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MEETING NOTES

WMA C RCRA Facility Investigation Report

MEETING DATE: March 26, 2014

LOCATION: 2440 Stevens Center, Richland, WA

ATTENDEES:

Mike Barnes (Ecology)
Joe Caggiano (Ecology)
Susan Eberlein (WRPS)
Rebecca Gerhart (EPA)
Doug Hildebrand (DOE-ORP)
Jenifer Linville (Freestone)
Jeff Lyon (Ecology)
Jared Mathey (Ecology)
Julie Robertson (Freestone)
Beth Rochette (Ecology)
Maria Skorska (Ecology)
Cindy Tabor (WRPS)
Greg Thomas (CHPRC)
Becky Wiegman (WRPS)

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PURPOSE OF MEETING: The meeting was called to promote discussion among Ecology, DOE-ORP, DOE-RL, CHPRC, and WRPS regarding the calendar year 2014 effort to develop a RCRA facility investigation (RFI) report for WMA C. As part of the meeting notes, lists of expectations, agreements, and actions will be documented, and the status of these actions will be tracked.

REVIEW OF EXPECTATIONS AND ACTIONS FROM PRIOR MEETING: There were no expectations from prior meetings to discuss. The results of the discussion of open actions are recorded in tables at the end of these meeting notes. Individual actions will be removed from the list after DOE and Ecology have agreed to close the action.

REVIEW OF DISCUSSION POINTS FROM 2011 RFI REPORT MEETINGS: In 2011, DOE, EPA, and Ecology participated in a series of meetings to discuss the development of a WMA C RFI report. Ms. Robertson handed out a list of discussion points captured in minutes taken during the 2011 meetings and initiated a review of the discussion points. The outcome of the review is incorporated into the tables at the end of these meeting notes. To support the discussion, Ms. Robertson also handed out a revised WMA C RFI report outline showing changes made since January 2014.

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NEXT MEETING: Tentatively set for April 22, 2014, 9:30 am.

ATTACHMENTS:

- Discussion Points from 2011 WMA C RFI Report Meetings
- Revised WMA C RFI report outline showing changes made since January 2014.

R Douglas Hildebrand	R Douglas Hildebrand	4-21-2014
DOE Project Manager (print)	DOE Project Manager (signature)	Date
Michael W Barnes	Michael W Barnes	4-21-2014
Ecology Project Manager (print)	Ecology Project Manager (signature)	Date

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	EXPECTATIONS.
3/26/2014	Ecology expressed an expectation that characterization information for all equipment in the Part A will be discussed in the RFI report.

AGREEMENTS. (2 pages)	
Agreement Date	**Description of the Agreement**
1/23/2014	1. The RFI report will **identify information gaps**. Such gaps will be resolved through future efforts prior to submittal of the WMA C CMS. The meeting attendees felt that this process of gap identification and resolution will support future work prioritization agreements.
	2. Ecology agrees to the **use of the proposed revised RFI report outline** shown in Attachment 1.
2/26/2014	1. The section that addresses regional geology should **use pictures/graphics from the 2010 Natural Systems WMA C Performance Assessment working session** to illustrate the uniqueness of the site (illustrate geology, depict river channeling impacts, etc.).
	2. The description of field sampling techniques should **describe process improvements made over time** and any effects those improvements have made on how the data is interpreted (e.g., surface geophysical exploration, number of samples that can be taken from push borehole).
	3. The RFI report should **reflect on information contained in weekly radiological field survey reports ("rounds sheets")** regarding surface contamination in C Farm. Mr. Barnes noted that many of the unplanned release sites associated with C Farm are based on airborne or surface contamination events, and many of these sites no longer exist (e.g., have been remediated or have dissipated). Such releases are generally documented as "unplanned releases." Convey point that although the surface may be considered uncontaminated today, shallow subsurface contamination may exist across the farm.
	4. The RFI report should **describe changes made in characterization planning as field work progressed**. For example, in the area near the C-200 tanks, initial planning called for direct push investigation. Subsequently, the agencies agreed to investigate that area using surface geophysical exploration (SGE) initially, followed by use of direct push investigation as deemed necessary and feasible based on SGE results and physical limitations in that location.
	5. RFI report sections regarding **nature and extent of contamination and human health and risk assessment will be consistent with information being developed for the separate but parallel WMA C Performance Assessment** effort. The RFI report will incorporate whatever information is available on the topics; information gaps will be identified for subsequent resolution.
2/26/2014 and 3/26/2014	1. To the extent practicable, the RFI report will **include information about liquid sources near or at the surface** (e.g., equipment decontamination activities within the farm, fire hydrant testing, water lines, snow melt, ponds/cribs/ditches) that may have been sources of contamination and/or water infiltration. **Also include UPR descriptions** from WIDS. DOE/RL-88-30 (*Hanford Site Waste Management Units Report*), tank leak-loss reports, the WMA A-AX/C Field Investigation Report, and GJO-98-39-TAR, GJO-HAN-18 (*Hanford Tank Farms Vadose Zone: C Tank Farm Report*) will be reviewed for relevance.
	2. The RFI report will **include characterization information from dry wells, boreholes,**

