5.0 Summary of Site Characteristics

This section provides a general overview of site characteristics at RMA. More detailed information regarding the environmental setting, nature and extent of the contamination, contaminant fate and transport, and other special investigations associated with the RI Program can be found in the Remedial Investigation Summary Report and references therein.

The Army initiated the RI Program in 1984 to define the nature and extent of contamination in soil, water, structures, air, and biota at RMA to a degree sufficient to permit an assessment of contaminant migration and exposure to human and ecological receptors and selection of viable remediation options for RMA.

5.1 Sources of Contamination

Contaminants were introduced into the RMA environment beginning in the early 1940s by disposal of liquid waste in open basins, solid waste burial in trenches, accidental spills of feedstock and product chemicals, leakage from sewer and process water systems, emissions from air stacks, and use of commercial chemical products during normal facility operation. The most highly contaminated sites are located at South Plants, Basins A and F, and the Army and Shell disposal trenches in Section 36. Other contaminated sites include storage areas, maintenance areas, and sewer lines. Over time contaminants have migrated from the soil and sediments to groundwater at RMA.

5.2 Nature of Contamination

More than 600 chemicals have been associated with activities at RMA since it was first established. However, on the basis of risk and frequency of use, the RI focused on about 70 chemicals. Of these, the principal contaminants are organochlorine pesticides (OCPs), metals (including arsenic and mercury), agent-degradation products and manufacturing byproducts (e.g., DIMP), DBCP, and chlorinated and aromatic solvents. Contamination in soil, sediment, and groundwater includes relatively mobile and soluble compounds (e.g., solvents) and less soluble contaminants, principally OCPs and arsenic. This range of contaminants exhibits a great variability in environmental mobility and persistence. OCPs are less mobile than the other contaminants present and are more persistent, tending to associate with soil and sediment and to **biomagnify** in the food chain. Conversely, a solvent or DIMP migrates more readily into the groundwater and can spread more rapidly in groundwater plumes. However, the relative contributions of various sources to groundwater plumes are often difficult to ascertain as contaminants within a groundwater plume can rarely be unequivocally associated with a specific source.

5.3 Contaminant Migration Pathways

Chemicals have historically migrated from source areas through the unsaturated zone, unconfined and confined flow systems, surface water, and wind-borne pathways. These pathways are briefly described as follows:

- **Unsaturated Zone** – This is the usual pathway by which contaminants enter the aquifer. Contaminants migrate through the unsaturated zone to the aquifer most readily when it is thin and/or highly permeable.

The unsaturated zone is relatively thin beneath Basin A, the Lime Settling Basins, the Section 36 disposal trenches, and the north-central portion of South Plants.

- Unconfined Flow System – This is a major groundwater **migration pathway** that has transported contamination in shallow groundwater to the north and west from source areas.
- Confined Flow System – This pathway generally consists of fine-grained discontinuous, permeable sand lenses and lignites, separated by low-permeability siltstones and claystones, of the Denver Formation. Detections of contaminants in this pathway generally correspond with contaminant plumes in the overlying UFS, but the contamination is much less widespread and at much lower concentrations. In many cases, detections are suspected to be related to faulty well installation rather than actual migration into this zone. Transport of contaminants along this pathway is much slower than in the UFS.
- Surface Water – Historically, this was a major contaminant transport pathway, contributing to the spread of contaminants in basins, ditches, lakes, ponds, and land at RMA. Use of the disposal ditches has been discontinued. Runoff from major storm events or snow melt is expected to transport low concentrations of contaminants present in surficial soil, although the efficiency of this mechanism is limited for most areas.
- Windblown – Windblown transport of residual contamination from various sources is responsible for broad areas of low-level surficial soil contamination within RMA boundaries adjacent to the major source areas.

In the past, human and ecological receptors have potentially been exposed to contaminants via these pathways. The surface water pathway has been greatly reduced by discontinuing use of the liquid waste disposal and process water networks. IRAs have been designed to reduce and control the threats to off-post receptors, and land-use restrictions have minimized risks to humans on post. IRAs have also been designed to isolate ecological receptors from the most toxic sources. However, some of the major sources continue to pose a risk to ecological receptors and to humans (although access restrictions and health and safety practices prevent site workers and visitors from coming into contact with these sources).

5.4 Extent of Contamination

One hundred eighty-one sites with varying degrees of contamination, ranging from areas of several hundred acres with multiple contaminant detections at concentrations up to a few parts per hundred to isolated detections of single analytes at a few parts per billion, were delineated during the RI and subsequent studies. During the FS, these sites were combined into groups of sites containing similar contaminant types and distributions, as shown in Figure 5.4-1. In addition, areas of RMA potentially containing Army chemical agent or **unexploded ordnance (UXO)** were delineated, as shown in Figure 5.4-2. Summary discussions of the contaminant concentrations and distributions, along with analytical results in tabular format, can be found in the Remedial Investigation Summary Report and subsequent studies referenced in the Detailed Analysis of Alternatives report.

Contamination was detected in soil, ditches, stream and lakebed sediments, sewers, groundwater, surface water, biota, structures, and, to a much lesser extent, air. Less extensive and less concentrated contamination occurs only sporadically within the relatively uncontaminated buffer zone along the boundaries. The most highly contaminated sites (those showing the highest concentrations and/or the greatest variety of contaminants) are concentrated in the

central six sections (square miles) of RMA (Sections 1, 2, 25, 26, 35, and 36) within which the manufacturing and waste disposal areas are located.

A number of sites at RMA that posed a potential risk to human health and the environment have been initially addressed by the implementation of IRAs. Additional actions at these sites and the other contaminated sites that remain will be undertaken as specified in this ROD, thereby reducing the risks to human health and the environment. Current conditions for air, wildlife, water, structures, and soil are described below.

Air

The Army is currently monitoring the ambient air at strategic locations at RMA. No ambient air contamination related to RMA has been consistently detected, and air quality at RMA is generally better than that of the surrounding Denver metropolitan area.

Wildlife

Elevated contaminant concentrations have been detected in some wildlife at RMA. Adverse impacts, including death, have been identified for individuals of species feeding or residing in certain highly contaminated areas at RMA. USFWS, through the ongoing biomonitoring program, is studying the wildlife populations at RMA for health effects by analyzing tissue samples, conducting bioassays, and recording animal observations such as reproduction, survival, and mortality. The Parties, represented by the Biological Assessment Subcommittee (BAS), are working together with USFWS to ensure that the study of potential effects is designed to consider actual exposures for the individuals sampled. The potential for additional unacceptable levels of exposure to biota on RMA is being evaluated for support of design refinement by Phase I of the **Supplemental Field Study (SFS)** (see Section 6.2.4.3).

