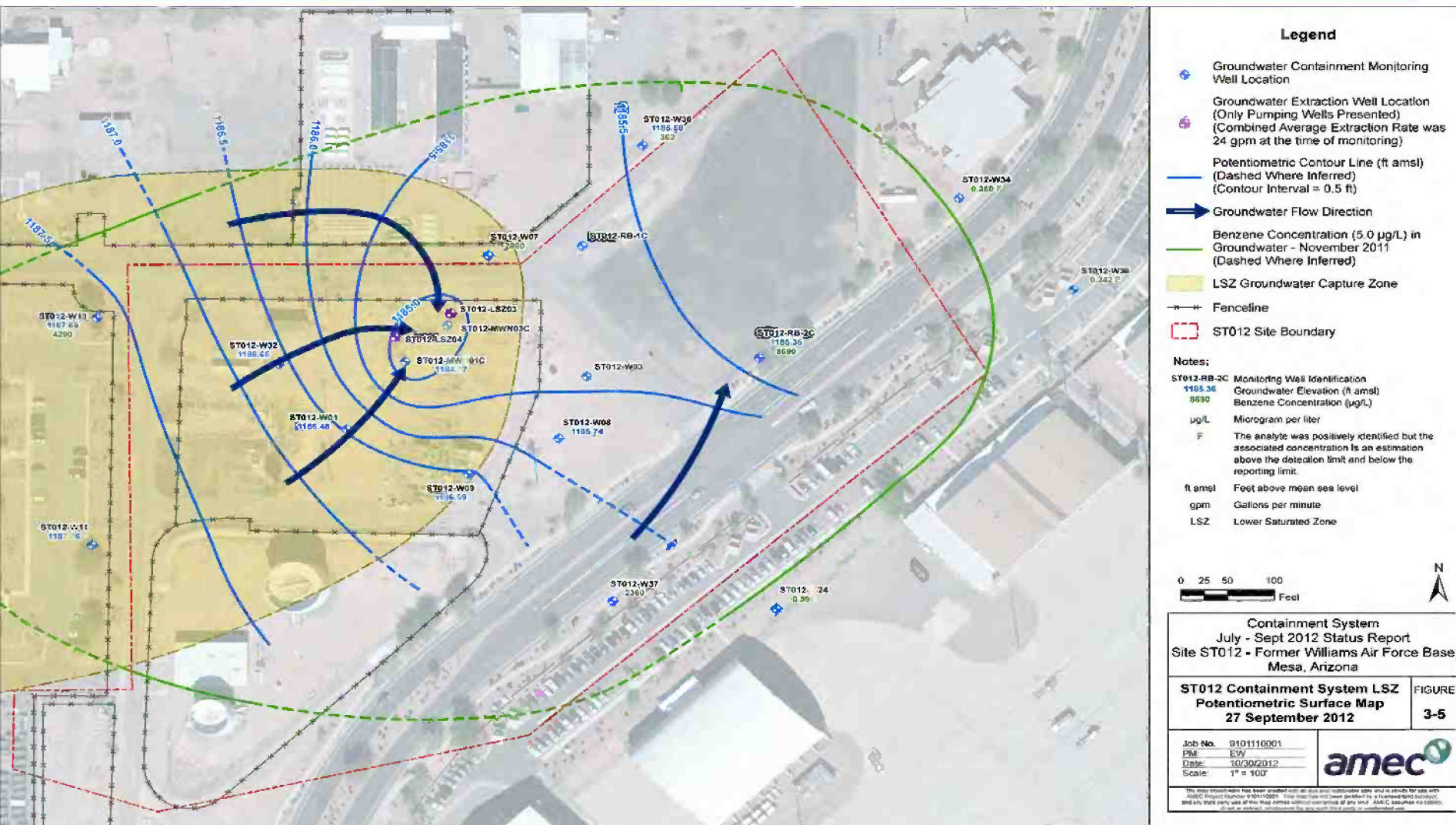








# Site ST012 Groundwater Containment System LSZ Potentiometric Surface Map Sep 2012 – 24 gpm Extraction





# Site **ST012 Groundwater Containment System**

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- Extraction activities influence the potentiometric surface in LSZ
- 7.0 million gallons of groundwater extracted and treated from Jan through Sep 2012
- 130 pounds of benzene removed through Sep 2012



