

recommended in the First Five-Year Review. They opted instead to file internal land use restrictions, which have the same practical effect as VEMURs.

The ICs that are in place include prohibitions on the use or disturbance of soil, excavation activities, disturbance of the cap, and any other activities or actions that might interfere with the implemented remedy. No activities were observed that would have violated the ICs. The cap at ST-18 and restricted areas were undisturbed, and no new land use was observed at any of the PSCs inspected.

6.1.5 Interviews

Interviews were conducted with various parties connected to the site. Joyce Clark, owner of nearby property and CAB member, was interviewed on October 16, 2006. Ms. Clark stated that the CAB's interaction with Luke AFB was successful. Two other nearby residents, Dan Salzler and Martin Jefferies, were attempted to be interviewed on October 17, 2006. Mr. Salzler did not return telephone or electronic mail messages. Mr. Jefferies has moved from the area and could not be reached. Stacy Duffy, a representative of the ADEQ, was interviewed, and stated that she was satisfied with the progress of the environmental restoration program at Luke AFB, and that communication between ADEQ and Luke AFB as it related to the project was successful. Ms. Duffy indicated that ADEQ needed at least 60 days to review deliverables. Alan Thomas, the Luke AFB Restoration Program Manager, was interviewed on October 17, 2006. Mr. Thomas deemed the five-year review process at Luke AFB to be highly successful. He also noted that some of the monitoring wells may have to be replaced to address the fact that some well screens are submerged and two have collapsed. Jeff Rothrock, the Base point of contact, completed his interview questionnaire on November 6, 2006 and also noted that the project was a success citing the history of events. Mr. Rothrock specifically noted that Luke AFB was the first active duty Air Force installation to be de-listed from the EPA's National Priorities List.

Table 6.1
Administrative Components Summary
Luke AFB, Arizona

| Administrative Component | Start Date | Finish Date |
|---------------------------------|-------------------|--------------------|
| Community Involvement | October 16, 2006 | November 15, 2006 |
| Document Review | July 11, 2006 | October 27, 2006 |
| Data Review | July 11, 2006 | October 27, 2006 |
| Site Inspection | August 2005 | August 2006 |
| Interviews | October 16, 2006 | November 15, 2006 |
| Report Development and Review | August 28, 2006 | January 15, 2007 |

Table 6.2
Applicable or Relevant and Appropriate Requirements
Luke AFB, Arizona

| Medium/Authority | ARAR | Status | Requirement Synopsis | Action to Achieve ARAR |
|-------------------|---|--------------------------|---|---------------------------|
| Groundwater/SDWA | Federal – SDWA - MCLs (40 CFR Part 141.11-141.16) and non-zero MCLGs. | Relevant and Appropriate | MCLs have been adopted as enforceable standards for public drinking water systems: MCLGs are non-enforceable levels for such systems. | None (see Section 6.1.3). |
| Groundwater/USEPA | Federal – SDWA – Region 9 PRGs Table 2002 Update. | To be considered | PRGs are generic and based on direct contact exposures which may not address site specific conditions or indirect exposure pathways. | None (see Section 6.1.3). |
| Groundwater/State | State – SDWA - Title 18, Environmental Quality. Chapter 11, DEQ QQS. Supplement 03-01. Article 1, Numeric QQS, Appendix A - Numeric QQS, Table 1 – Human Health and Agricultural Designated Uses. | Relevant and Appropriate | MCLs are established for contaminants under Arizona administrative code title 18, chapter 11. All public water systems must comply with the levels of contaminants. | None (see Section 6.1.3). |
| Soil/RCRA | Federal - RCRA - Criteria for Classification of Solid Waste Disposal and Practices (40 CFR Part 257). | Relevant and Appropriate | Solid wastes containing contaminants greater than the health-based standards established during the completion of the site specific risk assessment were addressed during removal and remedial activities to meet the goals calculated. | None (see Section 6.1.3). |
| Soil/USEPA | Federal – RCRA – Region 9 PRGs Table 2002 Update. | To be considered | PRGs are generic and based on direct contact exposures which may not address site specific conditions or indirect exposure pathways. | None (see Section 6.1.3). |