Groundwater

The regional groundwater flow direction at RMA is northwest toward the South Platte River. High groundwater flow volumes and velocities at RMA are associated with thick, permeable sand and gravel deposits of the Platte River Valley, which occur along the Western Tier (e.g., Sections 4, 9, and 33) of RMA, and with similar deposits along First Creek. The saturated portion of these alluvial sediments is generally thicker and coarser grained than alluvial sediments in the central portion of RMA. Groundwater flow velocities and volume in the central portion of RMA are one or more orders of magnitude less than in the Western Tier or First Creek areas because groundwater in the central portion flows through predominantly thin, fine-grained alluvium and low-permeability bedrock. Superimposed on the regional groundwater flow system is a large groundwater mound centered over a bedrock topographic high beneath the South Plants. Groundwater in this area flows radially away from the South Plants mound and eventually flows towards the Western Tier or the northern boundary.

Because RMA is located in a semiarid environment, the amount of annual groundwater recharge from precipitation is low (precipitation is approximately 15 inches per year). Sources of manmade recharge have historically contributed to the groundwater mound in South Plants. These manmade sources include leaking potable and process water systems (used for fire protection), sanitary and storm sewer systems, infiltration of steam plant cooling water discharged to ditches, and infiltration of precipitation that ponds in depressions and ditches adjacent to buildings and roadways. The amount of recharge from these manmade sources is decreasing and eventually will be eliminated when remediation activities are completed. The sanitary and chemical sewers systems were closed in 1992 and the steam plant in South Plants is no longer in operation. Since that time, measurements indicate that groundwater elevations in South Plants have decreased several feet. It is currently believed that the decrease in water levels is the result, in part, of the reduction in manmade recharge; however, some of the decreases in water levels may be due to drought. In the long term, water levels in the mound area are expected to decrease as a result of eliminating manmade recharge.

To develop and evaluate remedial alternatives, the 15 groundwater contaminant plumes identified at RMA were grouped into 5 plume groups, primarily based on location (Figure 5.4-3). The five plume groups are as follows:

- North Boundary Plume Group
- Northwest Boundary Plume Group
- Western Plume Group
- Basin A Plume Group
- South Plants Plume Group

The North Boundary Plume Group includes the Basins C and F Plume and the North Plants Plume (Figure 5.4-3). The NBCS extracts and treats these plumes as they approach the northern boundary of RMA. The Basins C and F Plume flows primarily within alluvial-filled paleochannels and to a lesser extent through weathered bedrock. The North Plants Plume flows primarily within sandy alluvial material. The primary contaminants in the Basins C and F Plume are chloroform, benzene, atrazine, dieldrin, DIMP, TCE, DBCP, and DDT. The plume also has high levels of inorganics such as fluoride, chloride, and sulfate. The primary contaminant in the North Plants Plume is DIMP. Sulfate is present at high concentrations (chiefly due to natural sources) in the First Creek aquifer. Concentration ranges for these primary contaminants are presented in Table 5.4-1.

The Northwest Boundary Plume Group includes the Basin A Neck Plume and the Sand Creek Lateral Plumes. The existing NWBCS (Figure 5.4-3) was installed to intercept and treat these plumes at the RMA boundary. The Basin A Neck Plume extends from Basin A in Section 36 to the northwest boundary of RMA. The Sand Creek Lateral Plumes appear to originate in the vicinity of the Sand Creek Lateral in the western portion of Section 35 and merge with the Basin A Neck Plume. The primary organic contaminants in these plumes are dieldrin, chloroform, and DIMP. The Basin A Neck Plume also has high levels of chloride, fluoride, and sulfate. However, dieldrin is the only compound

that is present at levels requiring treatment at the boundary. Contaminant concentration ranges for the primary contaminants in this plume group are presented in Table 5.4-2.

The Western, Motor Pool, and Rail Yard Plumes are collectively defined as the Western Plume Group. The Motor Pool and Rail Yard Plumes are treated by the ICS and those portions of the Western Plume that extend off post (downgradient) are extracted by the SACWSD water supply wells and treated at the Klein treatment plant. The plumes occur primarily within thick alluvial-terrace deposits. The primary contaminants in these plumes are TCE in the Motor Pool Plume; 1,1-dichloroethylene, 1,1 ,1-trichloroethane, and TCE in the Western Plume; and DBCP in the Rail Yard Plume. The concentrations of these primary contaminants are shown in Table 5.4-3.

The Basin A Plume Group includes the Basin A Plume, the South Plants North Plume, and the Section 36 Bedrock Ridge Plumes. Contaminated groundwater flow in the South Plants North and Basin A Plumes occurs principally within saturated alluvium, with lesser flow through the underlying weathered bedrock. However, in the Section 36 Bedrock Ridge area, the water table generally lies below the alluvium and groundwater flows predominantly within weathered bedrock. The major contaminants detected in all the Basin A Plume Group are chloroform, methylene chloride, DIMP, TCE, DBCP, and benzene. Additionally, aldrin, dieldrin, and chlordane are also major contaminants in the South Plants North and Basin A Plumes. The concentrations of these contaminants are presented in Table 5.4-4.

The South Plants Plume Group includes the South Plants Southeast, Southwest, North Source, and the South Tank Farm Plumes. Groundwater in these plumes flows principally within the weathered, upper portion of the Denver Formation. Small portions of the South Plants North Source and South Plants Southeast Plumes also flow within areas of thin, saturated alluvium. Continued monitoring of groundwater adjacent to Lake Ladora and Lower Derby Lake will make it possible to assess migration of contaminants toward the lakes. The primary contaminant in the South Tank Farm Plume is benzene. The major contaminants in the other plumes in the South Plants Plume Group include chloroform, carbon tetrachloride, TCE, tetrachloroethylene, benzene, aldrin, dieldrin, and DBCP. Contaminant concentrations for these contaminants are presented in Table 5.4-5.

Structures

The structures medium encompasses a wide variety of structural types and materials including all aboveground structures, buildings, foundations, basements, tanks (including underground storage tanks), process and nonprocess equipment (including bone yards), aboveground chemical and nonchemical pipelines, asbestos-containing material (ACM), equipment and materials contaminated with PCBs, and other miscellaneous manmade objects placed at RMA since it was acquired by the Army in May 1942. The structures medium also includes a few houses and barns constructed before 1942 that still exist at RMA.