# **Site ST012 Path Forward**

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- **Final Focused Feasibility Study to be submitted Nov 2012**
- **Proposed Plan/public comment – Winter 2012/2013**
- **Record of Decision – Spring 2013**
- **Remedial Design/Remedial Action Work Plan – Fall 2013**
- **Ongoing groundwater and SVE performance monitoring and operation of containment system**



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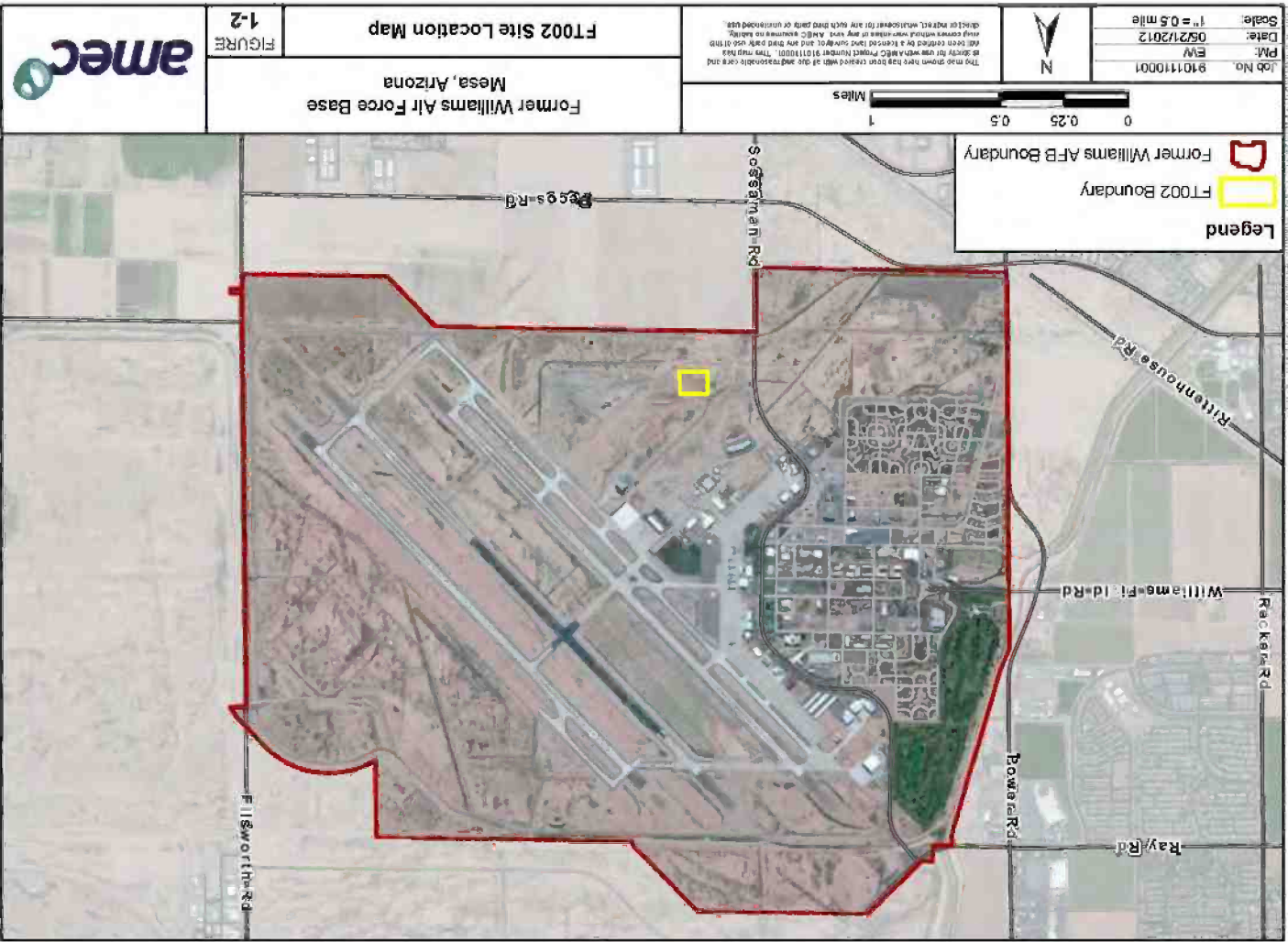
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**Site FT002, Fire  
Training Area  
Number 2**



