



**Motorola 52nd Street Superfund Site
Community Information Event**



Wednesday, July 22, 2009

6:30 p.m. to 8:30 p.m.

GateWay Community College, MA 1110N/S
108 North 40th Street
Phoenix, Arizona

OU#09-019

ADEQ and EPA held a community meeting at GateWay Community College to inform the community about the status of the Motorola 52nd Street Superfund Site. The event began with a presentation from ADEQ and EPA personnel (please see the attached PowerPoint presentation) followed by a question and answer session. Honeywell Inc. then presented information about the recently signed remedial investigation report and work proposed for the summer and fall (please see attached power point presentation) followed by a question and answer session.

If you require further information regarding this event, please contact Wendy Flood, (602) 771-4410.

Motorola 52nd Street Superfund Site

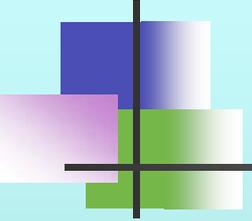
Public Meeting
July 22, 2009



**Arizona Department of
Environmental Quality**

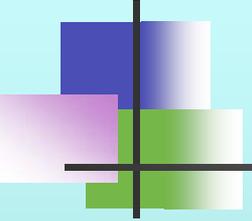


**U.S. Environmental
Protection Agency, Region 9**



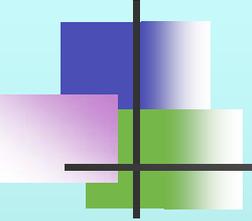
Agenda

- Introductions
- Updates on work completed at the Motorola 52nd Street Site
- Schedule of proposed work
- Questions & Answers
- Break-out Sessions
 - Technical Presentation – this room
 - Background Q & A Session – back room



Introductions – ADEQ

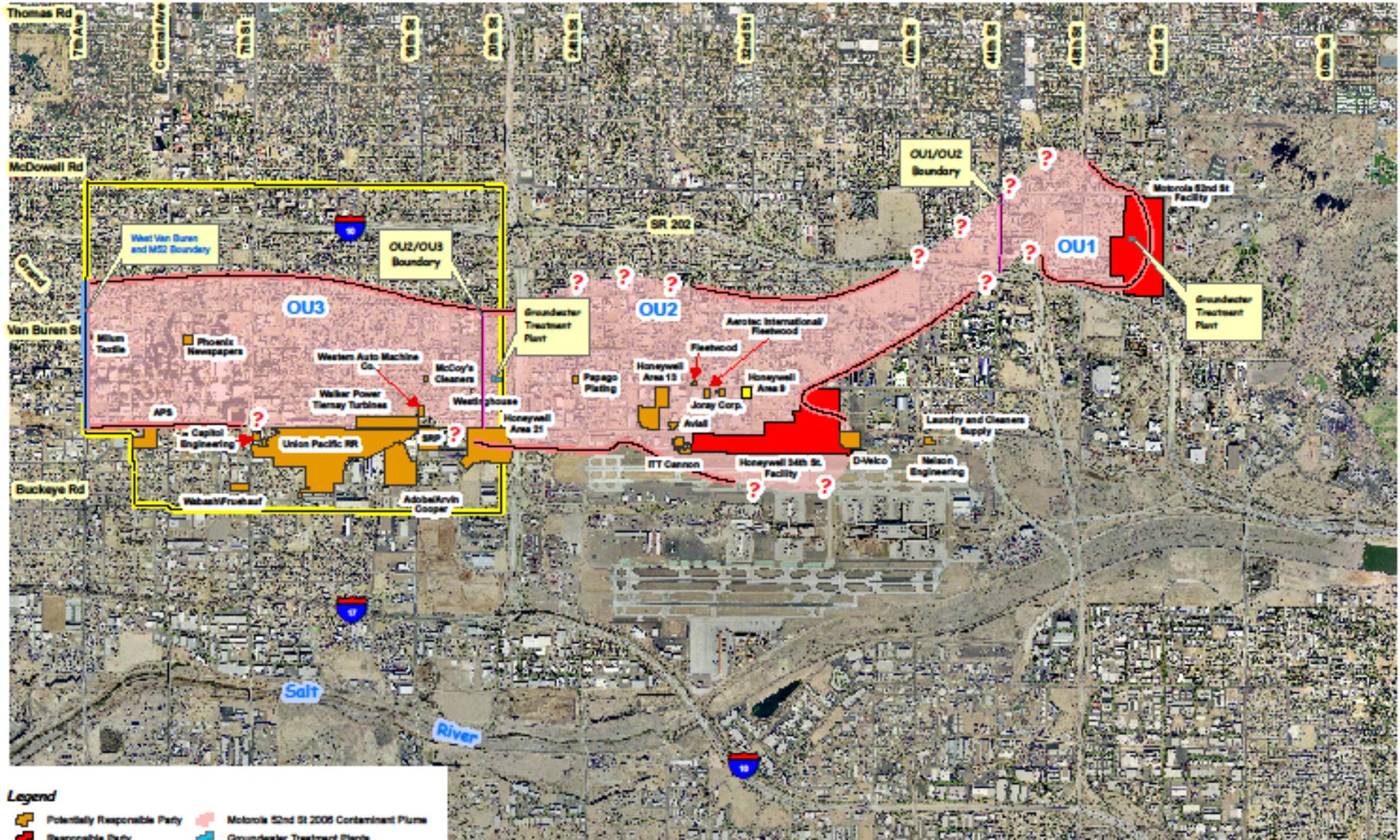
- Sherri Zendri - OU1/OU2 Project Manager
- Joellen Meitl - OU3 Project Manager
- Wayne Miller - Sitewide Project Hydrologist
- Wendy Flood - Sitewide Community Involvement Coordinator



Introductions - EPA

- Leah Butler - OU1 Project Manager
- Andria Benner- OU2/OU3 Project Manager
- Janet Rosati - OU3 Remedial Project Manager
- Leana Rosetti - Sitewide Community Involvement Coordinator

MOTOROLA 52ND STREET SUPERFUND SITE PHOENIX, ARIZONA



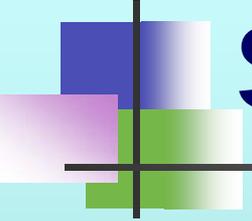
- Legend**
-  Potentially Responsible Party
 -  Responsible Party
 -  No Further Action
 -  Motorola 52nd St 2006 Contaminant Plume
 -  Groundwater Treatment Plants
 -  OUS Study Area

Contour represents area of volatile organic compounds in alluvial and bedrock groundwater that exceed the Aquifer Water Quality Standards.