During the FS, the use history information was used to categorize structures in terms of their potential for contamination. Detailed use histories of structures at RMA were gathered based on plant operational records, official Army and Shell histories, and depositions from operational personnel. The histories of each structure were summarized in the Task 24 Structures Survey Report (Ebasco 1988). For example, the history of a structure involved with chemical production would include the chemicals produced, the years of operation, and any spills, exposures, or accidents that occurred there. Similarly, the history of a structure used for nonproduction activities would include the type of use, such as staff housing or administration, and any chemical spills or accidents that may have occurred there.

There are 798 structures currently standing at RMA. In order to efficiently evaluate cleanup alternatives, structures with similar use histories and potential for contamination were placed in one of four groups. One of the four groups is identified as "Future Use," meaning that the use history indicates the structures are uncontaminated, and they have some usefulness at the conclusion of remedial activities. The other three groups are identified as "No Future Use," meaning that they are not needed following remediation and that their use history indicates the structures may be contaminated. Many of these structures must be removed to access the underlying contaminated soil. These three groups are further distinguished by the relative severity of the potential contamination associated with their use histories. The four structures medium groups, and the number of structures included in the groups, are as follows:

- Future Use, No Potential Exposure (Future Use Group) – 48 structures
- No Future Use, Significant Contamination History (Significant Contamination History Group) – 49 structures
- No Future Use, Other Contamination History (Other Contamination History Group) – 631 structures
- No Future Use, Agent History (Agent History Group) – 70 structures

Tables 5.4-6 through 5.4-9 present an inventory of the structures included in each medium group. Refinement of the Future Use structures inventory will be completed during remedial design.

Soil

The soil medium consists of unsaturated soil, bedrock, fill material, process water lines, chemical and sanitary sewer lines, lake sediments, and soil/waste/debris mixtures. The term "soil," used for convenience in this document, refers to any of these materials. A total of 178 potentially contaminated soil sites were investigated during the RI, and three sites were added during the FS as a result of additional IRA and RI investigative efforts. Of the 181 sites investigated, 114 were determined to require further evaluation in the FS based on the site evaluation criteria (SEC) as described in Section 7.1.3, on potential agent or UXO presence, or on the potential risk to biota as described in Section 6.2. These 114 sites are organized into four exceedance categories as follows:

- Potential UXO Presence – Potential presence of UXO identified as the only risk
- Potential Agent Presence – Potential presence of Army chemical agent identified as the only risk

- Biota Risk – Potential risk only to biota based on the evaluations presented in the Integrated Endangerment Assessment/Risk Characterization report
- Human Health Exceedance – Exceedance of human health SEC, although portions of these sites may also potentially contain UXO, potentially contain agent, and/or pose potential risks to biota

The sites were further organized into 15 medium groups, which are groups of sites within each exceedance category that are similar in site type and contamination patterns (e.g., sanitary landfills with metallic debris and rubbish). Eight of these medium groups were divided into subgroups based on chemical or physical variation between the sites within a group.

The site characterisics that were used to develop medium groups and subgroups fall into nine general criteria, which are described as follows:

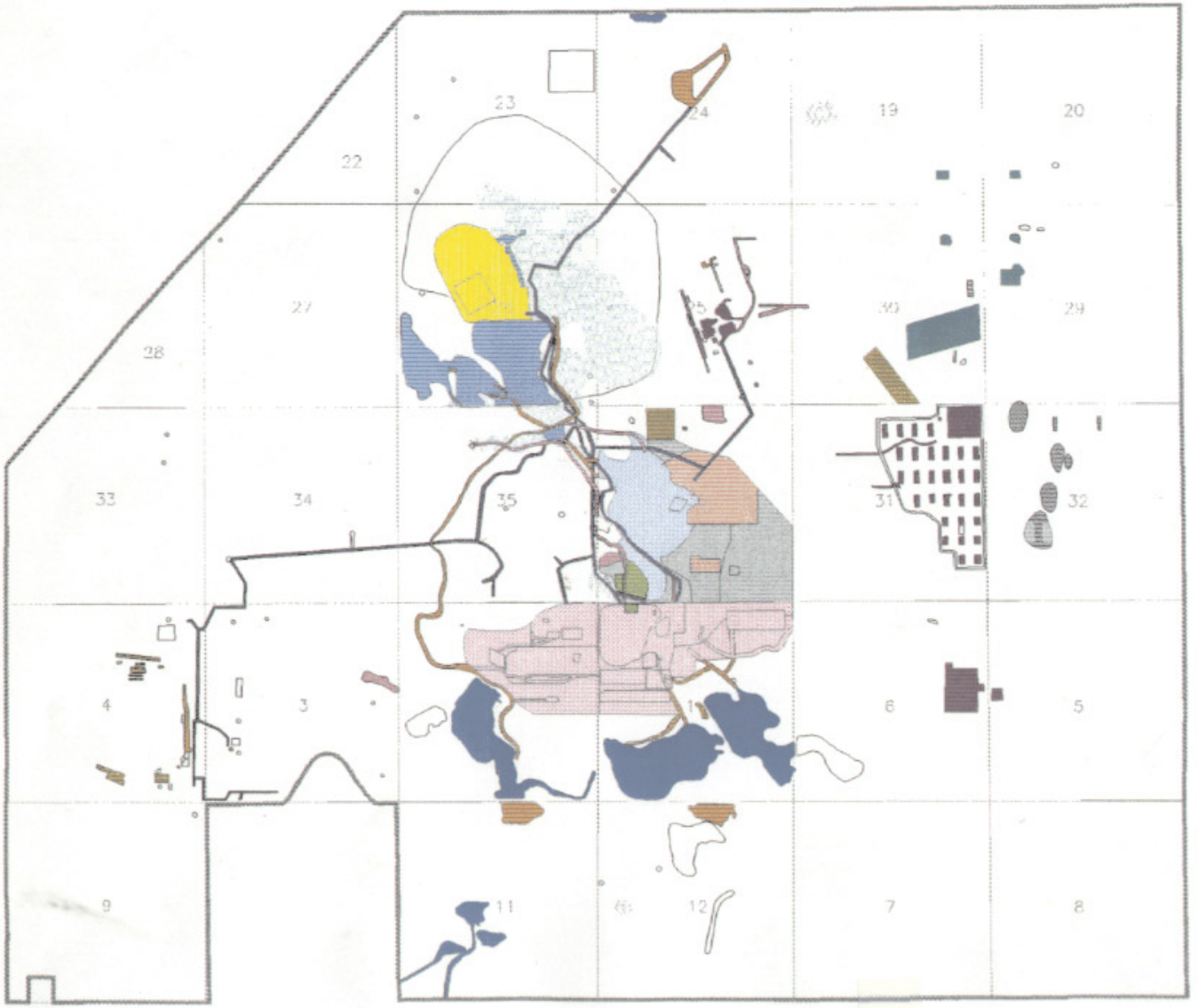
- Depth of Contaminated Soil – This criterion is evaluated because the depth of contamination may limit the suitability of particular remedial technologies. For example, technologies such as **surface heating** are effective only for volatile contaminants at shallow depths.
- Driver Contaminants – The types of contaminants that comprise the exceedance volumes influence the evaluation of alternatives. One treatment technology may provide effective remediation for all contaminants detected at the site. In some cases, however, a primary remedial technology is developed for the most prevalent contaminant(s) and a secondary treatment system or systems are used for the remainder of the contamination.
- Depth to Groundwater – Thickness of the unsaturated zone varies across RMA, and treatment technologies may require a minimum thickness for installation and function of the system. For example, **in situ vitrification** and **RF heating** require a minimum unsaturated soil thickness to operate.
- Major Soil Type – The total of 10 soil units that have been identified at RMA were divided into four soil types based on texture, clay content, and soil permeability for the purpose of evaluating subgroups. Soil types may increase or reduce treatment effectiveness. For example, **soil venting** is more effective on a sandy loam than on a clay loam due to the increased porosity and permeability of a sandy unit.
- Soil/Groundwater Interactions – Soil/groundwater interactions are evaluated at each site to assess the potential impacts of soil alternatives on groundwater alternatives.
- IRAs – Sites at which IRAs have been or are being performed (see Section 2.4) may not need further remediation if the IRA is determined to provide long-term protection of human health and the environment.
- Site Configuration – Site shapes vary and are categorized as either square to oblate or extremely narrow. The shape of a site can affect the selection of an alternative. For example, extremely narrow sites, such as ditches, are not favorable locations for access controls like **habitat modifications**.
- Agent/UXO Presence – Agent and/or UXO along with human health **contaminants of concern (COCs)** or contaminants that pose potential risk to biota may be present at some of the sites. Sites are identified that potentially contain agent and/or UXO based on historical usage of the site as presented in the Remedial Investigation Summary Report. Additional FS data-collection programs have been performed to further define the extent of agent contamination.
- Site Type/Usage – Each site was evaluated for site type or usage and eight categories were developed in the Remedial Investigation Summary Report. The site type/usage categories include surface soil/windblown; ordnance testing and disposal; spills/isolated; lake sediments, ditches, and ponds; basins or lagoons; buildings, equipment, and storage; sewer systems; and buried waste.