# Site FT002 Location Map





# ***Site FT002 Site Background***

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- **Fire protection training activities (1958-1991)**
- **Soil COC: benzene, chloroform, 1,4-dichlorobenzene**
- **No evidence of groundwater impact**
- **OU- 3 ROD 1996; Soil Remedy (bioventing) implemented in 1996-97**
- **Final soil cleanup goals for unrestricted use not yet achieved**
- **Declaration of Environmental Use Restriction (DEUR) to prohibit residential use and require soil management below 5 feet**



## ***Site FT002 Site Update***

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- **Draft Final Soil and Soil Vapor Sampling Work Plan under regulatory review, submitted Sep 2012**
- **Verification sampling Dec 2012**
- **If ROD cleanup goals are achieved, site closure documentation Mar 2013**
- **Anticipate regulatory approval for site closure Jun 2013**

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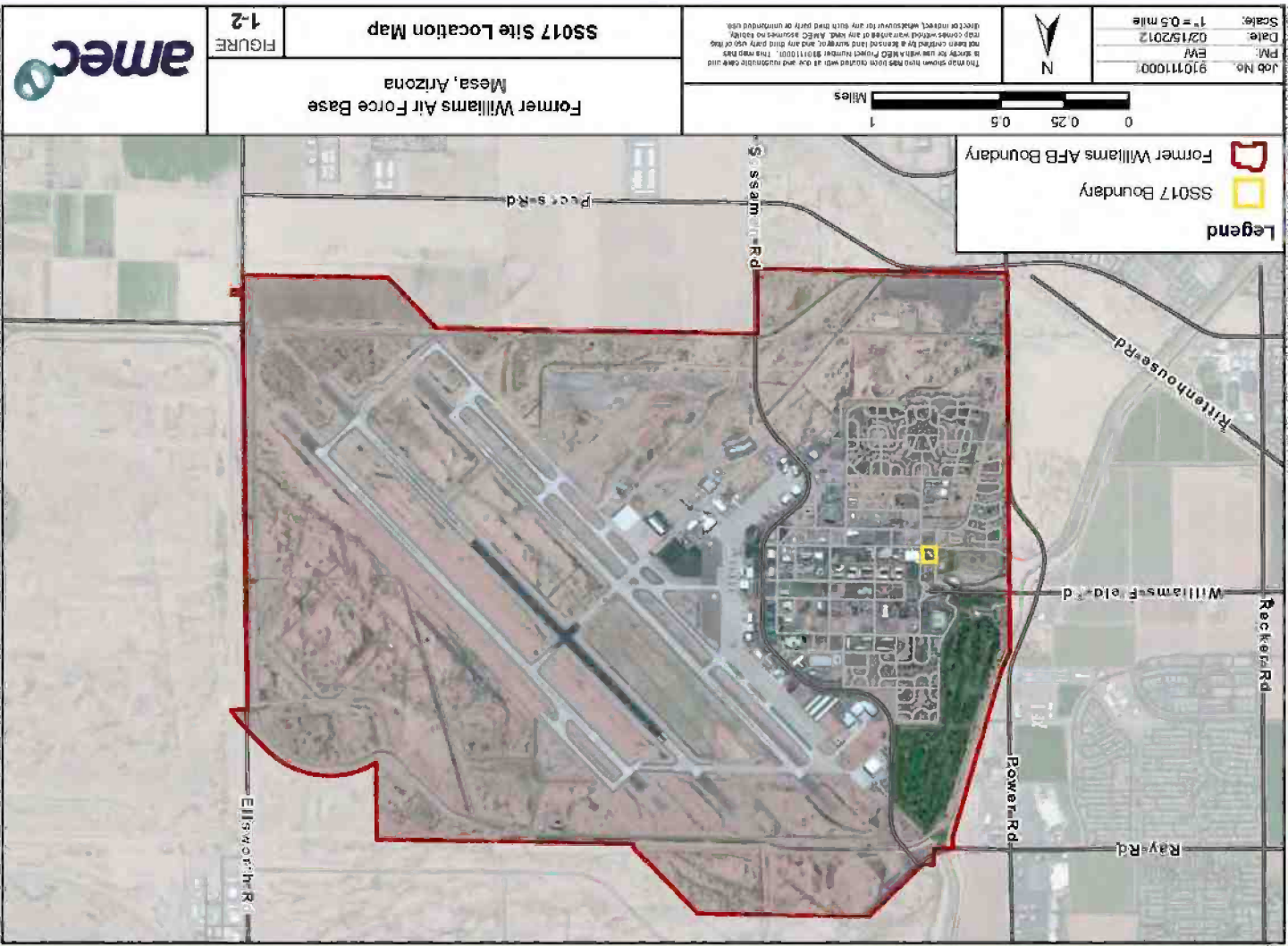
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**Site SS017, Old  
Pesticide/Paint  
Shop**



