5.0 MULTI-PARTY AGREEMENTS

DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ROCKY MOUNTAIN ARSENAL
7200 QUEBEC STREET, BUILDING 111
COMMERCE CITY, CO 80022-1748

October 3, 2006

Remedy Execution

Ms. Susan Newton
Colorado Department of Public
Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Ms. Newton:

Enclosed for your information is the signed decision document titled Agreement on Full Scale Excavation and Odor Control Measures Demonstration Work Plan for the Former Basin F Principal Threat Soils (Pilot Demonstration). The decision document delays the pilot demonstration testing until the first week of project implementation.

Copies of this letter were forwarded to:

a. Mr. M. Weslyn Erickson, Chief Counsel, Rocky Mountain Arsenal (DAIM-BD-A-RM-CL), Commerce City, Colorado 80022-1748 (w/encl).

b. Mr. Richard Lotz, Attorney General's Office, CERCLA Litigation Unit, 1525 Sherman Street, 5th Floor, Denver, Colorado 80203 (w/encl).

c. Mr. Trevor J. Klotz, Sentinel Consulting Services, LLC, 14 Inverness Drive East, Suite F-232, Englewood, Colorado 80112 (w/encl 2 copies).

d. Mr. Roger B. Shakely, Shell Oil Company, P.O. Box 538, Commerce City, Colorado 80037 (w/encl).

e. Mr. Mark Thomson, Washington Group, P.O. Box 1717, Commerce City, Colorado 80022 (w/o encl).

f. Mr. Daniel J. Dunn, Holme Roberts and Owens, 1700 Lincoln Street, Suite 4100, Denver, Colorado 80203 (w/encl).

g. Mr. Tom Jackson, U.S. Fish and Wildlife Service, Rocky Mountain Arsenal, Commerce City, Colorado 80022-1748 (w/encl).

h. Mr. Dan Collins, Tri-County Department Environmental Health Division, 4201 East 72nd Avenue, Commerce City, Colorado 80222-1488 (w/encl).

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i. Rocky Mountain Arsenal, (Document Tracking Center), Commerce City, Colorado 80022-1748 (w/encl).

The Remediation Venture Office point of contact for this issue is Mr. Kelly Cable at 303-853-3952.

Sincerely,

Bruce M Huenefeld

Bruce M. Huenefeld
RMA Committee Coordinator

Enclosure

Rocky Mountain Arsenal
Decision Document
DD-LB/FBF-10

Date Prepared: September 14, 2006	**Prepared by**: Bruce Huenefeld

Decision Subject: Agreement on Full Scale Excavation and Odor Control Measures Demonstration Work Plan for the Former Basin F Principal Threat Soils (Pilot Demonstration)

Decision Team:

Working Group ☐ Committee ☐ Council ☐ Steering and Policy Committee ☐

Decision Background (include any affected or reference documentation):

All Parties desire to demonstrate the design for removal of Former Basin F (FBF) Principal Threat (PT) soils.

Decision:

The Basin F PT soils pilot demonstration on the highest odor flux soils as identified in the Work Plan will be conducted during the first week of project implementation. Implementation of the remaining Basin F PT soils will proceed at the completion of the excavation of pilot demonstration soils. The work plan for the Basin F PT soils pilot demonstration, including the air monitoring plan, is under development and will be included as an attachment to the final design.

Decision Implementation Date (Estimated):

The pilot demonstration will occur on the first week of project implementation, estimated to be May/June 2007.

Decision Approval (If organizations are different than shown, revise or indicate N/A as needed):

Bruce M Huenefeld 14 Sept 2006 Army Signature Date	Mark D. Dawson 9/14/06 Shell Signature Date
Tom Gaedeke 9/14/06 USFWS Signature Date	Guy Hargrave 9/14/06 EPA Signature Date
9.14.06 CDPHE Signature Date	Daniel C. Collins 9/14/06 TCHD Signature Date

Distribution (Include all affected parties):

RMA Records ☐	RVO Engineer ☐	RVO QA ☐
RVO Health & Safety ☐	Approvers ☐	PMC ☐
Others ( ) ☐	RVO Air Group ☐	RVO Construction ☐
RVO Water Team ☐	RVO Env. Compliance ☐	Army Legal Counsel ☐

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DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ROCKY MOUNTAIN ARSENAL
7200 QUEBEC STREET, BUILDING 111
COMMERCE CITY, CO 80022-1748

January 4, 2007

Remedy Execution

Ms. Susan Newton
Colorado Department of Public
Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Ms. Newton:

Enclosed for your information is a copy of the signed Resolution Agreement Basins for Completing the Integrated Cover System (ICS) and Former Basin F Resource Conservation and Recovery Act-Equivalent Cover Designs at the Rocky Mountain Arsenal (RMA). The ICS agreement was signed at the December 15, 2006 RMA Council meeting.

Copies of this letter were forwarded to:

a. Mr. M. Weslyn Erickson, Chief Counsel, Rocky Mountain Arsenal (DAIM-BD-A-RM-CL), Commerce City, Colorado 80022-1748 (w/encl).

b. Mr. Richard Lotz, Attorney General's Office, CERCLA Litigation Unit, 1525 Sherman Street, 5th Floor, Denver, Colorado 80203 (w/encl).

c. Mr. Trevor J. Klotz, Sentinel Consulting Services, LLC, 14 Inverness Drive East, Suite F-232, Englewood, Colorado 80112 (w/encl 2 copies).

d. Mr. Roger B. Shakely, Shell Oil Company, P.O. Box 538, Commerce City, Colorado 80037 (w/encl).

e. Mr. Mark Thomson, Washington Group, P.O. Box 1717, Commerce City, Colorado 80022 (w/o encl).

f. Mr. Daniel J. Dunn, Holme Roberts and Owens, 1700 Lincoln Street, Suite 4100, Denver, Colorado 80203 (w/encl).

g. Mr. Tom Jackson, U.S. Fish and Wildlife Service, Rocky Mountain Arsenal, Commerce City, Colorado 80022-1748 (w/encl).

h. Mr. Dan Collins, Tri-County Department Environmental Health Division, 4201 East 72nd Avenue, Commerce City, Colorado 80222-1488 (w/encl).

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i. Rocky Mountain Arsenal, (Document Tracking Center), Commerce City, Colorado 80022-1748 (w/encl).

The Remediation Venture Office point of contact for this agreement is the undersigned at 303-289-0240.

Sincerely,

Bruce M Huenefeld
Bruce M. Huenefeld
RMA Committee Coordinator

Enclosure

Resolution Agreement
Basis for Completing the Integrated Cover System (ICS) and Former Basin F RCRA-Equivalent Cover Designs at the Rocky Mountain Arsenal (RMA)

PURPOSE:
To resolve all remaining technical dispute issues and to identify cost efficiencies within the 95% ICS Design (June 8, 2006) so that the overall RMA Remediation Program can be completed as early as possible.