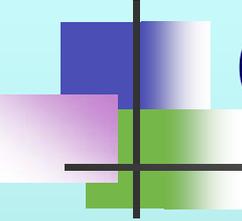
? = Insufficient Data



Motorola 52nd Street Superfund Site



- Primary contaminants of concern:
 - TCE, PCE, TCA, and degradation products such as vinyl chloride
- Site divided into 3 operable units (OUs)



OU1 Effectiveness

- Effectiveness Report - Freescale continues to operate the treatment system with EPA and ADEQ oversight:
 - 128.2 million gallons of water treated in 2008
 - From 1992 (start-up) to 2008, over 2.95 billion gallons of water have been treated
 - Approximately 605 pounds of VOCs removed in 2008
 - Estimated total of over 19,890 pounds removed since start-up
- Groundwater monitoring results indicate that the OU1 Treatment Plant is operating successfully





DM-27
140

DM-34
<0.5

DM-23
13

DM-26
55

DM609
<0.5

DM-28
41

EW13
14

DM-30
130

AZNGD-2A
NS

AZNGD-1
<0.5

DM602
250

DM126
>78 2

MP30
-B 46

WT-K
<0.5

WT-L
<0.5

DM607
-145 2.5

DM306
520

DM305
850

DM303
2600

MP26
-A NS

MP25
-A NS

DM603
-068 NS
-115 5.2

DM307
1700

DM304
1000

DM301
470

DM604
4.9

DM611
39

MP11
-B 340

DM302
2000

DM605
-068 NS
-106 1.2

DM308
280

MP13
-B 1600

52nd STREET
FACILITY

DM120
9.6

DM309
52

DM718
20

DM713
29

DM714
22

DM722
160

DM726
7.7

DM602
-079 3.8
-119 3

DM310
25

DM201
39

DM706
2.1

DM201-OB1
70

DM707
69

DM603
<0.5

MP16
-A NS

DM705
16

DM733
<0.5

DM704
38

DM736
0.5

DM729
-050 3.7

DM724
67

DM728
3.4

MP20
-A 0.42

DM122-A
DM122-B
<0.5

DM123
-068 NS

DM701
<0.5

DM703
72

DM702
98

DM734
-045 NS

OLD CROSSCUT CANAL

RED MOUNTAIN FREEWAY

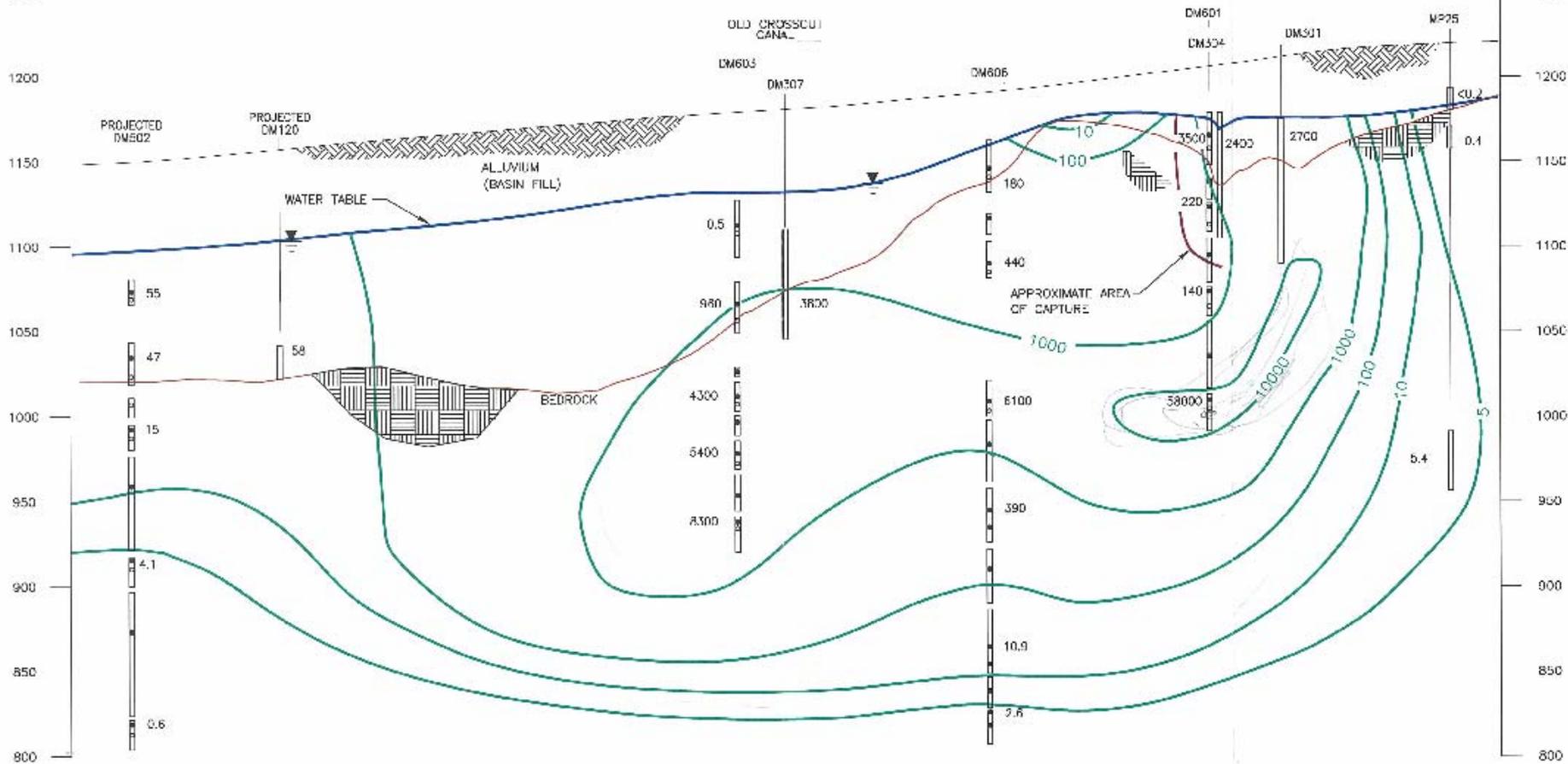
A
ELEVATION
FEET AMSL

1250
1200
1150
1100
1050
1000
950
900
850
800

MCDONALD 52ND
STREET FACILITY

A'
ELEVATION
FEET AMSL

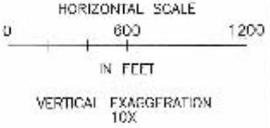
1250
1200
1150
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1050
1000
950
900
850
800



