

APPENDIX H

RESPONSE TO COMMENTS

RESPONSE TO TECHNICAL REVIEW COMMENTS
to the
DRAFT SECOND FIVE-YEAR REVIEW REPORT
from
ENVIRONMENTAL PROTECTION AGENCY REGION 9
LUKE AIR FORCE BASE, ARIZONA
Contract No. F41624-03-D-8602, Task Order 0057

Reviewer comments provided by the Luke Air Force Base Restoration Program Manager, received by HydroGeoLogic, Inc., on May 9, 2007.

General Comments:

Comment 1 *At a number of places the Draft Five-Year Review (FYR) Report asserts that “DEURs were formerly known as VEMERs”. This statement is incorrect and misstates the nature of the institutional controls (ICs) associated with the IRP sites at Luke AFB. A DEUR is a restriction on the use of property which is enforceable by the State. A VEMER is a Notice which describes restrictions on the use of the property but is not an enforceable restriction. When the State enacted the DEUR requirements, it did not provide for the automatic conversion of VEMERs to DEURs. If a VEMER is shown to be ineffective, it could be replaced or superseded by a DEUR. According to the draft FYR Report, VEMERs were recorded for a number of sites in 2000. Those Notices remain a matter of public record, they did not become DEURs. If there is not evidence to suggest that the restrictions contained in the VEMERs have not been complied with, there is no reason to modify the existing approach, but it should be correctly described in the FYR Report. Please revise the text to clarify the documentation of the VEMERs and the DEURs.*

Response **All references to the DEURs will be removed from the Five-Year Review.**

Comment 2 *There was only one groundwater sampling result included in the data review during this second FYR period. All the other results were prior to 2001. Please include the summary of the recent groundwater sampling results to justify the protectiveness.*

Response **Section 6.1.3.1 will be revised to include the three reported detections since 2003.**

SPECIFIC COMMENTS:

Item 1 *The title page: Please remove the signature block for the EPA Remedial Project Manager (RPM) since the EPA RPM is not authorized to sign off on this FYR Report. The Chief of the Federal Facilities and Site Cleanup Branch will sign off on the FYR Report. The signature block needs to be included in the Protectiveness Determination.*

Response **The page will be updated when the necessary information is provided. Also, this page will be moved to Section 10.**

Item 2 *Page ES-1, 3rd paragraph, last 2 sentences: The sentences state that DEURS (formerly known as VEMURS) were emplaced for each site where ICs were selected as part of the remedy. However, p.6-6 (Section 6.1.4) says that VEMURS/DEURS were not emplaced at areas DP-23 and ST-18, and that internal land-use restrictions were used instead. Please revise the sentences reflect this.*

Response **“DEURS (formerly known as VEMURS)” will be replaced with internal land-use restrictions**

Item 3 *Protectiveness Determination: A signature page for all agencies’ signatures (e.g., the Air Force, EPA, and the Arizona Department of Environmental Quality) needs to be included in the Report. It should follow the site-wide protectiveness determination. A sample of the signature page will be forwarded to Luke AFB via email. The Final FYR Report will have to be signed by an appropriate Air Force representative (Senior Management level) before EPA concurs on the Report.*

The protectiveness determination should include protectiveness statements for OU-1, OU-2 and site-wide. A sample protectiveness determination is as follows:

The remedies at OU-1 and OU-2 currently protect human health and the environment because the exposure pathways that could result in unacceptable risks are being controlled and institutional controls are preventing exposure to contaminated soil. Soil concentrations are

below levels that could impact groundwater, and groundwater results verify that the groundwater is no longer impacted by soil contamination. Some monitoring wells will need to be replaced to verify that the remedy continues to protect groundwater.

Because the remedial actions at all OUs are protective, the site is protective of human health and the environment.

The signature blocks for all agencies should follow this protectiveness determination on the same page. Please see the sample via email

Response **After receipt of the example, the document will be updated as requested.**

Item 4 *Section 7.1, page 7-1, Assessment of Site-Specific Remedies: For many of the areas, the answer to Question A describes how the institutional control (IC) consists of the Base General Plan (BGP) requiring any development to be approval through AF Form 332, and that the forms are not approved at sites where ICs are in place. Please clarify how this internal process works. Do standard operating procedures require the reviewer to check the BGP of the Institutional Control Plan (ICP) for any restrictions that apply to an area? This comment applies to the following sections:*