DISCUSSION:
Based upon the PMC's annual work plan for FY 2007 and the budgetary forecast for Remedy completion, the RVO informed the Regulatory Agencies of a programmatic cost growth that resulted in a projected budget shortage of approximately $45 million. This cost growth was primarily associated with the RCRA-Equivalent covers, and jeopardized the RVO's ability to complete the RMA Remediation Program by the long established September 30, 2011 date. In addition, there were ongoing unresolved technical Dispute issues between the RVO and Regulatory Agencies related to in-place confirmatory sampling of the RCRA-Equivalent Cover soils. The Parties began discussions to identify cost efficiencies within the latest RCRA Equivalent Cover design, and to resolve the remaining technical issues. These discussions led to the development of an agreement for a basis to complete the ICS and Former Basin F RCRA-Equivalent Cover designs at RMA and which resolves the 95% ICS Design Dispute. The Parties agreed to the concepts of 1) replacement of chokestone with a leveling soil, 2) direct placement of cover soil coupled with in-place cover soil testing and 3) reducing the BBM thickness to 16 inch minimum. The Parties have agreed to the provisions described below.

AGREEMENT:
The Parties agree to the following provisions regarding a basis to complete the ICS and Former Basin F RCRA-Equivalent Cover designs:

1. **RCRA-Equivalent Cover Design**
   - Issue only One Design for ICS (95% and 100%)
   - Basin F RCRA-Equivalent Cover Design will use ICS as template
   - Minor ROD changes in the final ICS Design are being identified for incorporation into a RMA Covers Fact Sheet
2. **Construction Approach**
   - BBM will be removed from the SIA BBM stockpile by April 30, 2009 and, wherever possible, directly placed
   - Maintenance of the placed BBM will be provided during the time it is uncovered (i.e. prior to soil placement) to mitigate vegetation and water ponding
   - RVO has agreed to work towards a goal of one year or less the time that BBM will be left uncovered. In the event that circumstances dictate the BBM must be left uncovered for a longer period of time, RVO will obtain Agency input and concurrence regarding the estimated remaining time and long-term management of water infiltration, including possible groundwater impacts.

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- Cover soil stockpiling is not required
- Borrow Area excavation will utilize an inclined face excavation method for soil mixing.
- CQC/CQAE Oversight will be provided during/at borrow area excavation.
- Chokestone will no longer be used as a leveling layer, but may be used for other purposes, e.g., filling 2-inch voids on an as-needed basis.
- Leveling/protective soil layer purpose will be defined/justified during the design process

3. **Capillary Break Design**
   - RVO will construct SDT Lysimeter 3A using soil over geotextile over soil over BBM (same as that proposed for the ICS)
   - RVO will discontinue the Phase 2 Capillary Break laboratory testing
   - To meet the capillary break requirement, the cover cross section will include:
     - BBM overlain by "leveling" and "protective" soil, overlain by the geotextile to create the capillary break, overlain by RCRA-Equivalent Cover soil

4. **In-Place Geotechnical and Agronomic Sampling (95% ICSD Dispute)**
   - Cover sampling/testing for agronomic and geotechnical parameters will be based upon discrete samples. Samples will be composited from the full thickness of the cover
   - In-place cover soil sampling will be conducted for geotechnical and agronomic properties at a frequency of one test per acre
   - Each sample will represent a discrete area (i.e. whose boundary is halfway to each surrounding sample location)
   - Acceptable sample results for in-place cover soil:
     - Geotechnical properties: within AZ
     - Agronomic properties: Calcium carbonate less than or equal to 15%

       pH greater than or equal to 6.0 and less than or equal to 8.4
   - Additional sampling/testing may be used to delineate/bound sample results which do not meet the acceptable geotechnical and agronomic properties.
   - Each noncomplying area will be evaluated and dispositioned via the NCR process
   - Corrective actions, and timing of corrective actions, will be identified and implemented via the DCN process with Agencies' approval whether a Major or Minor DCN:
     - Cover Rework (e.g. replacing cover soil) will be accomplished to meet Cover Specification requirements (once the DCN is approved).
     - Cover Repair (e.g. adding amendments) will be accomplished to meet Cover Specification requirements prior to revegetation and final cover certification.
   - Resolves the Dispute (Re: 95% ICSD)

5. **Biota Barrier Material**

- BBM placement specification will include performance requirements such that in-place BBM will not have continuous 2-inch voids through the full thickness of the BBM.
- Minimum thickness of the BBM layer will be 16-inches.
- Parties have agreed to work cooperatively towards a goal of utilizing existing crushed concrete so that the purchase of granite will not be necessary. In the event of a confirmed shortage of BBM, the Parties will consider alternatives. The final design and construction must meet acceptable criteria.. The Agencies will be routinely informed on the consumption of crushed concrete vs. projected need.

6. **2&3 foot In-Place Cover Soil Testing**
   - The RVO concurs with the EPA recommendation for textural (clay and silt) testing for 2 and 3 foot covers (refer to 95% ICS Design, EPA Comment Number 82).
   - This resolves the Dispute (Re: 95% ICSD)

CONCURRENCE FOR RESOLUTION AGREEMENT

Charles T. Scharmann
U.S. Army

12/15/06
Date

Concur/~~Nonconcur~~

Laura Williams
U.S. Environmental Protection Agency

12.15.06
Date

Concur/Nonconcur

Joan Sowinski
Colorado Department of Public Health and Environment

12/15/06
Date

Concur/Nonconcur

Dean Rundle
U.S. Fish and Wildlife Service

12/15/06
Date

Concur/Nonconcur

Roger Shakely
Shell Oil Company

12/15/06
Date

Concur/~~Nonconcur~~

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

RECEIVED 1/31/07

Ref: 8EPR-F

January 29, 2007

Mr. Bruce Huenefeld
Office of the Program Manager for RMA
ATTN: AMXRM-E
Rocky Mountain Arsenal
Commerce City, CO 80022-2180

Re: Construction Completion Report for theEnhanced Hazardous Waste Landfill Liner Project Rocky Mountain Arsenal Site

Dear Mr. Huenefeld:

The Environmental Protection Agency (EPA) has completed review of the Construction Completion Report (CCR) for theEnhanced Hazardous Waste Landfill LinerProject submitted by the Remediation Venture Office. The CCR, in compliance with OSWER Directive 9355.04B (Remedial Design/Remedial Action Handbook),documents the remedial action activities which have been accomplished to date, including:

- Completion of all construction items defined in the Project Scope of Work and Final Design Package, as modified;
- Completion of the Project remedy in accordance with the goals established in the 1996 On-Post Record of Decision;
- The conduct of a final inspection by the Colorado Department of Public Health and Environment (CDPHE) and EPA;
- CDPHE concurrence with the CCR viathe enclosed letter.

Accordingly, EPA approves the CCR as submitted and accepts theEnhanced Hazardous Waste Landfill Liner Projectas complete.

Sincerely,

Terry L. Anderson
Director, Federal Facilities Program

Enclosure: CDPHE Concurrence Letter

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cc: Ms. Barbara Nabors, CDPHE
Mr. Dan Collins, TCHD
Mr. John Stetson, PWT
Mr. Jack Lipschultz, DOJ
Mr. Weslyn Erickson, RVO
Mr. Mark Thomson, Shell
Mr. Tom Jackson, USFWS
Mr. Richard Lotz, AGO
Mr. Leo Chen, RVO
Mr. Kelly Cable, RVO

RECEIVED
1/24/07

STATE OF COLORADO

Bill Ritter, Jr., Governor
James B. Martin, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state.co.us

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

January 18, 2007

Ms. Carol Rushin
Assistant Regional Administrator
Office of Ecosystem Protection and Remediation
US EPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Re: Enhanced Landfill Liner Construction Completion Report

Dear Ms. Rushin:

My staff has reviewed the Construction Completion Report for the Enhanced Hazardous Waste Landfill Liner Project at the Rocky Mountain Arsenal. The report was evaluated for compliance with the objectives described in the Record of Decision, as amended by the Remediation Design and Implementation Schedule. Based upon our evaluation of this document, I am pleased to inform you of the State's concurrence with the referenced Construction Completion Report.