- LEGEND:
- DM 123 NAME OF WELL
 - GROUND SURFACE
 - BEDROCK CONTACT
 - 1992 WATER TABLE
 - MONI OR ZONE
 - MEASUREMENT PORT
 - PUMPING PORT
 - MONI OR ZONE
 - WELL SCREEN

- 180 TCE CONCENTRATION (ppb)
- 5 TCE CONCENTRATION CONTOUR (ppb)
- CAPTURE ZONE

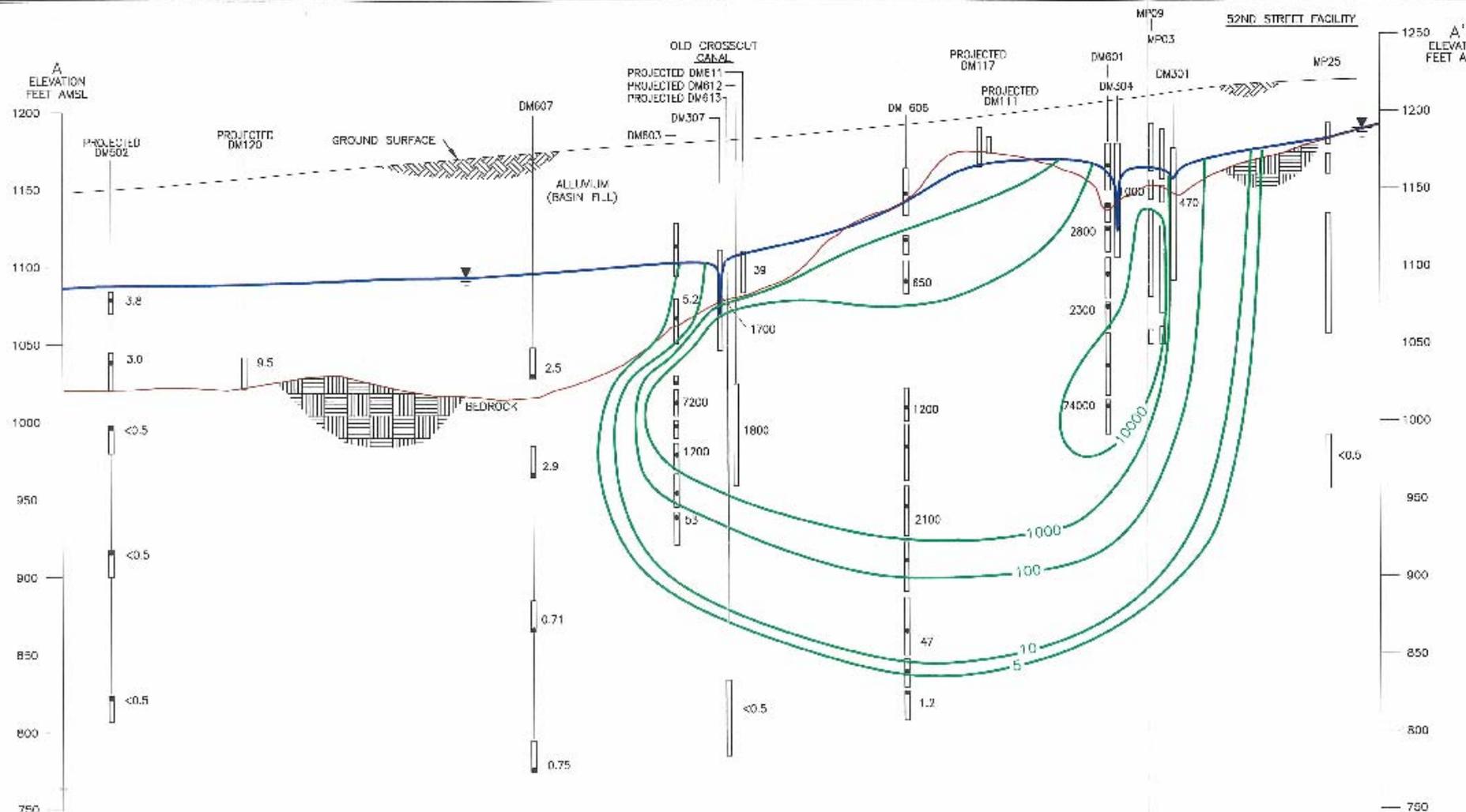
- NOTES:
1. LOCATION OF SECTION A-A' IS SHOWN ON FIGURE 1. THIS SECTION LOCATION WAS MODIFIED FROM PREVIOUS OUI EFFECTIVENESS REPORTS.
 2. THE TCE CONTOURS DRAWN ON THIS FIGURE ARE APPROXIMATE AND ARE SHOWN TO ILLUSTRATE THE GENERAL CONCENTRATIONS OF TCE IN THE AREA.
 3. THE WATER TABLE WAS PLOTTED USING MARCH-MAY 1992 DATA.
 4. THE OUI WAS NOT IN OPERATION AT THIS TIME (3/92).