The exceedance categories, medium groups, and subgroups that were developed based on these criteria are listed in Table 5.4-10; the medium group and subgroup characteristics are described in Table 5.4-11. The contaminant concentrations (range and average) detected for each medium group and subgroup within the soil exceedance volumes defined by the SEC are listed in Table 5.4-12. The exceedance volumes represent only those parts of a site that exceed the SEC; therefore, the listed ranges and average concentrations are higher than the data for each site as a whole (see Section 6).

5.5 Potential Human and Environmental Exposure

Contaminant sources and pathways are identified to allow an assessment, described in Section 6, of the potential for exposure and risk to human health or the environment. In summary, most of the potential human health risks are caused by four chemicals, aldrin, dieldrin, DBCP, and arsenic. The highest estimated risks are limited to the central portions of RMA, coinciding with the former location of chemical processing and disposal areas (e.g., South Plants, the disposal trenches and basins). The primary routes for potential exposure are consumption, dermal contact, and inhalation. Some of the sites pose a risk to wildlife and could pose a risk to site workers and visitors. However, in these heavily contaminated areas, public access is carefully restricted and workers follow prudent health and safety procedures. IRAs have reduced some of the potential risks associated with these sites; however, risks still remain and the reduction of those risks to acceptable levels (see Section 6) is addressed by this ROD.

Under current conditions, biota are the primary receptors of RMA contamination in surficial soil, lakebed sediments, and surface water. Because of this, significant wildlife management practices have been implemented to attract wildlife to uncontaminated areas of RMA and also to eliminate wildlife from contaminated areas. Most of the potential biota risks are caused by pesticides and metals. The primary route for biota exposure is ingestion. Consumption of contaminated prey is a concern at higher trophic levels due to contaminants such as OCPs, which are known to **bioaccumulate** and biomagnify in the food chain.



Legend

- RMA Boundary
- SAR Site Boundary[1]
- Munitions Testing
- Agent Storage { North Plants / Toxic Storage Yards
- Lake Sediments
- Surficial Soil
- Ditches/Drainage Areas
- Basin A
- Basin F { Former Basin F / Basin F Wastepile
- Secondary Basins
- Sewer Systems
- Disposal Trenches { Complex Trenches / Shell Trenches / Hex Pit
- Sanitary Landfills
- Lime Basins { Section 36 Lime Basins / M-1 Pits
- South Plants (Central Proc., Ditches, Balance)
- Buried Sediments/Sand Creek Lateral
- Undifferentiated { Section 36 Balance of Areas / Burial Trenches
- 5 Section Number

[1]Study Area Report (see Remedial Investigation Summary Report, Ebasco 1992a).