Sincerely,

Gary Baughman

Gary Baughman
Director, Hazardous Materials and Waste Management Division

cc: Bruce Huenefeld, RMA
Roger Shakely, Shell
Tom Jackson, USFWS
Jack Lipschultz, DOJ
Westlyn Erickson, RMA
Leo Chen, RVO
Laura Williams, EPA
Ken Conright, TCHD
Richard Lotz, AGO
Trevor Klotz, Sentinel Consulting
Susan Newton, CDPHE
File RMA #7.4.1-34

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DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ROCKY MOUNTAIN ARSENAL
7200 QUEBEC STREET, BUILDING 111
COMMERCE CITY, CO 80022-1748

June 14, 2007

Remedy Execution

Ms. Susan Newton
Colorado Department of Public
Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Ms. Newton:

Enclosed for your information is a copy of the signed Dispute Resolution Agreement Revised 95 Percent Integrated Cover System Design at the Rocky Mountain Arsenal.

Copies of this letter were forwarded to:

a. Mr. M. Weslyn Erickson, Chief Counsel, Rocky Mountain Arsenal (DAIM-BD-A-RM-CL), Commerce City, Colorado 80022-1748 (w/encl).

b. Mr. Richard Lotz, Attorney General's Office, CERCLA Litigation Unit, 1525 Sherman Street, 5th Floor, Denver, Colorado 80203 (w/encl).

c. Mr. Trevor J. Klotz, Sentinel Consulting Services, LLC, 14 Inverness Drive East, Suite F-232, Englewood, Colorado 80112 (w/encl 2 copies).

d. Mr. Roger B. Shakely, Shell Oil Company, P.O. Box 538, Commerce City, Colorado 80037 (w/encl).

e. Mr. Mark Thomson, Washington Group, P.O. Box 1717, Commerce City, Colorado 80022 (w/o encl).

f. Mr. Daniel J. Dunn, Holme Roberts and Owens, 1700 Lincoln Street, Suite 4100, Denver, Colorado 80203 (w/encl).

g. Mr. Tom Jackson, U.S. Fish and Wildlife Service, Rocky Mountain Arsenal, Commerce City, Colorado 80022-1748 (w/encl).

h. Mr. Dan Collins, Tri-County Department Environmental Health Division, 4201 East 72nd Avenue, Commerce City, Colorado 80222-1488 (w/encl).

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i. Rocky Mountain Arsenal, (Document Tracking Center), Commerce City, Colorado 80022-1748 (w/encl).

The Remediation Venture Office point of contact for this Agreement is the undersigned at 303-289-0240.

Sincerely,

Bruce M Huenefeld

Bruce M. Huenefeld
RMA Committee Coordinator

Enclosure

Dispute Resolution Agreement
Revised 95% Integrated Cover System Design

PURPOSE:
To resolve the Revised 95% Integrated Cover System Design (April 3, 2007) dispute and obtain concurrence among the U.S. Environmental Protection Agency, the Colorado Department of Public Health and Environment, and the RMA Remediation Venture Office (RVO) (collectively, the Parties) regarding the RCRA-Equivalent Cover capillary barrier design.

DISCUSSION:
Based upon the concern regarding the use of a relatively thin geotextile encased in soil that may not perform as a capillary barrier over time, the EPA and CDPHE have disputed the Revised 95% Integrated Cover System Design.

AGREEMENT:
The Parties agree to the following to resolve the capillary barrier Design Dispute for the ICSD RCRA-Equivalent Covers:

1. Revised Cover Cross Section (from top to bottom):
   - 4-foot thick soil layer at 75% - 85% Standard Proctor maximum dry density
   - Capillary Barrier Layer (CBL) – 1-inch thick (minimum). This layer will use "washed squeegee" and should be relatively continuous similar to the Shell Cover with occasional pieces of BBM visible (as depicted on the attached figure).
   - Choked BBM Surface – using BBM fines or 57/67 stone such that there are no voids greater than 1 inch and no continuous voids through the BBM layer.
   - BBM Layer – 16 inches thick

2. With the surface of the BBM being choked with fines, the approach to in-place gradation is revised. During initial BBM placement (or with every method change), a minimum of 3 WipFrag tests will be taken for each new subcontractor to demonstrate the BBM gradation.