# Site SS017 Site Location Map







# ***Site SS017 Background***

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- **Old pesticide / paint shop**
- **Soil and groundwater COC: Dieldrin**
- **Removal action for soil completed in 2000**
- **Ongoing groundwater monitoring (Annual – Aug)**
- **Draft OU-6 ROD Mar 2012**



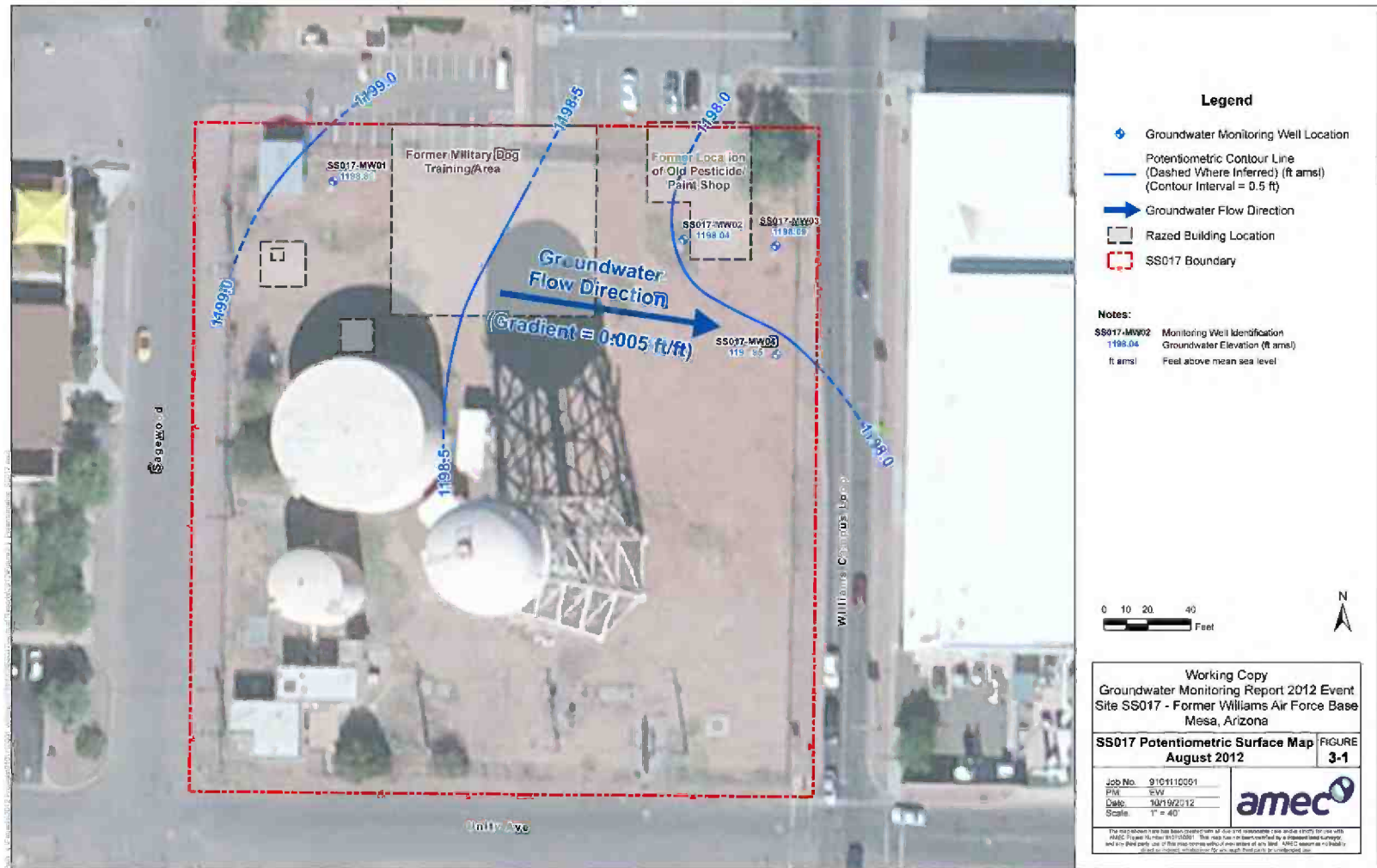
# ***Site SS017 Site Update***

- 
- **Air Force preparing updated risk evaluation**
  - **Provided risk evaluation supports unrestricted use, prepare Amended Proposed Plan**
  - **Annual groundwater monitoring event completed - Aug 2012**