-N-

1500 0 1500 3000 Feet

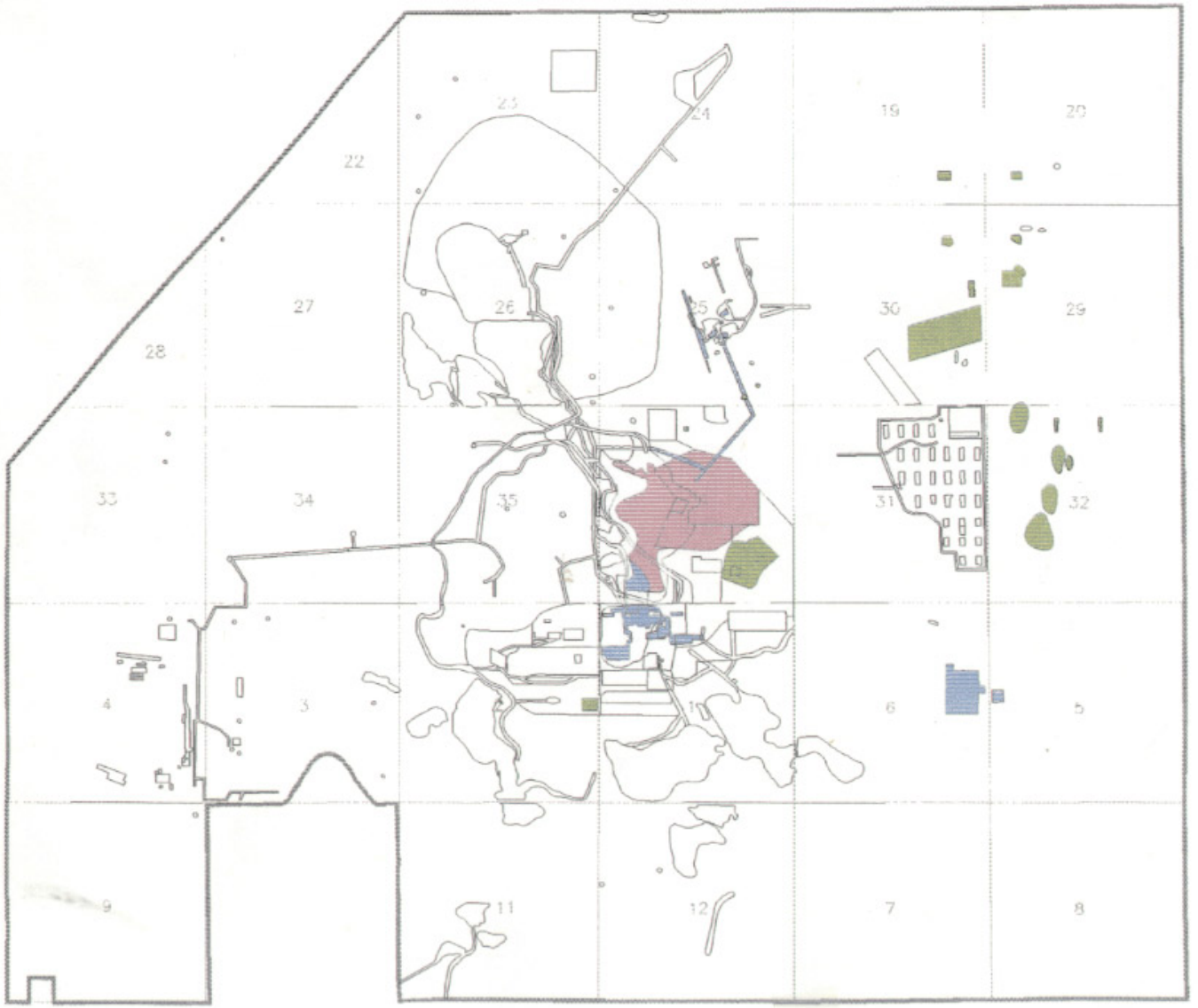
Prepared for: U.S. Army Program Manager for Rocky Mountain Arsenal

Figure 5.4-1

RMA Soil Medium Groups

Foster Wheeler Environmental Corporation
June 1996

File Name: C:\SOILS\ROD\MEDGRP
Date 6/06/96
Drawn by XG
Checked by SA



Legend

- RMA Boundary
- SAR Site Boundary[1]
- Potential Agent and UXO Area
- Potential UXO Area
- Potential Agent Area
- Section Number

[1] Study Area Report (see Remedial Investigation Summary Report, Ebasco 1992a).

-N-

1500 0 1500 3000 Feet

Prepared for: U.S. Army Program Manager for Rocky Mountain Arsenal

Figure 5.4-2

Potential Agent/UXO Presence Areas

Foster Wheeler Environmental Corporation
June 1996

File Name: C:\SOILS\ROD\AGT-UXO
Date 6/06/96
Drawn by XG
Checked by SA

LEGEND

- North Boundary Plume Group
  - (1) Basins C and F Plume
  - (2) North Plants Plume
- Northwest Boundary Plume Group (Outlined in blue: ——)
  - (3) Basin A Neck Plume
  - (4) & (5) Sand Creek Lateral Plumes
- Western Plume Group
  - (6) Western Plume (Outlined in yellow: ——)
  - (7) Motor Pool Plume
  - (8) Rail Yard Plume
- Basin A Plume Group
  - (9) South Plants North Plume
  - (10) Basin A Plume
  - (11) Section 36 Bedrock Ridge Plume
- South Plants Plume Group
  - (12) South Plants North Source Plume
  - (13) South Plants Southeast Plume
  - (14) South Plants Southwest Plume
  - (15) South Tank Farm Plume
- Groundwater Control System

[1] Colored portions of plumes indicate summed total organic concentrations above 100 ug/l.

0 1000 2000
Scale in Feet

Prepared for:
U.S. Army Program Manager for Rocky Mountain Arsenal
Prepared June 1996

Figure 5.4-3
Generalized Contaminant Plume Locations[1]

Rocky Mountain Arsenal
Prepared by: Foster Wheeler Environmental Corporation

File Name: F:\PROJECTS\RMA\FS_4-3.DWG
Date 6/06/96
Drawn by TH/JLS
Checked by SA

Table 5.4-1 Primary Contaminant Concentrations in the North Boundary Plume Group[1,2]

Analyte	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	TSGM[3] (µg/l)
North Plants Plume			
DIMP	<0.39	3,900	44
Sulfate	8,600	1,800,000	600,000
Basins C and F Plume			
Chloroform	<0.5	85,000	8.5
Trichlorethylene	<0.5	790	1.6
Benzene	<0.5	460	1.8
Dieldrin	<0.05	440	0.46
DIMP	<0.2	64,000	210
DDT	<0.049	27	0.11
Atrazine	<0.51	1,800	5.4
DBCP	<0.06	71	0.21
Chloride	7,200	32,000,0000	1,000,000
Fluoride	180	500,000	4,100
Sulfate	<180	10,000,000	660,000

1 The reported concentrations are based on data from first quarter 1989 through second quarter 1994.

2 Concentrations are reported with two significant figures.

3 The two-step geometric mean (TSGM) was used to calculate plume concentration averages. In the first step, the geometric mean of all samples for each individual well was calculated, and in the second step, the geometric mean for all wells within the identified plume was calculated.