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CONCURRENCE FOR DISPUTE RESOLUTION AGREEMENT

Bruce M Huenefeld
Bruce M. Huenefeld
U.S. Army

4 June 2007
Date

Concur/Nonconcur

Greg Hargreaves
Greg Hargreaves
U.S. Environmental Protection Agency

6/1/07
Date

Concur/Nonconcur

Revised 95% ICSD

Susan Newton
Colorado Department of Public
Health and Environment

6/6/07
Date

Concur/Nonconcur

Tom Jackson
Tom Jackson
U.S. Fish and Wildlife Service

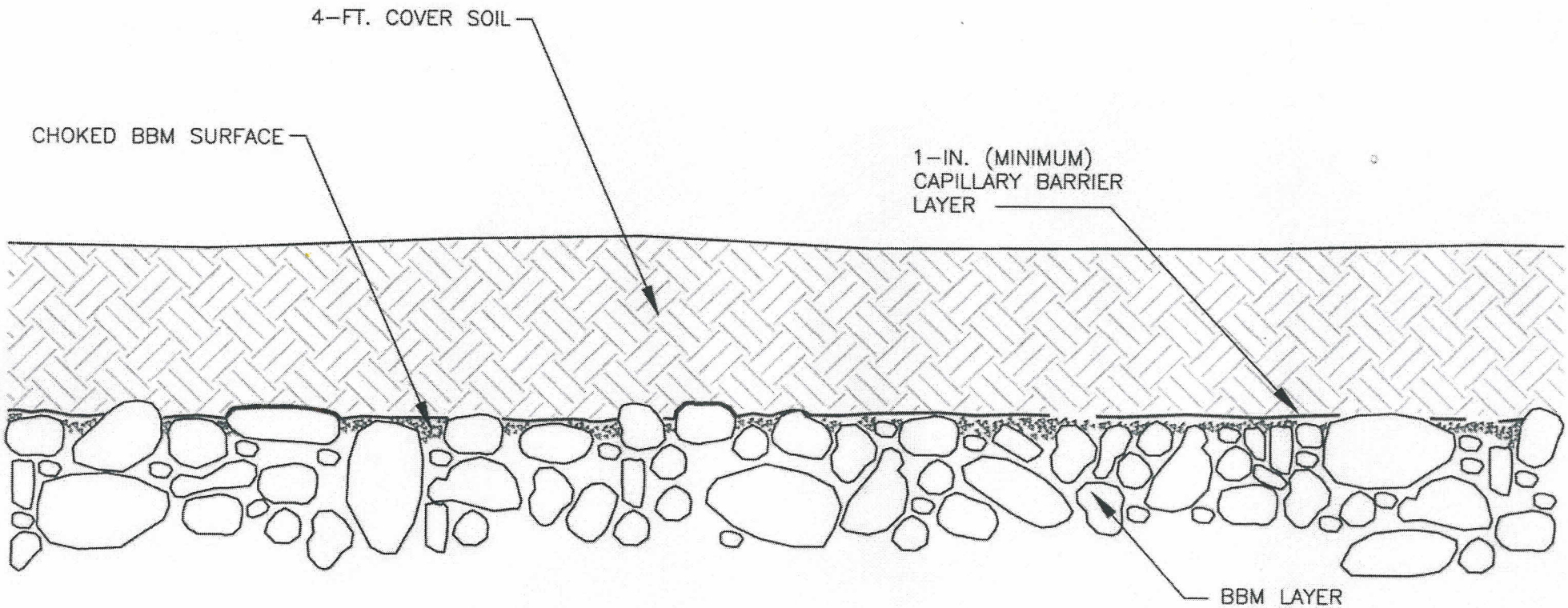
6/1/07
Date

Concur/Nonconcur

Mark D. Thomson
Mark Thomson
Shell Oil Company

5/31/07
Date

Concur/Nonconcur



RCRA EQUIVALENT COVER
CROSS SECTION

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DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ROCKY MOUNTAIN ARSENAL
7200 QUEBEC STREET, BUILDING 111
COMMERCE CITY, CO 80022-1748

DAIM-BD-A-RM-RE

19 June 2007

MEMORANDUM FOR U.S. Environmental Protection Agency, (Mr. Greg Hargreaves), Region VIII, Mail Code 8EPR-F, 1595 Wynkoop Street, Denver, Colorado 80202-1129

SUBJECT: Fact Sheet for the Rocky Mountain Arsenal Minor Change to the On-Post Record of Decision for the Landfill Wastewater Treatment System Revisions to Discharge Standards

1. Enclosed is the Fact Sheet for the Rocky Mountain Arsenal Minor Change to the On-Post Record of Decision for the Landfill Wastewater Treatment System Revisions to Discharge Standards, dated 5 June 2007. This document has been finalized from the previous version based on comments from the U.S. Environmental Protection Agency.

2. The point of contact for this document is Mr. Leo Chen at 303-853-3954.

Encl

Bruce M Huenefeld
BRUCE M. HUENEFELD
RMA Committee Coordinator

CF:
Rocky Mountain Arsenal, (DAIM-BD-A-RM-CL/Mr. M. Weslyn Erickson), Chief Counsel, Commerce City, CO 80022-1748 (wo/encl)
U.S. Environmental Protection Agency, (Mr. Ron Bertram), Region VIII, Mail Code 8EPR-F, 1595 Wynkoop Street, Room 5136, Denver, CO 80202-1129 (w/encl)
Pacific Western Technologies, Ltd, (Mr. John Stetson), 605 Parfet Street, Suite 200, Lakewood, CO 80215 (w/encl)
Shell Oil Company, (Mr. Roger B. Shakely), P.O. Box 538, Commerce City, CO 80037 (wo/encl)
Washington Group, (Mr. Mark Thomson), P.O. Box 1717, Commerce City, CO 80022 (wo/encl)
Holme Roberts and Owens, (Mr. Daniel J. Dunn), 1700 Lincoln Street, Suite 4100, Denver, CO 80203 (wo/encl)
U.S. Fish and Wildlife Service, (Mr. Tom Jackson), Rocky Mountain Arsenal, Commerce City, CO, 80022-1748 (wo/encl)
Tri-County Department Environmental Health Division, (Mr. Dan Collins), 4201 East 72nd Avenue, Commerce City, CO 80222-1488 (wo/encl)
Rocky Mountain Arsenal, (Document Tracking Center), Commerce City, CO 80022-1748 (wo/encl)

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ROCKY MOUNTAIN ARSENAL
MINOR CHANGE TO THE ON-POST RECORD OF DECISION FOR LANDFILL WASTEWATER TREATMENT SYSTEM
REVISIONS TO DISCHARGE STANDARDS
June 5, 2007

FACT SHEET

Purpose of the Fact Sheet

The purpose of this fact sheet is to document minor changes to the requirements of the Record of Decision (ROD) for the On-Post Operable Unit (OU) for the Rocky Mountain Arsenal (RMA) related to the discharge control mechanism of the Landfill Wastewater Treatment System (LWTS). The LWTS has treated wastewater generated from the operation of the Arsenal's Hazardous Waste Landfill, which holds Arsenal-only waste since 1999. The LWTS is operated under a discharge control mechanism administered and enforced by the Environmental Protection Agency (EPA) called the CERCLA Compliance Document (CCD) that contains operational requirements including treated water discharge standards, reporting/recordkeeping requirements and enforcement provisions. Through the use of the CCD, the Army and the Regulatory Agencies are able to ensure that treated water released from the LWTS is protective of the receiving waters of the State of Colorado. The location of the facilities discussed in this fact sheet is shown in Figure 1.

Use of the LWTS to treat and dispose wastewater from two new projects at RMA required revision of the CCD to adopt new discharge standards for contaminants that may be introduced to the treatment system. In conjunction with this revision, the existing standards of the CCD were updated to the most recent amendments to the surface water quality regulations of the State of Colorado and the point source categorical standards for hazardous waste landfills promulgated by the EPA.

Remediation Framework

The ROD was signed by the U.S. Army (Army), the EPA and the State of Colorado on June 11, 1996, with concurrence of the U.S. Fish and Wildlife Service and Shell Oil Company (Shell). The Army, serving as the lead agency, and Shell are implementing the selected remedy that includes 31 implementation projects for soils, structures, and the treatment of groundwater contaminants (PMRMA 2006). The EPA, Colorado Department of Public Health and Environment (CDPHE) and the Tri-County Health Department (TCHD) are conducting regulatory oversight. Tetra Tech ECI serves as the Program Management Contractor and selects the subcontractors needed to perform remediation tasks. As the site-wide remediation is completed, most of the On-Post OU of RMA will become a National Wildlife Refuge, as provided for in Public Law #102-402.

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Summary of Site History and Contamination Issues

The RMA is a federally owned facility located in Commerce City, Colorado, approximately 10 miles northeast of downtown Denver. In 1942, at the height of World War II, the Army purchased 17,000 acres of land on which to manufacture chemical weapons, such as mustard gas, white phosphorus and napalm to be used as a deterrent during wartime efforts. To foster economic growth in the area, offset operational costs and maintain the facilities for national security, private industry was encouraged to lease facilities at the Arsenal after the war. Under the lease program, Julius Hyman and Company began producing pesticides in 1946. Shell Chemical Company acquired Julius Hyman and Company and continued to produce agricultural pesticides on site until 1982. Common industrial and waste disposal practices during those years resulted in contamination of structures, soil, surface water, and groundwater. Currently, the RMA On-Post OU site encompasses approximately 5.5 square miles and is on the EPA NPL for environmental cleanup as a result of contamination released during previous RMA operations.

In 1984, the Army began a systematic investigation of site contamination in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and the site was placed on the NPL in 1987. The NPL is a list of the nation's most contaminated sites, also known as Superfund sites. As required by CERCLA, a Remedial Investigation (RI) was conducted to determine the nature and extent of contamination. The RI identified contaminated soils and waste materials in manufacturing and disposal areas including Basin A, South Plants CPA and the Complex Army Trenches. The primary contaminants in these areas are pesticides, solvents, heavy metals and chemical agent by-products. The remedy selected for cleanup of the On-Post OU requires much of the contaminated soil to be excavated and contained within the on-post Hazardous Waste Landfill and Enhanced Hazardous Waste Landfill.