- a. 7.1.1, DP-13*
- b. 7.1.2, FTE-07E*
- c. 7.1.3, LF-03*
- d. 7.1.4, LF-14*
- e. 7.1.5, LF-25*
- f. 7.1.6, RW-02*
- g. 7.1.7, SD-38*

Response **Yes. This process will be further clarified in the text.**

Item 5 *Section 7.1, Assessment of Site-Specific Remedies: Some of the areas appear to only be concerned about soil, not groundwater. However, these areas frequently state in response to Question B that “The media of concern at this site are soil and groundwater”. It would be clearer to the readers if the FYR Report can be specific to each area since that is how the FYR Report is broken down. For example, the FYR Report can state “At SD-38, the media of concern*

is soil". Then delete the discussion about the changes related to groundwater.

Response **This statement was made globally for the sites where groundwater samples were collected. Considering that no contaminant has ever been reported above a clean-up standard in a groundwater sample, groundwater will be removed from this and other applicable sites.**

Item 6 *Section 7.1.6, page 7-9, RW-02: Wastewater Treatment Annex Landfill: The only monitoring well at this area has collapsed. Is there any data from the past five years from this well? The only data included in the FYR Report was prior to 1994. Please justify the protectiveness statement for RW-02. Also, please include the summary of the radiological monitoring data for RW-02.*

Response **The well has not been sampled in the last five years. However, there is analytical data from 1994 to 1998. The historical data suggests that the groundwater has not been impacted. The data summary tables from the RI/FS are included in the Five-Year Review as Appendix D.**

A discussion of the last five years of radiological monitoring will be included as requested.

Item 7 *Section 7.1.8, page 7-12, SS-42: Bulk Fuels Storage Area: Please include the justification to drop SS-42 from the ICP (Table 8.1, Issues Summary). What has changed that would warrant this elimination.*

Response **The Record of Decision did not stipulate that SS-42 be included in the Institutional Control Plan; therefore, it should not have been included in the Institutional Control Plan.**

Item 8 *Section 7.1.9, page 7-14, SD-20: Oil/Water Separator and Earth Fissure: It is stated in the first paragraph that PCE and TCE have impacted groundwater above ARARs. The next paragraph states that "groundwater is not impacted". The first paragraph was probably referred to the historic data, not the recent data. Again, the recent data was not included to support this statement. This section should explain why the groundwater is not impacted.*

Response **Concur. Additional text will be added to clarify that the recent analytical data has not documented a detectable levels of contamination.**

Item 9 *Section 7.1.10, page 7-15, ST-18: Former Liquid Waste Storage Facility (Facility 993): The answer to Question A states that land use restrictions are in place. Please describe how these restrictions work. For the other areas, the FYR Report described how the BGP requires AF Form 332 to be approved, etc. Does this apply to this area as well? Also, the FYR Report indicates in Section 8 that the BGP does not state that this area is restricted. Please state that in this paragraph as well.*

Response **A summary of the approval process will be included and a statement will be inserted pertaining to the current status of ST-18 in the Base General Plan.**

Item 10 *Section 7.1.11, page 7-17, DP-23: Old Surface Impoundment West of Facility 993: The answer to Question A states that land use restrictions are in place, and the answer to Question C states that internal land use restrictions were emplaced instead of a VEMER/DEUR. Please describe how these restrictions work. For the other areas, the FYR Report described how the BGP requires AF Form 332 to be approved, etc. Does this apply to this area as well? Also, the FYR Report indicates in Section 8 that the ICP and the BGP do not state that this area is restricted. Please state that in this paragraph as well.*

Response **A summary of the approval process will be included and a statement will be inserted pertaining to the current status of DP-23 in the Base General Plan.**

Item 11 *Section 10.0, page 10-1, Protectiveness Statement: Further clarification of the land use restrictions for areas DP-23 and ST-18 is needed before we can confirm that the implemented remedy is currently protective. We are not sure whether the land use restrictions for these two areas are actually in place at this time, since the BGP does not state that these two areas are restricted.*

Response

As noted for items 10 and 11, the process for obtaining clearance to conduct construction/excavation activities in these areas will be explained.

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to the
DRAFT SECOND FIVE-YEAR REVIEW REPORT
from
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
LUKE AIR FORCE BASE, ARIZONA
Contract No. F41624-03-D-8602, Task Order 0057

Reviewer comments provided by the Luke Air Force Base Restoration Program Manager, received by HydroGeoLogic, Inc., on May 9, 2007.