AGREEMENTS. (2 pages)	
Agreement Date	**Description of the Agreement**
	direct pushes, and near-surface sampling. It will also include characterization information from leaks associated with ancillary equipment (pipelines, French drains, C-301, etc.).
	3. The RFI report **table of contents should include a section that refers to the conceptual site model**. (This information is currently slated to go into Section 5.3.1.) CSM illustrations in RFI report should be consistent with WMA C Performance Assessment models related to nature and extent of contamination if no action were taken.
3/26/2014	1. The introductory section of the RFI document will **incorporate relevant information from the WMA C Phase 2 work plan** (RPP-PLAN-39114), particularly regarding regulatory framework and the regulatory decision-making process.
	2. The RFI report will **incorporate published information about the groundwater monitoring program and groundwater contamination**, including Tc-99, iodine, and nitrate.
	3. The section of the RFI report describing the tank system will **include individual tank timelines** (the "Caggiano diagrams") associated with leaks/losses as well as findings from tank leak-loss reports.
	4. Using information in published reports, the RFI report will **include information about upgradient facilities that are possible sources of groundwater contamination** at WMA C.
	5. The write up of Phase 2 field work will **include time frame when work was conducted/samples taken** at specific locations.
	6. Terms such as "surface" and "sub-surface" will be defined and used consistently.
	7. **Discuss data validation/quality** (e.g., Tc-99 data quality as it relates to analytical method used) in the RFI report. This information is currently slated to go into Section 5.2.1.
	8. **Notes from routine monthly 2011 and 2014 meetings** regarding the development of the RFI **will be incorporated** into the RFI report.

ACTIONS.			
Action Number	**Actionee**	**Description**	**Status**
2014-02-26-1	Hildebrand	DOE will prepare a TPA change package to address the need to revise TPA milestone M-045-61, which calls for submittal of an RFI/CMS report.	Open. In process.
2014-02-26-2	Eberlein	Identify what risk information will be available for inclusion in the RFI report.	Open. Risk assessment will be a topic of a future RFI meeting.
2014-02-26-3	Tabor, Robertson	Contact Rebecca Gerhart (EPA) after 3/9/2014 to discuss desired level of detail to include in RFI report. Consider level of detail in recent 100 Area RI/FS reports. Propose inclusion of summary level information in document and hyperlinks to other documents that provide more detail.	Open. In process.
2014-03-26-1	Tabor, Robertson	Schedule future meeting to review the conceptual site model and stratigraphy at WMA C.	New.

ATTACHMENT 1: Discussion Points from 2011 WMA C RFI Report Meetings

General Discussion Points

- RFI Report will include substantial amount of historic information, not overuse cross-references to other documents. (3/24)

New Section 1: Introduction

- Incorporate relevant text from the Work Plan, particularly with regard to regulatory framework and how the document will support regulatory decision-making. (9/8)

New Section 2: Site Background and Environmental Setting

- Include discussion of impacts groundwater, specifically related to Tc-99, iodine, and nitrate information, and include description of the monitoring program. (3/24, 4/21, 6/2, 8/3)
- Include individual tank timelines associated with leaks/losses. (3/24)
- Address surface water (upgradient and downgradient sources of vadose zone contamination). (4/21, 6/2)
- Address facilities that are hydrologically upgradient from WMA C. (6/2)
- Discuss leak loss assessment findings. (8/3)