The LWTS was constructed in 1998 and began treating wastewater from the Hazardous Waste Landfill starting in 1999. As shown in the Figure 1, the treatment system is located west of the Hazardous Waste Landfill in Section 26 of RMA. Prior to the start of LWTS operation, a discharge control mechanism document called the CCD was issued by the EPA to establish the operational requirements for the treatment system. The CCD was issued in September 1998 following public review and comment.

Explanation of Minor Changes to ROD Requirements

Two projects at RMA were implemented in 2006: the Enhanced Hazardous Waste Landfill and the Basin F Wastepile Remediation Project. These projects generate wastewater comprised of potentially contaminated stormwater and decontamination wastewater that are treated by the LWTS. The wastewater from these two projects introduce some potential new contaminants to the LWTS. The intended use of the LWTS to treat these new contaminants required that the CCD be modified to address the changes in water quality standards and waste load allocation. A comprehensive investigation of Applicable or Relevant and Appropriate Requirements (ARARs) was conducted to establish discharge standards for the new contaminants. ARARs are legally applicable or relevant and appropriate Federal or State requirements that pertain to the selected remedy. Section 121(d)(2) of CERCLA requires that remedial actions attain (or provide a

waiver for) ARARs upon completion of the remedial action. Modification of the CCD to address ARARs included revisions to discharge standards based on recently promulgated surface water quality standards of the State of Colorado and EPA point source categorical standards for hazardous waste landfills. Revisions to the CCD are summarized below:

- Colorado Surface Water Quality Standards Regulation No. 31 (5CCR 1002-31) amended in August 8, 2005 and became effective December 31, 2005. This regulation is considered an ARAR for the LWTS that discharges treated water to a receiving water of the State of Colorado. Consequently, the treated water discharge standards contained in the CCD were updated to be consistent with this amendment to the Colorado Surface Water Quality Standard.

- EPA categorical standards for point source category for Hazardous Waste Landfills promulgated under 40 CFR 445 and adopted by the State of Colorado under 5CCR 1002-63. These standards are considered as ARARs for the operation of the LWTS and have been incorporated into the discharge standards of the CCD.

The changes to the discharge standards in response to the above provisions are reflected in the following tables of the CCD that have been attached to this fact sheet for reference.

- Table 2-1 – Final Effluent Limitations
- Table 2-2 – Outfall 001 Effluent Monitoring Each 500,000 Gallons or Less Discharged

Public Participation

The original CCD finalized in 1999 and the 2001 Amendment to the CCD were both presented during a meeting of the Restoration Advisory Board (RAB). The RAB is a community group that meets regularly to receive information and provide input on the cleanup. These meetings are open to the public. The CCD and other documents that support the changes described herein are part of the Administrative Record and are available at the Joint Administrative Record and Document Facility (JARDF) and the EPA Region 8 Superfund Records Center. The JARDF can be reached at 303-289-0362. Hours of operation are Monday through Friday, 12 p.m. to 4 p.m., or by appointment. EPA's Superfund Record Center can be reached at 303-312-6473. Hours of operation are Monday through Friday from 8 a.m. to 4:00 p.m.

Document Locations

The documents that support the changes described herein are part of the Administrative Record and are available at the following locations:

- Joint Administrative Record and Document Facility (JARDF)
  Rocky Mountain Arsenal, Building 129
  Commerce City, Colorado 80022
  Monday – Friday 12 – 4 p.m. or by appointment (303) 289-0362

- EPA Superfund Records Center
  999 18th Street Denver, CO 80202
  303-312-6473
  Monday – Friday 8 – 4 p.m.

References

ACOE (Army Corps of Engineers)

1998 (Feb.) *Final Design Analysis, Hazardous Waste Landfill, Rocky Mountain Arsenal.*

FWENC (Foster Wheeler Environmental Corporation)

2002 (Apr. 25) *Basin F Wastepile Remediation Project 100 Percent Design Package.* Revision 1.

1996 (June 11) *Record of Decision for the On-Post Operable Unit.* Version 3.1. (3v.)

TtEC (Tetra Tech EC, Inc.)

2006 (Mar. 16) Enhanced Hazardous Waste Landfill (ELF) 100 Percent Design Package. Revision 2.

For more information, please contact:

- Remediation Venture Public Relations Office
  Susan Ulrich
  Rocky Mountain Arsenal
  Building 111
  Commerce City, Colorado 80022
  (303) 289-0250

- Rocky Mountain Arsenal Web site and Community Information Line
  www.rma.army.mil / 303-289-0136

- U.S. Environmental Protection Agency
  Jennifer Chergo
  Community Involvement Coordinator
  (303) 312-6601

- Colorado Department of Public Health & Environment
  Ed LaRock
  Project Manager
  (303) 692-3321

Table 2-1. Final Effluent Limitations Landfill Wastewater Treatment System Rocky Mountain Arsenal - Amendment YR 2006

Constituent	Constituent ID	Standards			MRL OR PQL
		30 Day Avg. (Chronic)	Daily Max. (Acute)	Remarks/ Basis	
General Parameters (mg/l)					
Alkalinity	ALK	Report	Report		5
Ammonia nitrogen	NH3N	0.1	0.62		0.1
Biochemical Oxygen Demand	BOD	30	45*	CO Eff Limitations	2
Bromine	BR	Report	Report		
Chloride	CL	Report	Report		1
Cyanide WAD	CYN	Report	0.005	WQS	5
Fecal Coliform	COLI	200/100ml	Report	WQS	20
Flow (MGD)		Report	Report		
Fluoride	F	Report	Report		1
Hardness, Total (as $CaCO_3$)	HARD	Report	Report		1
Nitrate (as N)	NO3	Report	Report		1
Nitrite (as N)	NO2	0.5	Report	WQS	0.5
Oil and Grease	OILGR	Report	10**	CO Eff Limitations	4
pH, s.u. (min. to max.)	PH-L		6.5 to 9.0	BS	
Phosphate (or total phosphorus)	TPO4	Report	Report		10
Sulfate, Total (SO4)	SO4	Report	Report		2.5
Total Dissolved Solids	TDS	Report	Report		10
Total Organic Carbon	TOC	Report	Report		1
Total Suspended Solids	TSS	30	45*	CO Eff Limitations	1
Whole Effluent Toxicity, Acute			LC50> 100%	Quarterly	
E.Coli/100 ml		Report	126	WQS	20
Dissolved Oxygen	DO	Report	5	WQS	
Boron	B	Report	0.75	WQS	30
Sulfide (as Hydrogen Sulfide)	S	Report	0.002	WQS	1
Metals (ug/l)					
Antimony	SB	6	Report	***water+fish***	1
Aluminium	AL	Report	Report		
Arsenic	AS	100	340	WQS/BS	1
Barium	BA	Report	Report		
Bismuth	BI	Report	Report		
Cadmium	CD	4.3	68	WQS	4
Chromum Total	CR	50	Report	WQS	10
Cobalt	CO	Report	Report		
Copper	CU	89	954	WQS	10
Iron - Dissolved		Report	Report		100
Iron - Total Recoverable	FE	1000	Report	WQS	100
Lead	PB	44	1500	WQS	3
Manganese - Total Recoverable	MN	200	Report	WQS	10
Mercury - Total	HG	0.01	1.4	WQS	0.2
Nickel	NI	350	3390	WQS	20
Potassium	K	Report	Report		
Selenium	SE	17	135	WQS	1
Silver	AG	6	35	WQS	2.6
Sodium	NAP	Report	Report		
Tin	SN	Report	Report		
Vanadium	V	Report	Report		