**Table 6.2 (continued)
Applicable or Relevant and Appropriate Requirements
Luke AFB, Arizona**

| Medium/Authority | ARAR | Status | Requirement Synopsis | Action to Achieve ARAR |
|------------------|---|--------------------------|---|---------------------------|
| Soil/RCRA | State - RCRA - Title 18, Environmental Quality. Chapter 7, DEQ RA. Supplement 06-01. Article 2, Soil Remediation Standards, Appendix A - Soil Remediation Levels. | Relevant and Appropriate | Solid wastes containing contaminants greater than the health-based standards established during the completion of the site specific risk assessment were addressed during removal and remedial activities to meet the goals calculated. | None (see Section 6.1.3). |

Notes:

DEQ
MCL
MCLG
PRG
RA

Department of Environmental Quality
maximum contaminant level
maximum contaminant level goal
preliminary remediation goal
remedial action

WQS
RCRA
SDWA
USEPA

water quality standard
resource conservation and recovery act
safe drinking water act
United States Environmental Protection Agency

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Table 6.3
Groundwater Organic Analytical Data
Exceedences for PSC FT-07E
Luke AFB, Arizona

| Sample Date | Location | VOCs | | | | | | | | | | | | | | | SVOC | | |
|-------------|----------|-----------------------------|------------|------|---------------|------|------|--------------------|-----|------|-----------------------|-----|------|-----------------------|-----|------|----------------------------|-------------|-----|
| | | 1,2-Dibromo-3-chloropropane | | | Chloroform | | | 1,2-Dichloroethane | | | Dibromo-chloromethane | | | Bromo-dichloromethane | | | Bis(2-ethylhexyl)phthalate | | |
| | | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL |
| 0.20 | 0.048 | NE | 5.00 | 0.17 | 7.00 | 5.00 | 0.12 | NE | 100 | 0.13 | 80.0 | 100 | 0.18 | 80.0 | NE | 4.80 | NE | | |
| 01/23/92 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 01/23/92 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 07/15/92 | MW-110 | | NA | | 2.00 | | | 3.00 | | | ND | | | ND | | | | ND | |
| 12/08/92 | MW-110 | | 110 | | ND | | | ND | | | ND | | | ND | | | | ND | |
| 03/16/93 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 03/16/93 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 06/10/93 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | 33.0 | |
| 06/10/93 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 11/09/93 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 11/09/93 | MW-110 | | NA | | 1.00 | | | ND | | | ND | | | ND | | | | ND | |
| 05/12/94 | MW-110 | | NA | | 2.00 | | | ND | | | ND | | | ND | | | | ND | |
| 07/15/92 | MW-111 | | NA | | ND | | | 1.00 | | | 1.00 | | | ND | | | | ND | |
| 06/16/93 | MW-111 | | NA | | ND | | | ND | | | ND | | | ND | | | | 15.0 | |
| 07/14/94 | MW-123 | | NA | | 7.90 | | | ND | | | 11.0 | | | 2.30 | | | | ND | |
| 12/07/94 | MW-123 | | NA | | 1.40 | | | ND | | | ND | | | ND | | | | ND | |
| | | | NA | | 1.60 | | | ND | | | ND | | | ND | | | | ND | |
| 02/23/95 | MW-123 | | NA | | 2.00 | | | ND | | | ND | | | ND | | | | NA | |
| 11/11/97 | MW-123 | | NA | | 2.70 J | | | ND | | | ND | | | ND | | | | NA | |
| 05/13/98 | MW-123 | | NA | | 2.40 J | | | ND | | | ND | | | ND | | | | NA | |
| 11/05/98 | MW-123 | | NA | | 1.60 J | | | ND | | | ND | | | ND | | | | NA | |

- Notes:
- Sample results are reported in micrograms per liter
 - Shaded results exceed a standard
 - Bold results indicate compound was detected
 - Prior to 1994 tentatively identified compounds (TIC) were reported in unknown quantities
 - Data prior to 1996 sampling was determined to be of unknown quality; therefore, it cannot be used for decision-making purposes