New Section 3: Field Investigation Program

- In write up of Phase 2 field work, include time frame when work was conducted/samples taken at specific locations. (3/24)
- Discuss conceptual models related to WMA C PA evaluation. (3/24)
- Define terms and use consistently (e.g., surface and sub-surface, in-situ and ex-situ). (4/21)
- Reference weekly operational maps of scanned WMA C surface where hot spots were noted. (These maps are not released, and their only objective is operational safety for workers.) Provide an example map along with discussion of challenges for mapping associated with operational parameters of the farm (e.g., old surface later covered by gravel). (4/21)
- Include dry well, borehole, direct push, and near-surface sampling/characterization. (4/21, 6/2)
- Include characterization of leaks from pipelines and diversion boxes. (8/3)

New Section 4: Nature and Extent of Contamination

- Discuss data validation. (8/3)

Section 5: Human Health and Ecological Risk Assessment (Not discussed in 2011.)

Section 6: Summary and Conclusions (Not discussed in 2011.)

Appendices

- Include UPR descriptions from WIDS. (8/3)
- Include RFI status meeting minutes as an appendix to Rev. 0. (9/8)

***2011 Meeting Dates:** March 14, March 24, April 21, June 2, August 3, September 8, September 22.

ATTACHMENT 2: Revised WMA C RFI Report Outline
Showing Changes Made Since January 2014

SECTION 1.0 INTRODUCTION
1.1 PURPOSE AND SCOPE
1.2 OVERVIEW
- 1.2.1 Regulatory Framework
- 1.2.2 General Background and History of WMA C

1.3 REPORT ORGANIZATION

SECTION 2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING
2.1 SITE DESCRIPTION
2.2 ~~HANFORD SITE~~REGIONAL HISTORY AND HANFORD OPERATIONS
- 2.2.1 Historical Overview
- 2.2.2 Operations, Facilities, and Processes
- 2.2.3 Contaminant Sources
- 2.2.4 Waste Management

2.3 HANFORD SITE AND REGIONAL ENVIRONMENTAL SETTING
- 2.3.1 Topography
- 2.3.2 Climate
- 2.3.3 ~~Soils~~Geology
- 2.3.4 ~~Geology~~Surface Water
- 2.3.5 ~~Hydrology~~Vadose Zone Recharge
- 2.3.6 Groundwater
- 2.3.7 ~~Surface Water~~Vegetation and Wildlife
- 2.3.8 ~~Vegetation and Wildlife~~Land Use
- ~~2.3.9 Land Use~~

2.4 WMA C SITE ~~DESCRIPTION~~ENVIRONMENTAL SETTING
- 2.4.1 ~~Location and Site Description~~Topography
- 2.4.2 ~~Topography~~Geology
- 2.4.3 ~~Geology~~Surface Water
- 2.4.4 ~~Hydrology~~Vadose Zone Recharge
- ~~2.4.5 Surface Water~~
- ~~2.4.6~~ 2.4.5 Groundwater
- ~~2.4.7~~ 2.4.6 Vegetation and Wildlife
- ~~2.4.8~~ 2.4.7 Land Use

SECTION 3.0 WMA C SITE DESCRIPTION
3.1 LOCATION AND SITE DESCRIPTION
3.2 UNIT DESIGN AND OPERATING CHARACTERISTICS
- 3.2.1 Single Shell Tanks
- 3.2.2 Ancillary Equipment

3.3 WASTE TYPES AND WASTE PROCESSING HISTORY
- 3.3.1 Waste Streams Transferred Into and Out of 100-Series Tanks
- 3.3.2 Waste Streams Transferred Into and Out of 200-Series Tanks