Zinc	ZN	450	500	WQS	10
Organic Compounds (ug/l)					
Acenaphthene	ANAPNE	520	1,700	BS	10
Acenaphthylene	ANAPYL	0.0028	Report	water+fish	10
Acetone	ACET	100	Report	BPJ	100
Aldrin	ALDRN	$4.9x10^{-5}$	1.5	water+fish/BS	0.1
Aniline		15	24	BPT	
Atrazine	ATZ	3	Report	CBSG	1
Benzene	C6H6	2.2	Report	water+fish	1
Benzo(a)anthracene	BAANTR	0.0038	Report	water+fish	10
Benzo(a)pyrene	BAPYR	0.0038	Report	water+fish	2
Benzo(k)fluoranthene	BKFANT	0.0038	Report	water+fish	10
Benzofluoranthene 3,4	BBFANT	0.0038	Report	water+fish	10
Benzoic acid	BENZOA	73	119	BPT	10
Benzothiazole	BTZ		Report		5
Bicyclo[2,2,1]hepta-2,5-diene	BCHPD		Report		10
Bis (2-Chloroethyl) Ether	B2CLEE	0.03	Report	water+fish	10
Bis-2-ethylhexyl phthalate	B2EHP	1.2	Report		10
Carbon Tetrachloride	CCL4	0.23	Report	water+fish	1
Chlordane	CLDAN	0.0008	1.2	water+fish	1
Chloroacetic acid	CLC2A	Report	Report		
Chlorobenzene	CLC6H5	100	Report	water+fish	5
Chloroform	CHCL3	Report	Report	BS/BPJ	1
Chrysene	CHRY	0.0038	Report	water+fish	10
p-Cresol		Report	Report	BPT	
DDD	PPDDD	0.00031	0.6	water+fish/BS	0.1
DDE	PPDDE	0.00022	Report	water+fish	0.1
DDT	PPDDT	0.00022	0.55	water+fish/BS	0.1
Dibenzo(a,h)anthracene	DBAHA	0.0038	Report	water+fish	10
Dibromochloropropane	DBCP		Report		1
Dichlorobenzene 1,2	12DCLB	420	Report	water+fish	1
Dichlorobenzene 1,3	13DCLB	94	Report	water+fish	1
Dichlorobenzene 1,4	14DCLB	63	Report	water+fish	1
Dichloroethane 1,1	11DCLE		Report		0.2
Dichloroethane 1,2	12DCLE	0.38	Report	water+fish	1
Dichloroethylene 1,1	11DCE	7	Report	water+fish	1
Dichloroethylene 1,2	12DCE	100	Report	water+fish	5
Dichloromethane	CH2CL2	4.6	Report	water+fish	1
Dichlorophenol 2,4	24DCLP	21	Report	water+fish	50
Dichloropropane 1,2	12DCLP	0.50	Report	water+fish	1
Dicyclopentadiene	DCPD		Report		1
Dieldrin	DLDRN	0.000052	0.24	water+fish/BS	0.1
Diisopropylmethyl phosphonate	DIMP	8	Report	CBSG	1
Dimethyl disulfide	DMDS		Report		0.4
Dimethylmethyl phosphonate	DMMP		Report		1
Dimethylphenol 2,4	24DMPN	140	2,120	water+fish/BS	50
Dithiane	DITH		Report		0.412
Endosulfan, Alpha	AENSLF	0.056	0.11	BS	0.1
Endrin	ENDRN	0.036	0.09	BS	0.1
Endrin Aldehyde	ENDRNA	0.29	Report	water+fish	0.1
Endrin ketone	ENDRNK		Report		0.0345
Ethylbenzene	ETC6H5	530	Report	water+fish	10
Fluoroacetic acid	FCZA	Report	Report		
Heptachlor	HPCL	0.000078	0.52	water+fish/BS	0.05

Heptachlor epoxide	HPCLE	0.000039	0.52	water+fish/BS	0.05
Hexachlorobutadiene	HCBD	0.44	90	water+fish/BS	10
Hexachlorocyclopentadiene	CL6CP	5	7	BS	1
Hexachloroethane	CL6ET	0.4	Report	water+fish	10
Indeno (1,2,3-cd) pyrene	ICDPYR	0.0038	Report	water+fish	10
Isodrin	ISODR		Report		0.031
Isophorone	ISOPHR	130	Report	water+fish	10
Isopropylmethyl phosphonic acid	IMPA		Report		100
Malathion	MLTHN	0.1	Report	BS	0.2
Methoxychlor	MEXCLR	0.03	Report	BS	0.5
- Methyl ethyl ketone	MEK	Report	Report		
Methyl isobutyl ketone	MIBK		Report		4
Methyl Chloride	CH3CL	5.6	Report	water+fish	0.833
Methyl phosphoric acid	MPA	Report	Report		
N-Nitrosodimethylamine	NNDMEA	0.00069	Report	water+fish	10
- N-Nitroso-n-propylamine	NNDNPA	0.005	Report	water+fish	
Naphthalene	NAP	22	59	BPT	10
Oxathiane 1,4	OXAT	160	Report	BPJ	10
p-Chlorophenylmethyl sulfide	CPMS	30	Report	BPJ	1.2
p-Chlorophenylmethyl sulfone	CPMSO2	36	Report	BPJ	1.8
p-Chlorophenylmethyl sulfoxide	CPMSO	36	Report	BPJ	2.57
Parathion	PRTHN	0.013	0.065	BS	0.259
Phenol, Single Compound	PHENOL	2100	10,200	BS	50
Pentachlorophenol	PCP	0.27	19	water+fish/BS	1
Pyridine		25	72	BPT	
Supona	SUPONA		Report		0.437
Terpineol		19	42	BPT	
Tetrachloroethane 1,1,2,2	TCLEA	0.17	Report	water+fish	1
Tetrachloroethylene	TCLEE	0.69	5,280	water+fish/BS	1
Thiodiglycol	TDGCL		Report		7.71
Toluene	MEC6H5	1000	17,500	water+fish/BS	5
Total trihalomethanes		80	Report	water+fish	
- Toxaphene	TXPHEN	0.00028	0.73	water+fish	
Trichlorobenzene 1,2,4	124TCB	35	250	BS	5
Trichloroethane 1,1,1	111TCE	200	Report	water+fish	5
Trichloroethane 1,1,2	112TCE	2.7	9,400	water+fish/BS	1
Trichloroethylene	TRCLE	2.5	45,000	water+fish/BS	1
Vapona	DDVP		Report		0.36
Vinyl Chloride	C2H3CL	0.023	Report	water+fish	2
Xylenes	XYLEN	1000	Report	BPJ	5

Notes:

* 7-day average

** instantaneous maximum

CO Eff Limitations: Colorado effluent limitations

WQS: Water quality standard

BS: Basic standards for Surface Water - Aquatic Life Based Criteria

BPJ: Best professional judgment

BPT: Best Practicable Technology

water + fish: Water quality standard based on drinking water quality and its effect on aquatic life.