TCE CONCENTRATIONS
BASELINE (MARCH - MAY 1992)
SECTION A-A'
Figure 22

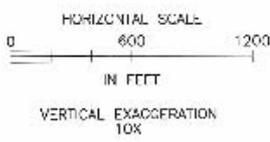


OUI EFFECTIVENESS REPORT
2008 OPERATIONS
MARCH 2008



- LEGEND:**
- DM 502 — NAME OF WELL
 - GROUND SURFACE
 - BEDROCK CONTACT
 - 2008 WATER TABLE
 - MONITOR ZONE
 - MEASUREMENT PORT
 - MONITOR ZONE

- NOTES:**
1. LOCATION OF SECTION A A' IS SHOWN ON FIGURE 1.
 2. THE SPECIFIC DEPTHS/LOCATIONS OF MEASUREMENT AND PUMPING PORTS, AND MONITOR ZONES ARE PROVIDED IN THE M52 1992 FRI REPORT AND OTHER RELATED DOCUMENTS. THE ENTIRE WELL CONSTRUCTION IS NOT SHOWN ON THIS FIGURE.
 3. THE WATER TABLE WAS PLOTTED USING DECEMBER 2008 DATA.
 3. WELL DM307 IS A PUMPING WELL. THE WATER LEVEL HAS BEEN ADJUSTED FOR WELL EFFICIENCY.