# Aug 2012 Groundwater Flow Direction





# Site SS017

## August 2012 Results

- Dieldrin concentrations above EPA regional screening level (0.0015 µg/l) (3 of 4 wells)

Well ID	Dieldrin Concentration (µg/L)	Mann-Kendall Statistical Analysis
SS017- MW01	<0.000459	Decreasing
SS017- MW02	<b>0.0505</b>	No Trend
SS017- MW03	<b>0.00952 F</b>	Decreasing
SS017- MW04	<b>0.0134 F</b>	Decreasing

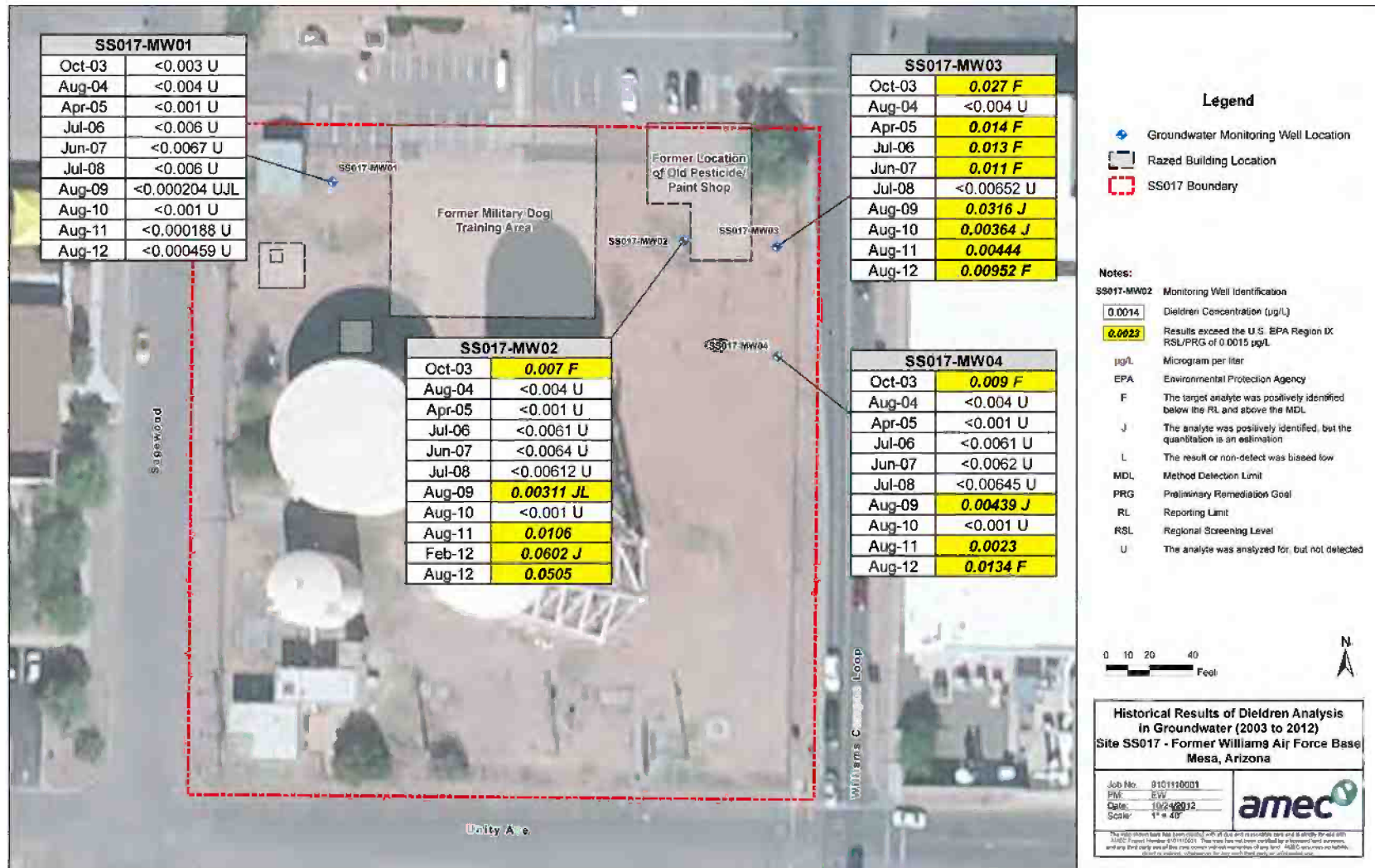
F – Below Reporting Limit (RL) but above Method Detection Limit (MDL)