Table 5.4-2 Primary Contaminant Concentrations in the Northwest Boundary Plume Group[1,2]

Analyte	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	TSGM[3] (µg/l)
Basin A Neck Plume			
Chloroform	<0.5	30	3.4
Dieldrin	<0.05	3.5	0.14
DIMP	<0.39	5,900	66
Chloride	30,000	1,900,000	670,000
Fluoride	1,100	6,200	2,600
Sulfate	190,000	2,400,000	630,000
Sand Creek Lateral Section 35 Plume			
Chloroform	<0.5	4.5	0.96
Dieldrin	<0.05	0.10	0.032
Sand Creek Lateral Section 27 Plume			
Chloroform	18	22	20
Dieldrin	0.50	2.6	1.1
DIMP	0.81	3.2	1.8

1 The reported concentrations are based on data from first quarter 1989 through second quarter 1994.

2 Concentrations are reported with two significant figures.

3 The two-step geometric mean (TSGM) was used to calculate plume concentration averages. In the first step, the geometric mean of all samples for each individual well was calculated, and in the second step, the geometric mean for all wells within the identified plume was calculated.

Table 5.4-3 Primary Contaminant Concentrations in the Western Plume Group[1,2] Page 1 of 1

Analyte	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	TSGM[3] (µg/l)	TSGM[3,4]
Western Plume				
1,1,1-Trichloroethane	<0.76	100	4.0	4.3
1,1-Dichloroethylene	<1.7	48	3.6	3.7
TCE	<0.56	55	5.8	4.0
Motor Pool Plume				
TCE	<0.49	180	3.0	1.1
Rail Yard Plume				
DBCP	1.1	29	13	1.0

1 The reported concentrations are based on data from first quarter 1989 through second quarter 1994.

2 Concentrations are reported with two significant figures.

3 The two-step geometric mean (TSGM) was used to calculate plume concentration averages. In the first step, the geometric mean of all samples for each individual well was calculated, and in the second step, the geometric mean for all wells within the identified plume was calculated.

4 These data were estimated using third quarter 1994 through fourth quarter 1995 data.

Table 5.4-4 Primary Contaminant Concentrations in the Basin A Plume Group[1, 2] Page 1 of 1

Analyte	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	TSGM[3] (µg/l)
Basin A Plume			
Chloroform	<0.5	100,000	180
TCE	<0.56	8,200	26
Methylene chloride	<2.5	910,000	50
Benzene	<1.1	39,000	52
DIMP	<0.2	29,000	60
Aldrin	<0.05	9.5	0.080
Dieldrin	<0.05	19	0.17
Chlordane	<0.095	120	0.11
DBCP	<0.13	10,000	9.7
Section 36 Bedrock Ridge Plume			
Chloroform	<0.5	23,000	56
TCE	2.2	3,000	98
Tetrachloroethylene	1.1	14,000	370
Methylene chloride	<1.0	910,000	50
Benzene	<1.0	890	5.8
DBCP	<0.13	120	0.24
South Plants North Plume			
Chloroform	<0.5	2,900,000	180
TCE	<0.56	6,200	6.2
Methylene chloride	<2.5	34,000	39
Benzene	<1.1	100,000	24
Aldrin	<0.05	300	0.21
Dieldrin	<0.046	65	0.20
Chlordane	<0.095	460	0.56
DBCP	<0.13	480	0.90

1 The reported concentrations are based on data from first quarter 1989 through second quarter 1994.

2 Concentrations are reported with two significant figures.

3 The two-step geometric mean (TSGM) was used to calculate plume concentration averages. In the first step, the geometric mean of all samples for each individual well was calculated, and in the second step, the geometric mean for all wells within the identified plume was calculated.

Table 5.4-5 Primary Contaminant Concentrations in the South Plants Plume Group[1,2]

Analyte	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	TSGM[3] (µg/l)
South Tank Farm Plume			
Benzene	<1.0	1,500,000	1,200
South Plants Southwest Plume			
Chloroform	14	420	71
Carbon Tetrachloride	<0.99	200	9.0
TCE	<0.56	8.6	2.1
Tetrachloroethylene	<0.75	23.7	4.6
Benzene	<1.1	220	1.6
Dieldrin	0.092	15	0.27
DBCP	<0.13	0.93	0.11
South Plants Southeast Plume			
Chloroform	400	45,000	2,500
Carbon Tetrachloride	30	1,500	140
TCE	2.5	710	22
Tetrachloroethyene	<0.75	440	17
Benzene	9.9	8,100	230
Aldrin	<0.05	310	0.17
Dieldrin	<0.05	32	0.23
DBCP	<0.195	1,900	22
South Plants North Source			
Chloroform	1.6	500,000	1,400
TCE	<1.31	1,500	18
Tetrachloroethylene	<0.75	950	60
Methylene chloride	<2.5	3,800	14
Benzene	2.2	82,000	390
Aldrin	<0.083	71	0.44
Dieldrin	<0.05	110	0.35
Chlordane	<0.095	29	0.21
DBCP	<0.13	3,200	4.7

1 The reported concentrations are based on data from first quarter 1989 through second quarter 1994.

2 Concentrations are reported with two significant figures.

3 The two-step geometric mean (TSGM) was used to calculate plume concentration averages. In the first step, the geometric mean of all samples for each individual well was calculated, and in the second step, the geometric mean for all wells within the identified plume was calculated.