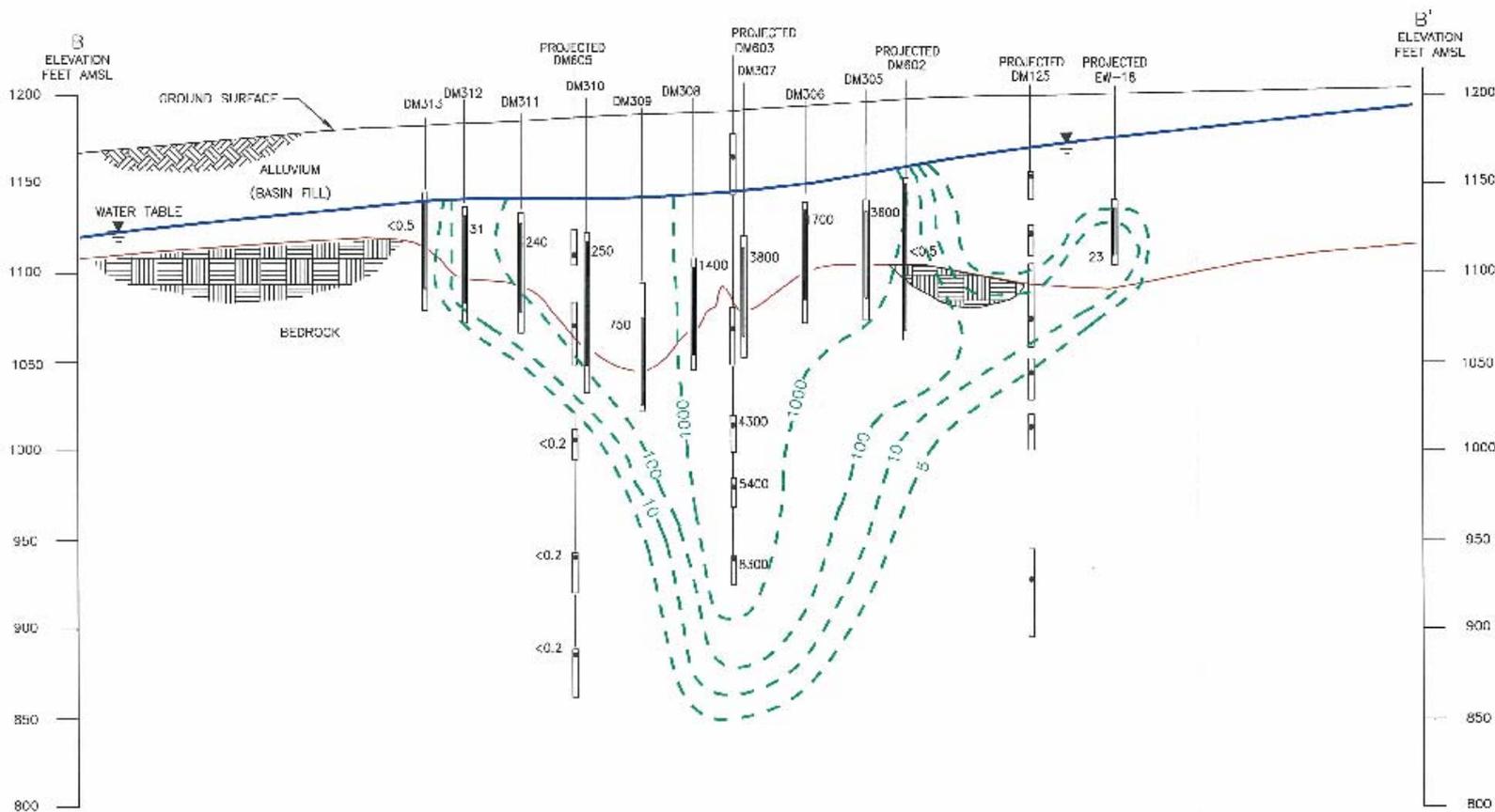


**TCE CONCENTRATIONS
SEPTEMBER 2008
SECTION A-A'**

Figure 24



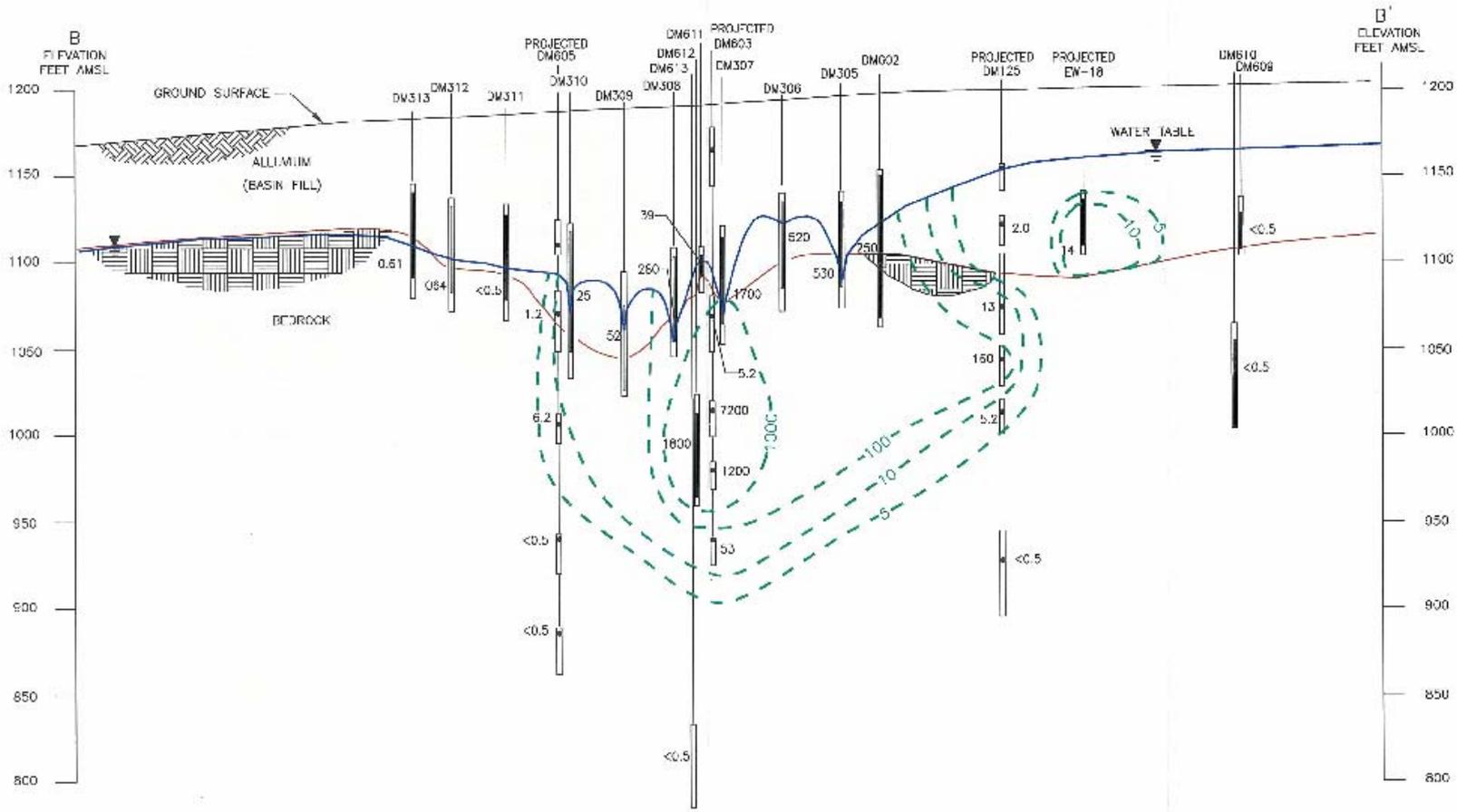
CU1-2008-21.DWG 3-8-09



**TCE CONCENTRATIONS
BASELINE (MARCH-MAY 1992)
SECTION B-B'**
Figure 23



001 EFFECTIVENESS REPORT
2008 OPERATIONS
MARCH 2009



LEGEND:

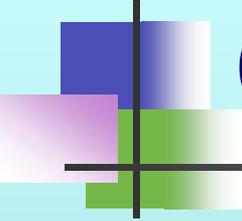
DM 123	NAME OF WELL	<0.5	TCE CONCENTRATION (ppb)
(---)	GROUND SURFACE	(---)	TCE CONCENTRATION CONTOUR (ppb)
(---)	BEDROCK CONTACT		
(---)	2008 WATER TABLE		
(---)	MONITOR ZONE MEASUREMENT PORT		
(---)	MONITOR ZONE WELL SCREEN		

- NOTES:**
1. LOCATION OF SECTION B-B' IS SHOWN ON FIGURE 1.
 2. THE TCE CONTOURS DRAWN ON THIS FIGURE ARE APPROXIMATE AND ARE PRESENTED TO ILLUSTRATE THE GENERAL CONCENTRATIONS OF TCE IN THE AREA.
 3. THE WATER TABLE WAS PLOTTED USING DECEMBER 2008 DATA.
 4. WATER LEVELS FOR WELLS DM305, DM306, DM307 AND DM308 HAVE BEEN ADJUSTED FOR WELL EFFICIENCY.

HORIZONTAL SCALE
 0 600 1200
 IN FEET
 VERTICAL EXAGGERATION
 10X

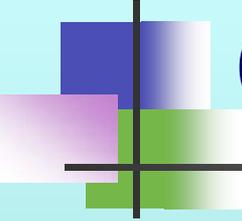
**TCE CONCENTRATIONS
 SEPTEMBER 2008
 SECTION B-B'**
 Figure 25

CJ1-2008-22.DWG 3-19-09



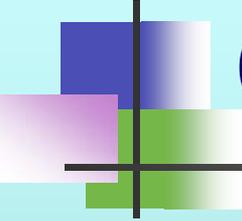
OU1 Recent Activities

- Semi-annual sampling in July
- Alternative discharge proposal
- OU1 Remedial Action Objectives



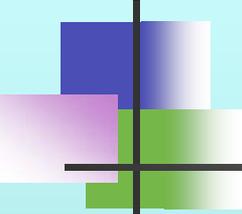
OU1 Pending Activities

- Bedrock Extraction Pilot Test & reporting
- Final Remedial Investigation
- Second Semi-Annual sampling round



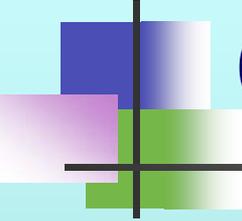
OU1 On-Going Challenges

- The OU1 Treatment Plant is an Interim Remedy – a final remedy must be selected to achieve long-term groundwater cleanup
- Extraction of contaminants from bedrock is very difficult
- Until we find a way to address the source of contamination--dense non-aqueous liquid continually leaking out of the bedrock--the interim remedy can only contain and reduce the plume