- Next annual groundwater sampling - Aug 2013



# Site SS017

## Historical Results





# **Site SS017**

## **Groundwater Summary**

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- Upgradient well (SS017-MW01) has been non-detect since 1999
- No reported dieldrin above EPA Drinking Water Health Advisory of 0.2 µg/L ( $10^{-4}$  Risk) since 1998
- Mann-Kendall test indicates downward trend (or no trend) of dieldrin concentrations in all 4 wells
- Updated risk assessment will include an evaluation of groundwater

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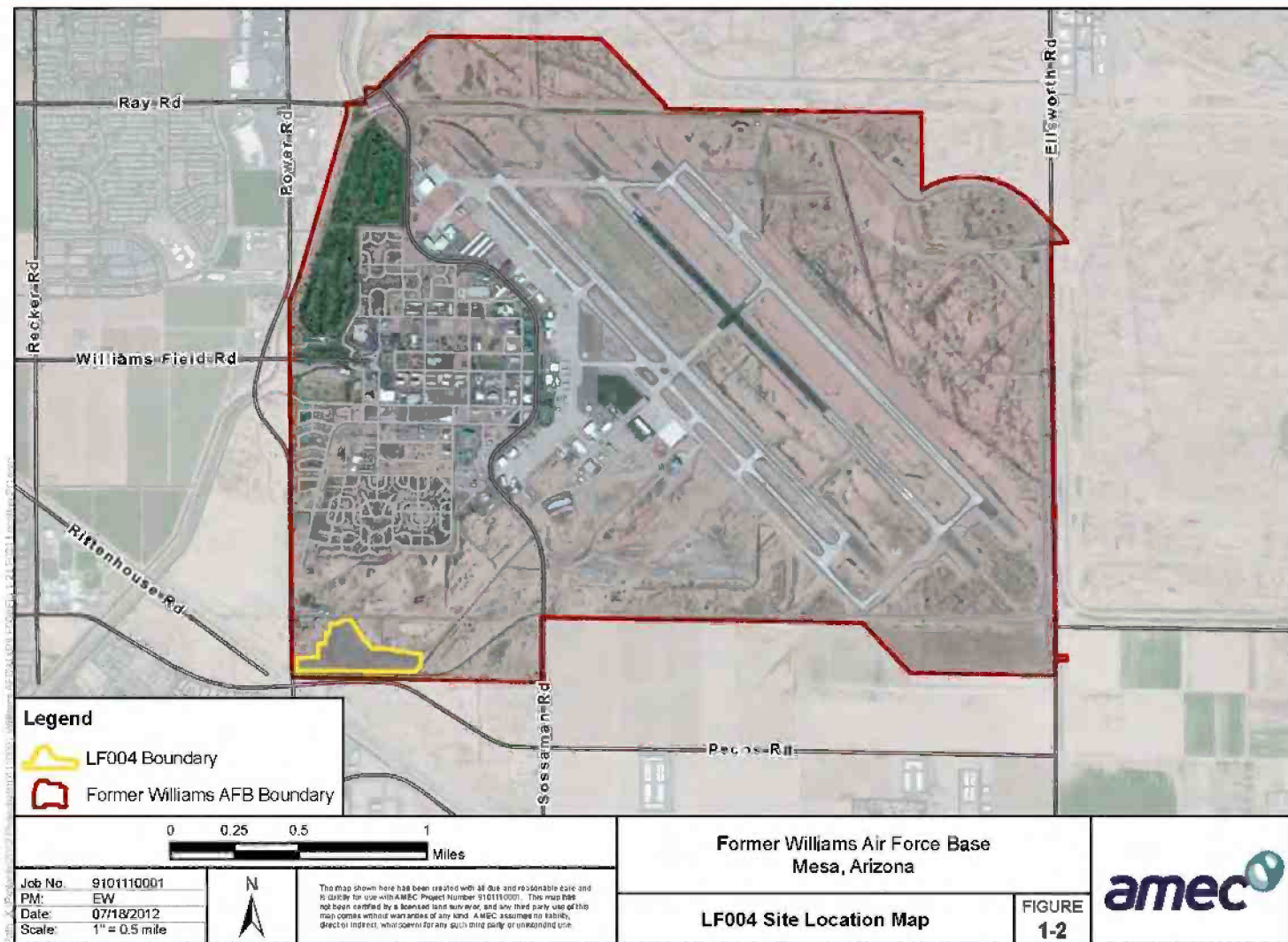