Table 5.4-6 Inventory of Future Use, No Potential Exposure Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
1	0105	Bus Shelter			33		Short-Term			Not in T-24	
2	0111	RMA Administration, Hqs, Offices	770	39,000	35						
3	0112	Communication Headquarters	290	2,300	35				Cleanup		
4	0120	Facilities Maintenance Headquarters		15,380	35		Long-Term			Not in T-24	
5	0121	Change House		5,000	35		Long-Term			Not in T-24	
6	0124	Maintenance Garage		6,900	35		Long-Term			Not in T-24	
7	0128	Mission Support Contractor		13,200	35		Long-Term			Not in T-24	
8	0129	Administrative Record Facility		38,400	35				Cleanup	Not in T-24	
9	0130	Chemistry Laboratory		17,500	35		Long-Term		Cleanup	Not in T-24	
10	0133	Sewage Lift Station			35		Long-Term			Not in T-24	
11	0135	Guardhouse			04					Not in T-24	
12	0143	West Gate Guardhouse	23	180	04						
13	0145	South Gate Guardhouse	46	170	11						
14	0211	Gas Meter House	21	240	02		Long-Term		Cleanup		
15	0312	Fire Station Headquarters	860	12,000	36		Long-Term				
16	0361	Primary Electrical Substation	54	380	02				Cleanup and Beyond		
17	0369	Lower Derby Valve Gate	20	49	01		Long-Term		Cleanup		
18	0370	Restroom			02		Long-Term			Not in T-24	
19	0371	Water Pumping Station	820	1,800	02		Long-Term		Cleanup		
20	0372	Million Gallon Reservoir (Potable)	530	21,000	02						
21	0383	Community Club	340	6,100	02		Short-Term				
22	0385	Water Pump Station	14	140	04		Long-Term		Cleanup		
23	0386	Water Pump Station	14	140	04		Long-Term		Cleanup		
24	0387	Water Pump Station	14	140	04		Long-Term		Cleanup		
25	0551	Elevated Storage Tank, South Plants	620		01				Cleanup		Tanks/Pipes
26	0552	Valve Pit	55	310	01				Cleanup		
27	0618	Warehouse	5,300	110,000	03		Short-Term		Cleanup		
28	0619	Warehouse	5,200	110,000	03		Long-Term		Cleanup		
29	0702	Bald Eagle Observation Structure			05		Long-Term			Not in T-24	
30	NN0501	Abandoned School-fdn & wall	45	1,300	05		Long-Term				
31	NN0903	VORTAC Station	110	1,000	09						
32	SS 0370	Substation-1T-150'W of C			03		Long-Term				

Table 5.4-6 Inventory of Future Use, No Potential Exposure Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
33	SS 0371	Substation-10T-N of 371			02		Long-Term				
34	SS 0385	Substation-3 T-N of 385			04		Long-Term				
35	SS 0386	Substation-3 T-N of 386			04		Long-Term				
36	SS 0387	Substation-3 T-W of 387			04		Long-Term				
37	SS 0619	Substation-4T-N of 619			03		Short-Term				
38	Z-28	Trailer			23				Cleanup	Not in T-24	
39	Z-3	Trailer			35				Cleanup	Not in T-24	
40	Z-38	Trailer			04				Cleanup	Not in T-24	
41	Z-39	Trailer			04				Cleanup	Not in T-24	
42	Z-40	Trailer			25				Cleanup	Not in T-24	
43	Z-41	Trailer			25				Cleanup	Not in T-24	
44	Z-42	Trailer			25				Cleanup	Not in T-24	
45	Z-58	Trailer			35				Cleanup	Not in T-24	
46	Z-68	Trailer			35				Cleanup	Not in T-24	
47	Z-69	Trailer			35				Cleanup	Not in T-24	
48	Z-70	Trailer			04				Cleanup	Not in T-24	

[1] These buildings may be reevaluated for potential historic preservation or future use. The Rocky Mountain Arsenal National Wildlife Refuge Act states that "transfer shall be made without cost to the Secretary of the Interior and shall include such improvements on property as the Secretary of the Interior may request in writing for refuge management purposes."

Table 5.4-7 Inventory of No Future Use, Significant Contamination History Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
1	0242	Chlorine Production/US Mint Storage	3,100	42,000	02						
2	0243	Chlorine Production Compressor Bldg	1,000	9,200	02						
3	0247	Salt Storage Building & foundation	1,100	58,000	02						
4	0251	Chlorine Evaporator/Storage	1,100	23,000	02						
5	0342	Warehouse/M74 I. B. Storage	1,000	13,000	02						
6	0411	SM & SD Manufacturing/Storage	1,500	16,000	01						
7	0411A	Steam Meter House	6	72	01						
8	0424A	Mustard Scrubber-foundation	10	720	01						
9	0424C	Aldrin Filter Building-foundation	16	750	01						
10	0451	Warehouse/Production Filling	900	11,000	01	Leased					
11	0471	TC Reactor/Pesticide Production	580	5,100	01	Leased					
12	0473	TC Drum Loading/Pesticide Packaging	86	1,900	01	Leased					
13	0475	Railroad Car Warmer Shed	180	980	01	Leased					
14	0502	West Chemical Metering Pump	41	700	01	Owned					
15	0503	East Chemical Metering Pump	37	290	01	Owned					
16	0505	DET Pretreatment Feed Pump House	30	510	01	Owned					
17	0507	DET Separator Pumphouse	41	520	01	Owned					
18	0515	CP/DDT/Pesticide Production	1,600	15,000	01	Leased					
19	0515A	Nudrin/Endrin Storage	202	1,900	01	Owned					
20	0521	Acetylene Compressor/Pesticide Mfg.	220	1,100	01	Leased					
21	0521A	Refrigeration/DCPD Cracking	36	320	01	Owned					
22	0523	AT Mfg. Bldg./Igniter Tube Filling	300	4,000	01						
23	0523C	Arsenic Trioxide Dry Storage Silo	71	210	01	Leased					
24	0523D	Arsenic Trioxide Dry Storage Silo	96	360	01	Leased					
25	0523E	Arsenic Trioxide Dry Storage Silo	96	360	01	Leased					
26	0523F	Arsenic Trioxide Dry Storage Silo	96	360	01	Leased					
27	0523G	Arsenic Trioxide Dry Storage Silo	96	360	01	Leased					
28	0525	Product Development Lab/Nudrin Mfg.	380	8,100	01	Leased					
29	0526	Pesticide Filter-foundation	26	900	01						
30	0532	Pesticide Storage/Warehouse	1,100	12,000	01	Leased					
31	0533	Flammable Materials Storehouse	19	130	01	Leased					
32	0534	Pumphouse/Storage	330	930	01	Leased					

Table 5.4-7 Inventory of No Future Use, Significant Contamination History Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
33	0534A	Drum Storage/Field Shop/Office	250	2,700	01	Owned					
34	0534B	Planavin Manufacture	470	13,000	01	Owned					
35	0542	Drummed Product Storage/Gen.Storage	1,000	11,000	01						
36	0544	Heavy Equipment Maintenance Shop	180	3,300	01						
37	0561	BCH Unit Control House	170	1,600	01	Owned					
38	0571	Vent Gas Burner	140	520	01	Owned					
39	0571B	Tank Room/HCCPD Drum Storage	130	2,600	01	Owned					
40	0616	Warehouse	910	11,000	03		Short-Term				
41	0624	Repair/Salvage/Surplus Facility	850	24,000	04				Cleanup		
42	0627	Vehicle Maintenance Shop	620	16,000	04		Short-Term		Cleanup		
43	0631	Railcar Maintenance/Roundhouse	350	4,500	04				Cleanup		
44	0643	Flammable Materials Storehouse	55	400	03						
45	0646	Rodent Control Building-foundation	5	840	04						
46	0724	Incinerator/Electostatic Preciptator	460	2,600	01	Owned					
47	0741	Refrigeration Building	880	6,300	01						
48	0834	Incinerator	120	3,800	36						
49	0884	Igloo Storage	210	1,600	06						

[1] These buildings may be reevaluated for potential historic preservation or future use. The Rocky Mountain Arsenal National Wildlife Refuge Act states that "transfer shall be made without cost to the Secretary of the Interior and shall include such improvements on property as the Secretary of the Interior may request in writing for refuge management purposes."