General Comments:

Comment 1 *ADEQ agrees with the recommendation to replace the groundwater monitoring wells due to rising groundwater levels where the well screen is submerged and no longer brackets the water table in addition to replacing the collapsed monitoring wells MW-123 and MW-124.*

Response **None**

Comment 2 *The long term monitoring at the Bulk Fuels Storage area PSC SS-42 required five years of groundwater monitoring. It appears that four of the five years have been accomplished. The future groundwater monitoring plans at this site should be discussed further.*

Response **The five years of monitoring began in 2002, was executed annually, and concluded in 2006. Thus, the five years of groundwater monitoring has been completed.**

Comment 3 *It was not clear from the report what laboratory was used for the most recent groundwater samples? Also, is the lab an Arizona Department of Health Services (ADHS) certified lab?*

Response **Aerotech Environmental Laboratories (AEL) of Phoenix, Arizona conducted the analysis of the samples collected at the site. Their Arizona certification number is AZ0610. This information will be added to the report.**

Comment 4 *In numerous sections within the report it is stated that; “Any development at the site must be approved through AF Form 332 by the Base Chief of Operations. These forms will not be approved at sites such as _____ where land use restrictions are in place.” It should be explained in the text how this assurance will be met in the future. If this is cited in a regulation or publication then it should be stated where and in what form. Otherwise this restriction might have little meaning in the event of new leadership or organization.*

Response **Section 2.3.1 of the Institutional Control Plan describes the implementation of Air Force Form 332 at Luke Air Force Base. A reference to this plan will be inserted into the document where appropriate.**

Comment 5 *The remedial alternatives developed for the site by Geraghty & Miller (1997) should be defined at the end of each section discussing the history of contamination for sites FT-07E, LF-03, LF-14, LF-25 and SD-38 beginning on page 3-6.*

Response **Brief summaries of the remedial alternatives will be added to the sections listed above.**

SPECIFIC COMMENTS:

Item 1 *Page 3-1, 3.1.1.1, **Physiography** – It is suggested that the first sentence in the first paragraph be revised to read: “The installation is located in the Basin and Range physiographic province, which is characterized by mountains that extend in a (delete “north-south”, insert “northwest-southeast”) direction.”*

Response **Concur. This will be added to the report as suggested.**

Item 2 *Page 3-3, 3.1.1.3, **Regional Hydrology, Aquifer Units** – It is suggested that the first two complete sentences on this page be revised to read: “Historically, withdrawals in excess of recharge have created declines in (delete “water”, insert “groundwater”) levels in the Luke AFB area of 300 feet. However; recent changes in groundwater use have increased recharge have caused (delete “water”, insert “groundwater”) levels to recover as described below in Section 3.1.1.4.”*

Response **Concur. This will be added to the report as suggested.**

Item 3 *Page 3-6, 3.3.3.2, FT-07E History of Contamination – It is suggested that the second sentence in the second paragraph be revised to read: “Samples of the wastes collected from test pit TP-5 at depths of 7-8 feet bgs contained chromium at a concentration of 386 mg/kg (delete “, respectively).”*

Response **Concur. This will be added to the report as suggested.**

Item 4 *Page 3-9, 3.3.6.1, RW-02 Site Description – Last sentence of the first paragraph states that the radioactive waste burial area is fenced and designated with a concrete marker. Is this concrete marker permanent and did it replace the tire barrier previously marking the site?*

Response **Yes, the marker is permanent. No, tires still surround the marker.**

Item 5 *Page 3-9, 3.3.7.2, SD-20 History of Contamination – The third sentence states that three new monitoring wells were installed to augment the two existing wells. The map shows only Wells MW-112D, MW-112S, and MW-113, and Section 3.3.7.3 discusses sampling these three wells only. If other wells exist they should be located on the map and it should be defined as to why they are not sampled. If they no longer exist it should be noted what happened to them and where they were located.*

Response **The reference to the wells not sampled will be removed.**

Item 6 *Page 3-9, 3.3.7.2, SD-20 History of Contamination – it is suggested that the fifth sentence in this section be revised to read: “The soils at PSC SD-20 were found to contain (delete second “contain”) total recoverable petroleum hydrocarbons (TRPHs), benzo(a)pyrene, arsenic, and beryllium at low concentrations.”*