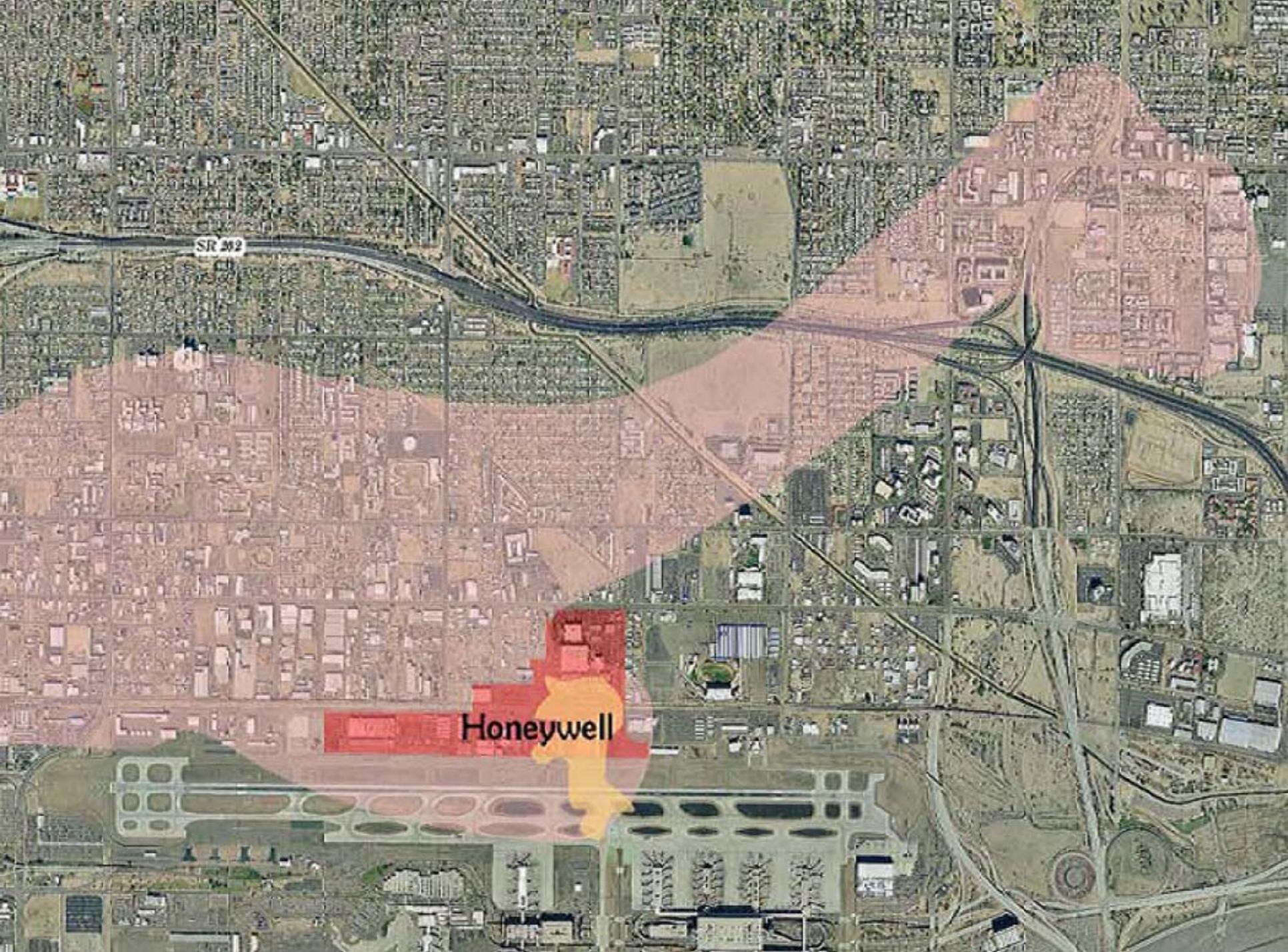
OU2 Effectiveness

- Honeywell and Freescale continue to operate the treatment system with EPA and ADEQ oversight:
 - 1.03 billion gallons of water treated in 2008
 - From 2001 (start-up) to 2008, over 7.86 billion gallons of water have been treated
 - Approximately 993 pounds of VOCs removed in 2008
 - Estimated total of over 10,796 pounds removed since start-up



OU2 Ongoing Challenges

- Boron mixing zone
- Additional PRP work
 - Honeywell 13 & 21
 - Aviall
 - Joray/Kachina
- Groundwater decline due to drought conditions and overpumping
- EW-S: low pumping rate could compromise plume capture in the south if further reductions are needed
- The OU2 Treatment Plant is an Interim Remedy

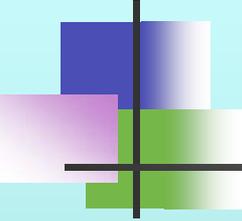


SR 202

Honeywell

Honeywell 34th Street

Recent Activities



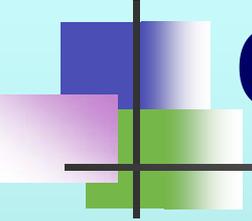
- BSVE System began operation the end of May – currently 9 wells online
- Since June 1999, approximately 7,274 gallons of separate phase jet fuel recovered
- Quarterly sampling completed in June – report expected in August.

Honeywell 34th Street

Pending Activities

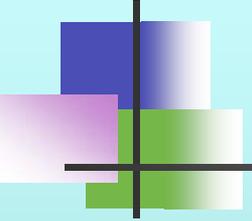
- Approximately 1 week (7 days) to bring a well online – about 4 more months for complete system
- Quarterly sampling in September
- Focused Feasibility Study data gap fieldwork completed
- Focused Feasibility Study tech memo regarding additional data

Honeywell 34th Street Ongoing Challenges



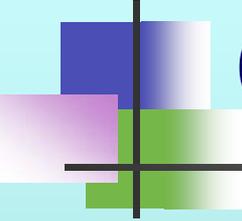
The final groundwater remedy (cleanup) for OU2 will need to address all the chemicals of concern for both the Superfund site and the jet fuel releases at the Honeywell Facility

OU3 Administrative Order on Consent (AOC) and Statement of Work (SOW) for Remedial Investigation and Feasibility Study (RI/FS)



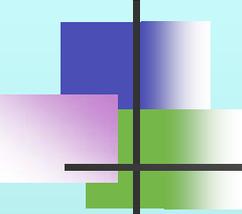
EPA and ADEQ have negotiated an AOC and an SOW with two Potentially Responsible Parties (PRPs), Honeywell and the Arizona Public Service Company, to conduct an RI/FS and prepare a Baseline Groundwater Human Health Risk Assessment