AWQS Arizona water quality standards
 J estimated concentration
 MCL Environmental Protection Agency maximum contaminant level
 NA not analyzed
 NE not established
 ND not detected
 PRG Environmental Protection Agency Region 9 preliminary remediation goal
 SVOC semivolatile organic compound
 VOC volatile organic compounds

Table 6.4
Groundwater Organic Analytical Data for PSC RW-02
Luke AFB, Arizona

| Sample Date | Location | SVOC | | |
|-------------|----------|----------------------------|------|-----|
| | | Bis(2-ethylhexyl)phthalate | | |
| | | AWQS | PRG | MCL |
| | | NE | 4.80 | NE |
| 06/17/93 | MW-115 | 63.0 | | |
| 05/19/94 | MW-115 | 5.00 J | | |
| 05/19/94 | MW-116 | 8.00 J | | |

Notes:

- Sample results are reported in micrograms per liter
- Bold results indicate compound was detected
- Prior to 1994 tentatively identified compounds (TIC) were reported in unknown quantities
- Data prior to 1996 sampling was determined to be of unknown quality; therefore, it cannot be used for decision making purposes

AWQS Arizona water quality standards
 J estimated concentration
 MCL Environmental Protection Agency maximum contaminant level
 ND not detected
 NE not established
 PRG Environmental Protection Agency Region 9 preliminary remediation goal
 SVOC semivolatle organic compound

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Table 6.5
Groundwater Organic Analytical Data
Exceedences for PSC SD-20
Luke AFB, Arizona

| Sample Date | Location | VOCs | | | | | | | | | | | | | | | | | | SVOC | | |
|-------------|----------|--------------------|--------|------|---------------------|------|------|-----------------------|------|------|------------|------|------|-------------------|--------|-------|-----------------|--------|------|-----------------------------|-----|------|
| | | 1,2-Dichloroethane | | | 1,2-Dichloropropane | | | Bromodichloro-methane | | | Chloroform | | | Tetrachloroethene | | | Trichloroethene | | | Bis(2-ethylhexyl) phthalate | | |
| | | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL |
| 5.00 | 0.12 | NE | 5.00 | 0.16 | NE | 100 | 0.18 | 80.0 | 5.00 | 0.17 | 7.00 | 5.00 | 0.10 | 5.00 | 5.00 | 0.028 | 5.00 | NE | 4.80 | NE | | |
| 12/12/91 | MW-102 | | ND | | | ND | | | ND | | | ND | | | ND | | | ND | | | | 14.0 |
| 12/09/91 | MW-103 | | ND | | | ND | | | ND | | | ND | | | ND | | | ND | | | | 32.0 |
| 12/01/92 | MW-112S | | ND | | | ND | | | ND | | | ND | | | ND | | | 1.00 | | | | ND |
| 03/19/93 | MW-112S | | ND | | | ND | | | ND | | | ND | | | ND | | | 1.00 | | | | ND |
| 06/08/93 | MW-112S | | ND | | | ND | | | ND | | | ND | | | ND | | | 1.00 | | | | ND |
| 07/21/92 | MW-113 | | ND | | | ND | | | ND | | | ND | | | ND | | | 1.00 | | | | ND |
| 12/17/92 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 03/18/93 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 03/18/93 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 03/18/93 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 06/07/93 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 06/07/93 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 11/02/93 | MW-113 | | 1.00 | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 05/09/94 | MW-113 | | ND | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 02/11/95 | MW-113 | | ND | | | ND | | | ND | | | ND | | | ND | | | 2.00 | | | | ND |
| 05/03/95 | MW-113 | | ND | | | 4.00 | | | ND | | | ND | | | ND | | | ND | | | | ND |
| 11/03/98 | MW-113 | | 0.30 J | | | ND | | | ND | | | ND | | | 0.18 J | | | ND | | | | ND |
| 05/11/98 | MW-112S | | ND | | | ND | | | ND | | | ND | | | ND | | | 1.50 J | | | | ND |
| 12/22/98 | MW-112S | | 0.28 J | | | ND | | | ND | | | ND | | | 0.35 J | | | 1.20 J | | | | ND |
| 05/19/99 | MW-113 | | ND | | | ND | | | 6.00 | | | 5.00 | | | ND | | | ND | | | | ND |