CBSG: Colorado Basic Standards for Groundwater

MRL Method Reporting Limit

PQL: Practical Quantitation Limit

Methodology for Selection of Discharge Limits:

1) Use standards for 30 Day Avg. (Chronic) and Daily Max. (Acute) as discharge limits.
2) When MRL or PQL is greater than the standards for the 30 Day Avg. (Chronic) and Daily Max. (Acute),

the facility will be in compliance with the discharge control mechanism if the reported concentration is less than the MRL or PQL.

3) When there is no 30 Day Avg. (Chronic) standard, the facility will be in compliance with the discharge control mechanism if the reported concentration is less than the MRL or PQL.
4) If there are no Daily Max. (Acute) standards, report as required.

Table 2-2. Outfall 001 – Effluent Monitoring For Each 500,000 Gallons or Less Discharged From The Landfill Wastewater Treatment System, Rocky Mountain Arsenal-Amendment YR 2006

Constituent	Constituent ID	Standards		Remarks/ Basis	MRL OR PQL
		30 Day Avg. (Chronic)	Daily Max. (Acute)		
General Parameters (mg/l)					
Alkalinity	ALK	Report	Report		5
Flow (MGD)		Report	Report		
Hardness, Total (as $CaCO_3$)	HARD	Report	Report		1
Nitrite (as N)	NO2	0.5	Report	WQS	0.5
Oil and Grease	OILGR	Report	10**	CO Eff Limitations	4
pH, s.u. (min. to max.)	PH-L		6.5 to 9.0	BS	
Total Dissolved Solids	TDS	Report	Report		10
Total Organic Carbon	TOC	Report	Report		1
Total Suspended Solids	TSS	30	45*	CO Eff Limitations	1
Dissolved Oxygen (Minimum 5)	DO	Report	5	*WQS*	
Boron	B	Report	0.75	WQS	30
Sulfide (as Hydrogen Sulfide)	S	Report	0.002	WQS	1
Metals (ug/l)					
Arsenic	AS	100	340	WQS/BS	1
Cadmium	CD	4.3	68	WQS	4
Chromum Total	CR	50	Report	WQS	10
Copper	CU	89	954	WQS	10
Lead	PB	44	1500	WQS	3
Manganese - Total Recoverable	MN	200	Report	WQS	10
Mercury - Total	HG	0.01	1.4	WQS	0.2
Silver	AG	6	35	WQS	2.6
Organic Compounds (ug/l)					
Aldrin	ALDRN	$4.9x10^{-5}$	1.5	water+fish/BS	0.1
Benzene	C6H6	2.2	Report	water+fish	1
Carbon Tetrachloride	CCL4	0.23	Report	water+fish	1
Chlordane	CLDAN	0.0008	1.2	water+fish	1
Chlorobenzene	CLC6H5	100	Report	water+fish	5
Chloroform	CHCL3	Report	Report	BS/BPJ	1
DDD	PPDDD	0.00031	0.6	water+fish/BS	0.1
DDE	PPDDE	0.00022	Report	water+fish	0.1
DDT	PPDDT	0.00022	0.55	water+fish/BS	0.1
Dichlorobenzene 1,2	12DCLB	420	Report	water+fish	1
Dichlorobenzene 1,4	14DCLB	63	Report	water+fish	1
Dichloroethane 1,2	12DCLE	0.38	Report	water+fish	1
Dichloroethylene 1,1	11DCE	7	Report	water+fish	1
Dichloromethane	CH2CL2	4.6	Report	water+fish	1
Dichloropropane 1,2	12DCLP	0.50	Report	water+fish	1
Dieldrin	DLDRN	0.000052	0.24	water+fish/BS	0.1
Endrin	ENDRN	0.036	0.09	BS	0.1
Endrin Aldehyde	ENDRNA	0..29	Report	water+fish	0.1
Heptachlor	HPCL	0.000078	0.52	water+fish/BS	0.05
Heptachlor epoxide	HPCLE	0.000039	0.52	water+fish/BS	0.05
Hexachlorobutadiene	HCBD	0.44	90	water+fish/BS	10
Hexachlorocyclopentadiene	CL6CP	5	7	BS	1
Hexachloroethane	CL6ET	0.4	Report	water+fish	10

Isophorone	ISOPHR	130	Report	water+fish	10
Isopropylmethyl phosphonic acid	IMPA		Report		100
Malathion	MLTHN	0.1	Report	BS	0.2
Methoxychlor	MEXCLR	0.03	Report	BS	0.5
Methyl Chloride	CH3CL	5.6	Report	water+fish	0.883
N-Nitrosodimethylamine	NNDMEA	0.00069	Report	water+fish	10
Tetrachloroethane 1,1,2,2	TCLEA	0.17	Report	water+fish	1
Tetrachloroethylene	TCLEE	0.69	5,280	water+fish/BS	1
Toluene	MEC6H5	1,000	17,500	water+fish/BS	5
Total trihalomethanes		80	Report	water+fish	
Trichlorobenzene 1,2,4	124TCB	35	250	BS	5
Trichloroethane 1,1,2	112TCE	2.7	9,400	water+fish/BS	1
Trichloroethylene	TRCLE	2.5	45,000	water+fish/BS	1
Vinyl Chloride	C2H3CL	0.023	Report	water+fish	2

Notes:

* 7-day average
** instantaneous maximum
CO Eff Limitations: Colorado effluent limitations
WQS: Water quality standard
BS: Basic standards for Surface Water - Aquatic Life Based Criteria
BPJ: Best professional judgement
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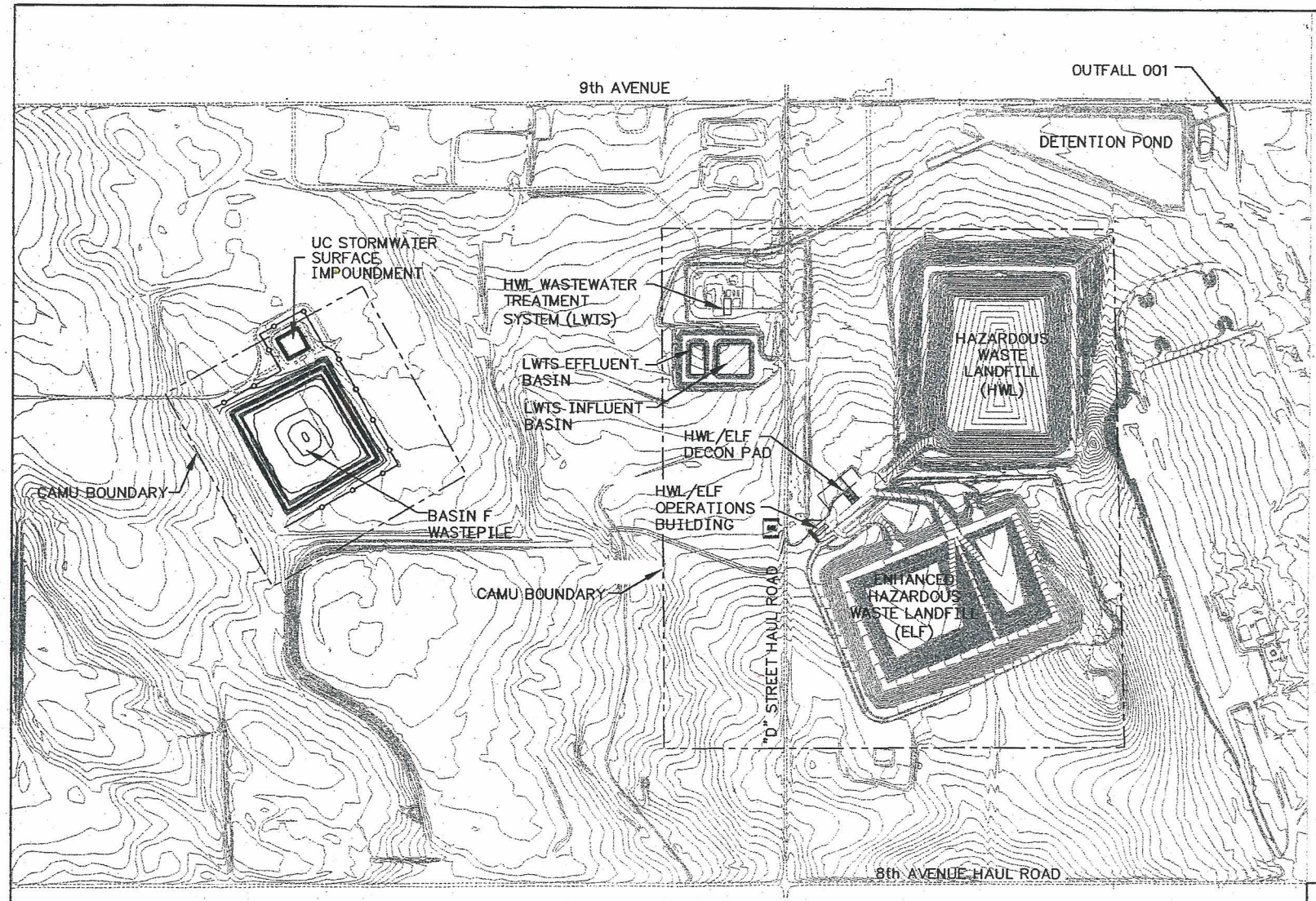
3) When there is no 30 Day Avg. (Chronic) standard, the facility will be in compliance with the discharge control mechanism if the reported concentration is less than the MRL or PQL.
4) If there are no Daily Max. (Acute) standards, report as required.