- **RI work**
- Install 8 groundwater monitoring wells to fill in data gaps
- Install 3 soil vapor monitoring wells in the core of the plume
- Data from the soil vapor monitoring wells will help determine if vapors are migrating up from contaminated groundwater
- Soil vapor data will be used in the Risk Assessment to evaluate the vapor intrusion to indoor air pathway



OU3 Pending Activities

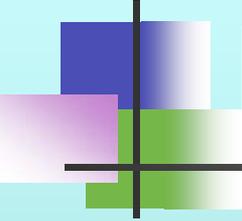
- Fall 2009 – Final Work Plan, Field Sampling Plan and Quality Assurance Project Plan
- Winter 2010 – Install groundwater monitoring wells and soil vapor monitoring wells
- 90 days after Notification of Completion of Field Work – Draft RI Report and Draft Groundwater Baseline Risk Assessment
- 45 days after approval of RI – Draft OU3 Feasibility Study Work Plan



ADEQ & EPA

Announcements

- **Please fill out a feedback form**
- **Please sign up for the Site Mailing List**
- **Site Information is available online**
 - www.epa.gov/region09/Motorola52ndSt
 - <http://www.azdeq.gov/environ/waste/sps/phxsites.html#mot52a>
- **Document Repository Locations**
 - **ADEQ Records Center (M-F 8:30am-4:30pm)**
1110 W. Washington St. Phoenix, AZ 85007 (602) 771-4154
 - **Phoenix Public Library, Saguaro Branch**
2802 North 46th St. Phoenix, AZ (602) 262-4636
 - **Burton Barr Central Library**
1221 N. Central Ave. Phoenix, AZ 85004 (602) 262-4636



How to Contact ADEQ

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OU1/OU2 Project Manager

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Wayne Miller

Project Hydrologist

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Joellen Meitl

OU3 Project Manager

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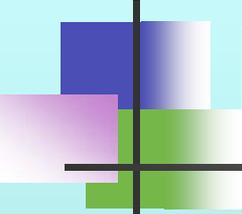
Meitl.Joellen@azdeq.gov

Wendy Flood

Community Involvement Coord.

(602) 771-4410

Flood.Wendy@azdeq.gov



How to Contact EPA

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Rosetti.Leana@epa.gov

Andria Benner
OU2/ OU3 Project
Manager
(415) 972-3189
Benner.Andria@epa.gov

EPA Toll-free Message Number:
1-800-231-3075

Janet Rosati
OU3 Project Manager
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Rosati.Janet@epa.gov

Motorola 52nd St. Superfund Site

ADEQ/EPA Community Meeting

Honeywell Activities Update

Troy Kennedy - Honeywell

July 22, 2009

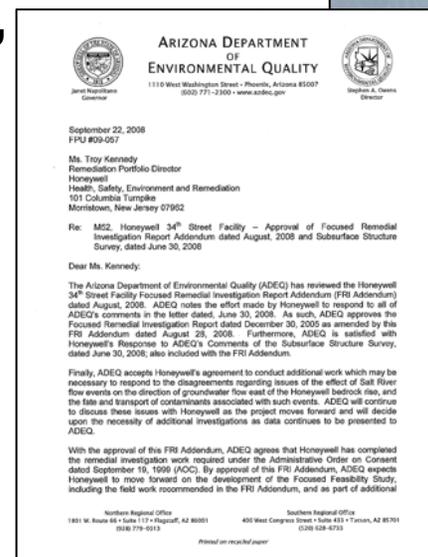
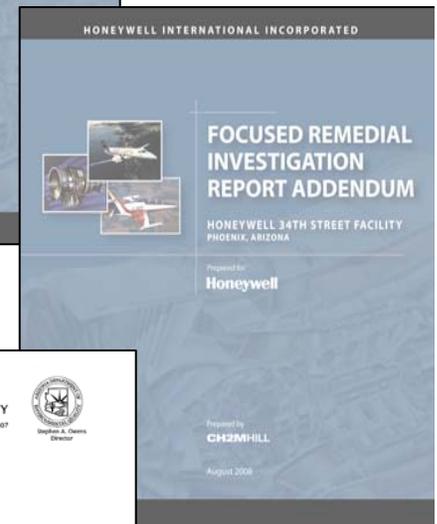
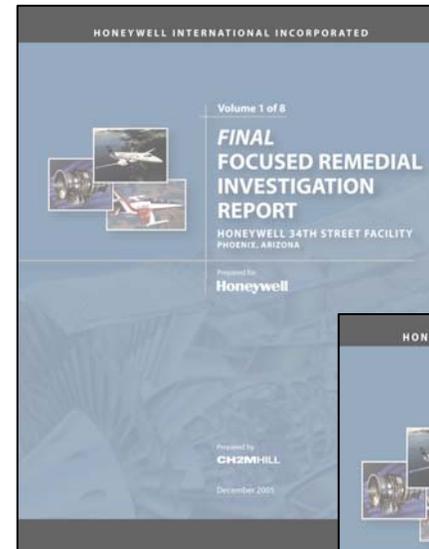
Honeywell

Honeywell Activities Update

- **Focused Remedial Investigation Report and Addendum - *Approved***
- **Focused Feasibility Study (FFS) Work Plan - *Approved***
 - Purpose of FFS
 - Additional Field Work
 - FFS Approach
 - Schedule

Overview of Approvals

- **Focused Remedial Investigation Report and Addendum Approved**
 - Conducted FRI at Facility under AOC with ADEQ - beginning in 1999
 - FRI Report submitted to ADEQ December 2005
 - Agency comments received on June 3, 2008
 - FRI Addendum (addressing ADEQ comments) submitted August 2008
 - ADEQ approved both documents (collectively referred to as FRI Report) on September 22, 2008