3.4 INTERIM STABILIZATION
3.5 RETRIEVAL
3.6 RELEASE EVENTS AND LEAK EVALUATIONS

SECTION 4.0 ~~3.0~~ FIELD INVESTIGATION PROGRAM
~~3~~ 4.1 PREVIOUS/OTHER INVESTIGATIONS
~~3~~4.2 PHASE 1 RCRA FACILITY INVESTIGATION
~~3~~4.2.1 Phase 1 Investigative Basis and Approach
~~3~~4.2.2 Phase 1 Field Activities
~~3~~4.2.3 Phase 1 Laboratory Analysis
~~3~~4.2.4 Phase 1 Data Evaluation
~~3~~4.2.5 Phase 1 Investigation Results
~~3~~4.2.6 Phase 1 Interim Measures and Interim Corrective Measures
~~3~~4.2.7 Summary of Phase 1 Findings and Conclusions
~~3~~4.3 PHASE 2 RCRA FACILITY INVESTIGATION
~~3~~4.3.1 Phase 2 Investigative Basis and Approach
~~3~~4.3.2 Phase 2 Surface Characterization and Analysis
~~3~~4.3.2.1 Radiological Surveys
~~3~~4.3.2.2 Surface Geophysical Exploration
~~3~~4.3.2.3 Soil Characterization and Analysis
~~3~~4.3.3 Tissue Characterization and Analysis
~~3~~4.3.4 Subsurface Characterization
~~3~~4.3.4.1 Drywell and Groundwater Well Geophysical Borings
~~3~~4.3.4.2 ~~Other Monitoring~~ Deep Vadose Zone Soil Samples
~~3~~4.3.5 Summary of Deviations from the Sampling Plan
~~3~~4.3.6 Summary of Data Collected

SECTION 45.0 NATURE AND EXTENT OF CONTAMINATION
45.1 ENVIRONMENTAL CHARACTERIZATION
45.1.1 Geology
45.1.2 Geochemistry of Undisturbed Vadose Zone Soils and Porewater
45.1.3 Hydrology
45.1.4 Soil properties affecting fate and transport
45.2 CONTAMINATION CHARACTERIZATION
45.2.1 Data Quality
45.2.2 Screening Values
45.4.4.1 Media Based Screening Values
45.2.2.2 Background Threshold Values
45.2.2.3 Remediation Goals
45.2.3 Evaluation of Analytical Results
45.2.3.1 Soil Analytical Results
45.2.3.1.1 Soil Results Summary
45.2.3.1.2 Comparison of Soil Analytical Results to Screening Values
45.2.3.2 Groundwater Analytical Results
45.2.3.2.1 Groundwater Results Summary
45.2.3.2.2 Comparison of Groundwater Analytical Results to Screening Values
45.2.3.3 Biota Analytical Results
45.2.3.3.1 Biota Results Summary
45.2.3.3.2 Comparison of Biota Analytical Results to Screening Values
45.3 CONTAMINANT FATE AND TRANSPORT

~~4~~5.3.1 Conceptual Site Model ~~Overview of Waste Releases and Subsequent Subsurface Contaminant Migration~~
~~4~~5.3.2 Fate and Transport of Analytes Detected Above Screening Levels
~~4~~5.4 NATURE AND EXTENT RECOMMENDATIONS
~~4~~5.4.1 Soil
~~4~~5.4.2 Surface Water
4.4.3 Sediment
4.4.4 Groundwater
4.4.5 Biota
4.4.6 Potential Receptors

SECTION ~~5~~6.0 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

SECTION ~~6~~7.0 SUMMARY AND RECOMMENDATIONS

SECTION ~~7~~8.0 REFERENCES

APPENDICES (examples)
APPENDIX A Field Logs
APPENDIX B Site Photographs
APPENDIX C Analytical Data and Quality Control Tables
APPENDIX D Laboratory Reports and Chain of Custody Records
APPENDIX E Hydraulic Conductivity Tests
APPENDIX F Soil Boring and Monitoring Well Installation Logs
APPENDIX G Analytical Data Summary
APPENDIX H Human Health Risk Assessment
APPENDIX I Ecological Risk Assessment
APPENDIX J Meeting Minutes
APPENDIX K WIDS Site Descriptions

LIST OF TABLES
TBD
LIST OF FIGURES
TBD

Julie Robertson

From: Julie Robertson
Sent: Tuesday, April 22, 2014 11:52 AM
To: 'adminrec@rl.gov'
Cc: Tabor, Cynthia L
Subject: Entry of Meeting Notes to the Admin Record
Attachments: MM 2014-03-26 RFI Final Signed.pdf

Good day. Attached to this email is a pdf of notes from a March 26, 2014 meeting. The notes have been signed by DOE-ORP and Ecology and need to be entered into the Administrative Record. The key words are 241-C Tank Farm, WMA C, TPA milestone M-045-61, and TSD unit S-2-4. I will drop off the original paper copy for processing. Please let me know if you have any questions or concerns. Thank you.

Julie R. Robertson
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