Response **Concur. This will be added to the report as suggested.**

Item 7 *Page 3-10, 3.3.8.2, SD-38 History of Contamination – Sentences 3 and 4 of this section appear to be redundant descriptions of the same events. It is suggested that these sentences be deleted and replaced by: “In May, 1992, during the OU-1 investigation, three soil borings were advanced and sampled to further evaluate the nature of any impacts to the site and to assess the vertical and horizontal extent of those impacts.”*

Response **The sentences will be combined.**

Item 8 *Page 3-11, 3.3.9.1, Site Description – The first sentence in this paragraph should be revised to read: “PSC SS-42 consists of a former leaking underground storage tank (delete “UST”, insert “LUST”) site located within the eastern portion of the bulk fuels storage area of Luke AFB.”*

Response **Concur. This will be added to the report as suggested.**

Item 9 *Page 4-6, RW-02: Wastewater Treatment Annex Landfill- It is stated in this section that radiological monitoring is conducted annually and that the action level was established at twice background. It is recommended that a brief summary quantifying the data be included in the text. For example, “The radiological background levels collected during the July 2005 radiological monitoring event ranged between 11,623 to 18,520 counts per minute. The monitoring results are comparable to the measurements collected from the background monitoring point BG-1.” A photograph of the fencing and signage would also be beneficial to include in the Five-Year review.*

Response **Concur, a radiological monitoring summary will be included along with photographic documentation of the area.**

Item 10 *Page 6-5, Applicable or Relevant and Appropriate Requirements: Soils- It should be noted that the Arizona SRLs will be revised in May 2007. During the next Five-Year Review in 2012 these changes will need to be examined and considered.*

Response **Concur**

Item 11 *Page 6-12, Table 6.5 Groundwater Organic Analytical Data Exceedences for PSC SD-20 Luke AFB, Arizona – Well 112S lists sample dates for November 2, 1934 and March 3, 1940. These dates appear to be in error.*

Response **Concur. The dates will be corrected.**

Item 12 *Page 7-7, 7.1.5, LF-25: Northwest Landfill – The second sentence of the response to Question A should be modified. As the sentence is written it would appear that the lead shot was removed from the impacted soil and that it (the lead shot) was tested before being returned to the site. The sentence should be re-written so that it refers to soil being tested and returned to the site and not lead shot.*

Response **The paragraph will be modified to clarify that the soil was tested not the shot.**

Item 13 *Page 7-12, 7.1.8, SS-42: Bulk Fuels Storage Area – The first and second sentences under the heading of Question A state: “The SVE system was installed and operated under an interim removal action before the OU-1 ROD was signed. Therefore, the SVE component of the remedy was not implemented.” These sentences seem to be contradictory. This might be interpreted to mean that the SVE system was operated under the interim removal action and then removed before the ROD became effective, thereby nullifying the need for further action, but it is not clear to this reviewer. Please clarify how the SVE component was installed before the ROD was signed but was not implemented. If the interpretation is correct, it might be recommended to revise the second sentence to read: “Therefore, the SVE component of the remedy was not re-implemented under the ROD.” or similar wording*

Response **The paragraph will be altered to clearly state that the SVE system was operated.**

Item 14 *Page 7-16, 7.1.10, ST-18: Former Liquid Waste Storage Facility (Facility 993) – The first sentence in the first paragraph of this page should be revised to read: “The only inorganic (insert “constituent”) detected was arsenic, which was reported in four soil samples.” The second sentence should be revised to read: “Arsenic was detected in two surface soil samples at 5.00 mg/kg, which exceeds the industrial*

PRG of 1.60 mg/kg but (delete “arre” [sic], insert “is”) well below the Arizona SRL of 10.0 mg/kg.”

Response **Concur. The report will be revised as indicated.**

Item 15 *Page 7-17, 7.1.11, DP-23: Old surface impoundment West of Facility 993 – The ninth sentence of the second paragraph under Question B should be revised to read: “However, it should be noted that (delete”:”) the impacted soils...” The tenth and eleventh sentences state that: “The composting location is relatively remote and is rarely visited by base personnel. Therefore, the exposure risk is minimal and the current PRG is not applicable.” It should be stated here what safeguards (located on base, security fencing, etc.) are in place to avoid exposure, either accidental or intentional, to civilians.*

Response **Concur. The report will be revised as indicated.**

Item 16 *Page 9-2, Table 9.1 Recommendations/Follow-Up Actions Summary- The comment in the second row states that “The screen of MW-121 at PSC FT-07E is submerged.” It is the reviewers understanding that MW-123 monitors FT-07E and MW-121 monitors SS-42.*

Response **Concur.**