Summary of Work Completed

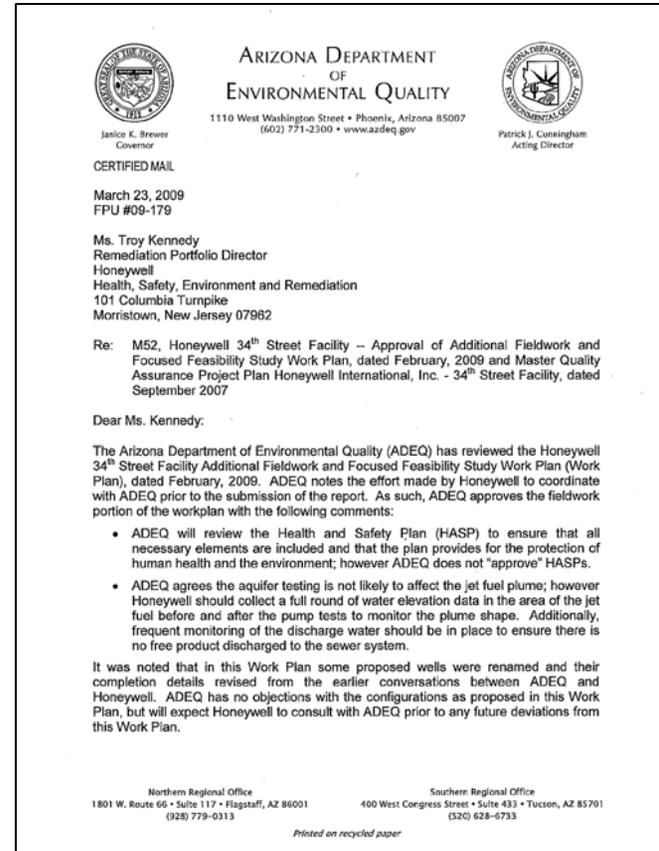
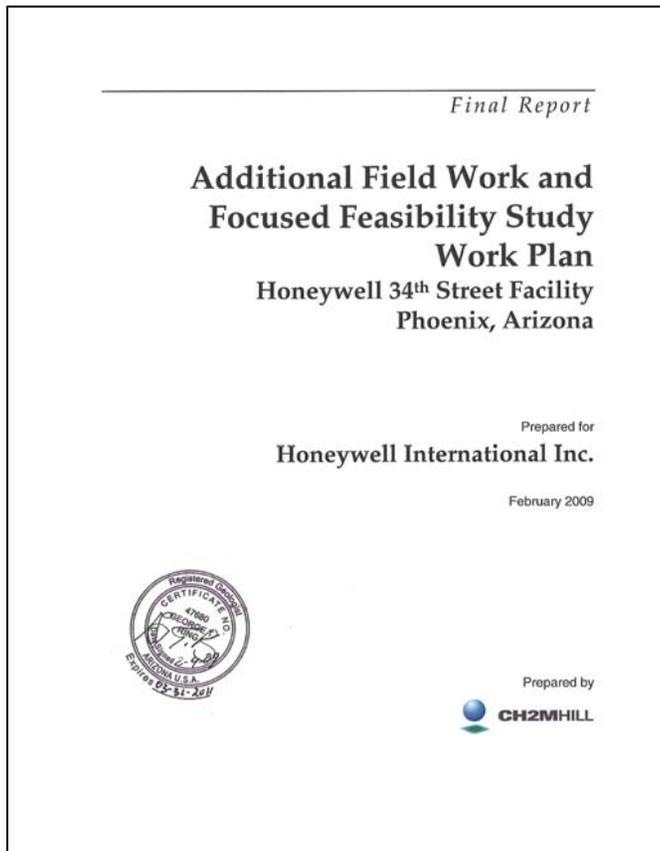
Honeywell

- **More than 1,000 soil-vapor/soil-gas samples collected at the Facility**
- **More than 1,400 soil samples collected at the Facility**
- **161 Groundwater Monitoring Wells**
 - Quarterly sampling and reporting between 1992 and 2002
 - Semi-annual sampling and reporting between 2002 and September 2007
 - Annual sampling and reporting began September 2008
- **Over 7,000 gallons of free product removed**

Extensive Site Characterization has been Completed

Overview of Approvals (cont'd)

- **Focused Feasibility Study**
 - **Work Plan submitted on February 6, 2009**
 - **ADEQ approved Work Plan on March 23, 2009**



Purpose of FFS

- **Conduct additional field work**
 - Data-gaps identified in FRI Report and Addendum
 - Aquifer Testing
- **Continue groundwater monitoring**
- **Conduct alternatives evaluation**

ADEQ Will Select Remedial Action

Additional Field Work – *to Fill Data Gaps*

Honeywell

- **September 2008 Groundwater Monitoring (completed)**
- **Supplemental Subsurface Structures**
 - Shallow soil-gas survey at 11 structures (completed)
 - Shallow soil-gas survey around Building 302 (completed)
 - Collect soil samples at 4 structures (pending)
- **Groundwater Monitoring Well Installation (5 wells) (pending)**
 - 1 replacement well (ASE-22AR to replace ASE-22A)
 - 1 well to evaluate groundwater near Sump 1-AU
 - 2 wells for aquifer test near ASE-22B
 - 1 well to evaluate groundwater between ASE-22B & ASE-72B
- **Aquifer Test (pending)**
 - At ASE-117B
 - To evaluate hydraulic characteristics near ASE-22B
- **September 2009 Groundwater Monitoring (pending)**

FFS – Overall Steps

- **Define Remedial Action Objectives**
- **Identify Applicable or Relevant and Appropriate Requirements (ARARs)**
- **Technology Screening**
- **Compile Alternatives**
- **Detailed Analysis of Alternatives**
 - **9 Superfund criteria**
 - **Consider sustainability (i.e., air emissions, nonrenewable energy/natural resources consumption, nonrecycled waste generation, human health/social factors)**
- **Present Preferred Alternative to ADEQ**

ADEQ Will Select Remedial Action

- **Field Work**

- **Shallow Soil-Gas Survey (completed June 1-9, 2009)**

- ◆ Data evaluation is in progress

- **Upcoming Field Work (Aug-Dec 2009)**

- ◆ Soil Sampling
 - ◆ Well Installation
 - ◆ Aquifer Testing

- **Reporting**

- **2008 Annual Groundwater Monitoring Report (March 2009)**

- **Additional Data Collection Tech Memo (early-2010)**

- **2009 Annual Groundwater Monitoring Report (March 2010)**

- **Draft FFS Report (mid-2010)**

Questions?

Honeywell