LANDFILL WASTEWATER TREATMENT SYSTEM SITE PLAN

FIGURE 1

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DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ROCKY MOUNTAIN ARSENAL
7200 QUEBEC STREET, BUILDING 111
COMMERCE CITY, CO 80022-1748

July 24, 2007

Remedy Execution

Ms. Susan Newton
Colorado Department of Public
Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Ms. Newton:

Enclosed for your information is a copy of the signed Basin F Cover Decision Document. The decision document describes a path forward for issuing the Basin F RCRA-Equivalent Cover Design and proceeding with the related closure plan.

Copies of this letter were forwarded to:

a. Mr. M. Weslyn Erickson, Chief Counsel, Rocky Mountain Arsenal (DAIM-BD-A-RM-CL), Commerce City, Colorado 80022-1748 (w/encl).

b. Ms. Susan Chaki, Colorado Department of Public Health and Environment, 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530 (w/encl).

c. Mr. Richard Lotz, Attorney General's Office, CERCLA Litigation Unit, 1525 Sherman Street, 5th Floor, Denver, Colorado 80203 (w/encl).

d. Mr. Trevor J. Klotz, Sentinel Consulting Services, LLC, 14 Inverness Drive East, Suite F-232, Englewood, Colorado 80112 (w/encl 2 copies).

e. Mr. Roger B. Shakely, Shell Oil Company, P.O. Box 538, Commerce City, Colorado 80037 (w/encl).

f. Mr. Mark Thomson, Washington Group, P.O. Box 1717, Commerce City, Colorado 80022 (w/o encl).

g. Mr. Daniel J. Dunn, Holme Roberts and Owens, 1700 Lincoln Street, Suite 4100, Denver, Colorado 80203 (w/encl).

h. Mr. Tom Jackson, U.S. Fish and Wildlife Service, Rocky Mountain Arsenal, Commerce City, Colorado 80022-1748 (w/encl).

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i. Mr. Dan Collins, Tri-County Department Environmental Health Division, 4201 East 72nd Avenue, Commerce City, Colorado 80222-1488 (w/encl).

j. Rocky Mountain Arsenal, (Document Tracking Center), Commerce City, Colorado 80022-1748 (w/encl).

The RVO point of contact for this agreement is the undersigned at 303-289-0240.

Sincerely,

Bruce M. Huenefeld

Bruce M. Huenefeld
RMA Committee Coordinator

Enclosure

ORIGINAL

Rocky Mountain Arsenal
Decision Document
DD-BF Cover-12

Date Prepared: June 2007	**Prepared by**: Bruce Huenefeld

Decision Subject: Agreement on Process and Schedule for Approval of the Basin F RCRA-Equivalent Cover Design and RCRA Closure Plan Amendment

Decision Team:

Working Group ☐ Committee x Council ☐ Steering and Policy Committee ☐

Decision Background (include any affected or reference documentation):

All Parties desire to see the design of the Basin F RCRA-Eq Cover and Closure Plan Approved NLT mid-March 2008

Decision:

The Parties agree to the following basic concepts:

1) A 95% design for the Basin F Cover will be re-issued by the RVO (approx. August 24, 2007) for Regulatory Agencies review and for public review. Any changes required for Regulatory Agencies approval will be incorporated into the 100% design. Upon approval of the 100% design, a Closure Plan amendment process will be immediately undertaken.
2) The last version of the RVO responses to comments on the 95% Basin F Cover design (2004) will be attached to the re-issued 95% design. It will be noted in the cover letter to the re-issued 95% design that the attached responses are only a snapshot in time, and that many of the comments and responses have been overtaken by later agreements and the Integrated Cover System design. The comments and responses are being included for completeness of the administrative record.
3) All Parties are committed to approval of the 100% design and subsequent RCRA Closure Plan Amendment process NLT mid March 2008. If this date is not achievable, the RVO and PMC will have to proceed at risk with subgrade construction NLT March 2008. If subgrade construction must proceed at risk, all comments from the Regulatory Agencies on the subgrade design will be resolved prior to physical construction.
4) The Basin F Cover Design Package will **not** include excavation of the key cut. The key cut portion of the design will be removed from the Basin F Cover Design Package and incorporated into the Basin F Principal Threat Design Package via a design change notice (DCN). The Draft Key-Cut DCN was provided on June 7, 2007. The key cut construction work will be completed, including all confirmation sampling, excavation of contingent soil volume, placement of a clean soil working surface, and completion of all punch-list items, prior to start of Basin F Cover subgrade construction in March 2008.

Decision Implementation Date (Estimated):

This agreement on the design of the Basin F Cover will be effective as of the date signed.

Decision Approval (If organizations are different than shown, revise or indicate N/A as needed):

Bruce M Huenefeld — 18 June 2007 Army Signature — Date	Mark D. Thomas — 7/19/07 Shell Signature — Date
Tom Jackson — 7/19/07 USFWS Signature — Date	Gary Harper — 6/14/07 EPA Signature — Date
[illegible] — 7/19/07 CDPHE Signature — Date	Daniel C. Collins — 06/26/07 TCHD Signature — Date

Distribution (Include all affected parties):

RMA Records ☐	RVO Engineer ☐	RVO QA ☐
RVO Health & Safety ☐	Approvers ☐	PMC ☐
Others ( ) ☐	RVO Air Group ☐	RVO Construction ☐
RVO Water Team ☐	RVO Env. Compliance ☐	Army Legal Counsel ☐

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