Notes:
 - Sample results are reported in micrograms per liter
 - Shaded results exceed a standard
 - Bold results indicate compound was detected
 - Prior to 1994 tentatively identified compounds (TIC) were reported in unknown quantities
 - Data prior to 1996 sampling was determined to be of unknown quality; therefore, it cannot be used for decision-making purposes

AWQS Arizona water quality standards
 J estimated concentration
 MCL Environmental Protection Agency maximum contaminant level
 ND not detected
 NE not established
 PRG Environmental Protection Agency Region 9 preliminary remediation goal
 SVOC semivolatile organic compound
 VOC volatile organic compounds

Table 6.6
Groundwater Organic Analytical Data
Exceedences for PSC SS-42
Luke AFB, Arizona

| Sample Date | Location | VOCs | | | | | | | | |
|-------------|----------|---------------------|--------|-----|--------------------|---------|-----|---------|------|------|
| | | 1,2-Dichloropropane | | | Methylene Chloride | | | Benzene | | |
| | | AWQS | PRG | MCL | AWQS | PRG | MCL | AWQS | PRG | MCL |
| | | 5.00 | 0.16 | NE | NE | 4.30 | NE | 5.00 | 0.35 | 5.00 |
| 08/04/93 | MW-119 | | 1.00 | | | ND | | | ND | |
| 11/05/93 | MW-119 | | 2.00 | | | ND | | | ND | |
| 11/05/93 | MW-119 | | 2.00 | | | ND | | | ND | |
| 05/17/94 | MW-119 | | 2.00 | | | ND | | | ND | |
| 02/02/95 | MW-119 | | 2.00 | | | ND | | | ND | |
| 07/17/97 | MW-119 | | 1.00 J | | | ND | | | ND | |
| 05/16/94 | MW-120 | | 1.00 | | | ND | | | ND | |
| 07/17/97 | MW-120 | | 1.70 J | | | ND | | | ND | |
| 11/05/98 | MW-120 | | 1.40 J | | | 0.25 JB | | | ND | |
| 05/13/94 | MW-121 | | 2.00 | | | ND | | | ND | |
| 05/16/94 | MW-121 | | 2.00 | | | ND | | | ND | |
| 05/16/94 | MW-121 | | 2.00 | | | ND | | | ND | |
| 02/21/95 | MW-121 | | 2.00 | | | ND | | | ND | |
| 02/21/95 | MW-121 | | 2.00 | | | ND | | | ND | |
| 07/17/97 | MW-121 | | 1.40 J | | | ND | | 1.80 J | | |
| 11/13/97 | MW-121 | | 1.70 J | | | ND | | | ND | |
| 05/14/98 | MW-121 | | 1.80 J | | | ND | | 1.80 | | |
| 11/15/98 | MW-121 | | ND | | | 34.0 JB | | 17.0 | | |
| 11/05/98 | MW-121 | | ND | | | 0.04 JB | | 19.0 | | |
| 07/19/97 | MW-125 | | 1.00 J | | | ND | | | ND | |
| 07/19/97 | MW-125 | | 1.10 J | | | ND | | 3.40 J | | |
| 11/13/97 | MW-125 | | 1.20 J | | | ND | | | ND | |
| 11/13/97 | MW-125 | | 1.30 J | | | ND | | | ND | |
| 05/14/98 | MW-125 | | 1.60 J | | | ND | | | ND | |
| 11/05/98 | MW-125 | | 1.20 J | | | 0.21 JB | | | ND | |
| 08/21/03 | MW-125 | | 1.60 | | | ND | | | ND | |

Notes:

- Sample results are reported in micrograms per liter
- Shaded results exceed a standard
- Bold results indicate compound was detected
- Prior to 1994 tentatively identified compounds (TIC) were reported in unknown quantities
- Data prior to 1996 sampling was determined to be of unknown quality; therefore, it cannot be used for decision making purposes

| | |
|------|---|
| AWQS | Arizona water quality standards |
| B | compound detected in blank |
| J | estimated concentration |
| MCL | Environmental Protection Agency maximum contaminant level |
| ND | not detected |
| NE | not established |
| PRG | Environmental Protection Agency Region 9 preliminary remediation goal |
| VOC | volatile organic compound |