## **Site LF004, Landfill**





# Site LF004 Site Location Map





# ***Site LF004 Site Background***

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## **▪ Landfill**

- **Former solid waste landfill**
- **Operated from 1941 to 1976**
- **Closed in 1995 with a permeable soil cap (OU-1 ROD 1994)**
- **Rising groundwater table**

## **▪ COCs**

- **Dieldrin and beryllium in surface soil**
- **Perchloroethylene (PCE) in soil and groundwater**
- **Trichloroethylene (TCE) in soil and groundwater**



# **Site LF004 Update**

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- **Landfill cap inspection and repairs completed Oct 2012**
- **Landfill cap inspection report and recommendations in progress Nov 2012**
- **Next semi-annual groundwater sampling event Nov 2012**









# Site LF004 Update Landfill Cap Repairs





# **Site LF004 Path Forward**

- **Regulatory comments on the Focused Feasibility Study under Air Force review**
- **Proposed Plan/Public Comment- Spring 2013**
- **Record of Decision- Summer 2013**
- **Remedial Design / Remedial Action Work Plan- Fall 2013**
- **Continue groundwater monitoring and landfill maintenance**

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## **Contracting Updates**

Presented by:  
Ms. Michelle Lewis  
AFCEC



# Munitions Response Site XU403

## Site History

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- .50-cal un-fired shells discovered in Oct 2003 by ADEQ.
  - AFCEE and URS performed site walk in Aug 2007 and confirmed presence of munitions debris on the ground at PNDA.
  - Phase I Investigation (Jan 2009): included a geophysical survey and visual site inspection. Various munitions debris discovered on ground. Phase I did not include intrusive actions.
  - Phase II Investigation (Jul 2010): discovered munitions debris, small amounts of munitions and explosives of concern (MEC), empty Chemical Agent Identification Sets (CAIS) bottles; and installed security fence and safety signs.
    - 37 acres designated as Military Munitions Response Program (MMRP) site XU403.
    - 34 acres were cleared and determined to need no further action.
    - 3 acres were designated as XU403a and identified for additional investigation.
  - Phase III Investigation (Jul 2011): MEC removal for XU403a; work suspended due to discovery of intact CAIS bottle with residue.
-



# Munitions Response Site XU403

## *Site History*

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### ■ Phase III

- Completed detector-aided visual surface clearance over XU403a (see site map next slide).
  - Removed munitions debris and MEC from surface.
  - Removed metallic debris that would interfere with subsurface geophysical survey.
- Completed comprehensive grid-based geophysical survey.
- Began subsurface MEC identification, removal, and disposal.
- Fieldwork suspended after discovery of intact CAIS bottle with residue.
- Army's Chemical, Biological, Radiological, Nuclear and High Yield Explosives (CBRNE) team destroyed CAIS bottle and contents.



# Munitions Response Site XU403 Area 1

## *Final Munitions Response Action*

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### ■ Current Status

- Army Corp of Engineers Huntsville Engineering and Support Center has released a Request for Proposals for the final munitions response action.
- Site walk is scheduled for tomorrow morning.
- Proposals are due 21 Nov 2012



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## **Meeting **W**rap-Up**

Presented by:  
Mr. Len Fuchs/ Ms. Michelle Lewis  
RAB Community Co-Chairmen  
and Scott Johnston, Napkin Communications





# ***Meeting Wrap-Up***

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- **Review action items**
- **Call for agenda items for next RAB meeting**
- **Schedule next RAB meeting (Proposed date Feb 19, 2012)**
- **Meeting adjourned**

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## **Meeting Adjourned**

**FINAL PAGE**

**ADMINISTRATIVE RECORD**

**FINAL PAGE**