Table 5.4-8 Inventory of No Future Use, Other Contamination History Medium Group

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
1	0112A	Emergency Generator Plant	35	240	35				Cleanup		
2	0112B	BBQ-N of 112	2	16	35						
3	0114	Security Incinerator	8	34	35						
4	0116	Bus Stop Shelter	4	140	01						
5	0132	Shell/MKE Field Headquarters			35				Cleanup	Not in T-24	
6	0136	Garage-to 134-foundation	3	130	35						
7	0137	Garage-to 131-foundation	3	130	35						
8	0148	Storage/Pass Office-NW of 166	1	410	34						
9	0169B	Gas Station House-fdn-S of 150	4	100	34						
10	0176	5-Unit Garage & Unused Apt-foundation	24	1,500	03						
11	0213	Calibration Facility/X Ray Lab	680	4,600	02						
12	0241	Administration/Lab/Change House	290	3,000	02						
13	0244	3 Liquid Chlorine Tank Saddles	30	200	02						
14	0245	Substation Building	23	210	02						
15	0246	HCl Production Facility	56	1,600	02						
16	0248	Brine Treatment Plant-foundation	180	4,200	02						
17	0249	Brine Storage & Pump House-foundation	260	9,300	02						
18	0252	Cell Liquor Storage-foundation	29	2,900	02						
19	0253	50% NaOH Storage-foundation	36	4,500	02						
20	0254	Caustic Fusion Plant/Drum Storage	1,200	16,000	02	Leased					
21	0255	Fuel Oil Pump Station & 2 tank pads	23	300	02	Leased					
22	0256	Fuel Oil Tank-SE corner of 254	6	65	02						
23	0282	Guard Station-foundation-NW of NN0102	7	64	01						
24	0286	Guard Station-SE of 557-foundation	6	64	01						
25	0287	Guard Tower-foundation	6	64	01						
26	0291	Guard Station-foundatn-735'W of 362	6	64	02						
27	0295	Guard Tower-SE of 112-foundation	6	64	02						
28	0296	Guard Tower-foundation	6	64	02						
29	0307	Potable Water Valve & Meter Pit	11	130	36				Cleanup and Beyond		
30	0309	Maintainence/Storage-S of 545	10	420	01						
31	0311	Sterns-Rogers Office/Sample Storage	350	4,400	02				Cleanup		
32	0313A	Sewage Pump Station	3	38	01						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
33	0314	Fixed Laundry Service Building	770	8,600	01						
34	0315A	Steam Meter Pit-W of 315	7	100	01				Cleanup		
35	0316	Plants Dispensary/Clinic	240	3,200	01	Leased					
36	0316	Wood Shed-W of 727	2	100	01	Leased					
37	0316A	Morrison-Knudsen/Change House	340	5,100	01	Owned					
38	0317A	Pipe Shop/Grease Pit	48	2,600	01						
39	0318				35				Cleanup	Not in T-24	
40	0321	Boiler Plant-Central Gas Heat Plant	6,000	56,000	02				Cleanup		
41	0321C	Pumphouse	37	580	02				Cleanup		
42	0321D	Fuel Oil Pumphouse	38	480	02				Cleanup		
43	0322	Coal Sampling Building	30	340	02						
44	0322A	Tractor Storage Shed	34	410	02						
45	0323	Ash (Coal) Storage Silo-Hopper	350	500	02						
46	0324	Coal Hopper Structure	6	160	02						
47	0325	Electrical Power Plant	3,100	12,000	02						
48	0326	Power Plant Pumphouse & Spray Pond	720	15,000	02						
49	0327	Cafeteria-foundation	29	1,600	02						
50	0328	Goop Mixing and Filling Building	2,300	16,000	02						
51	0328A	Toilet House	15	130	02						
52	0329	Gasoline Pump Building	46	400	02						
53	0331	Phosgene Filling Warehouse	1,000	12,000	02				Cleanup		
54	0332	Warehouse	1,000	12,000	02				Cleanup		
55	0333	Warehouse	980	11,000	02				Cleanup		
56	0334	Warehouse	980	11,000	02				Cleanup		
57	0335	Warehouse	990	11,000	02				Cleanup		
58	0336	General Purpose Warehouse	990	11,000	02				Cleanup		
59	0337	Locker Room/Change House	57	590	02						
60	0338	Storage Magazine	12	54	02						
61	0339	Storage Magazine	14	54	02						
62	0340	Magazine	14	54	02						
63	0341	Change House	1,000	12,000	02						
64	0341A	Condensate Pump House	15	160	02				Cleanup		

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
65	0341B	Sewage Lift Station-covered pit	8	71	02						
66	0343	Manuf. Bldg. -PreClustering Warehous	1,000	11,000	02						
67	0343A	Flammable Materials Storehouse	29	240	02						
68	0344	Mfg Assembly/Warehouse	1,200	11,000	02						
69	0345	Mfg Assembly/Storage/Warehouse	1,000	11,000	02						
70	0346	Warehouse	920	11,000	02				Cleanup		
71	0347	Warehouse/Chemical Storage	1,900	27,000	02	Leased			Cleanup		
72	0351	Change House	920	9,000	02						
73	0352	Open Storage-foundation	250	12,000	02						
74	0352A	Quonset Storage	19	970	02						
75	0353	Open Storage-foundation	760	13,000	02						
76	0354	Warehouse	1,000	12,000	02						
77	0355	Warehouse	1,000	13,000	02						
78	0356	Warehouse	1,000	13,000	02						
79	0362	Warehouse	4,000	59,000	02				Cleanup		
80	0364	Sewage Lift Station-SE of 354	21	85	02						
81	0365	Explosive Blending Building	490	3,200	02						
82	0368	Swimming Pool & Filter House	640	1,900	02						
83	0372A	Chlorinator Station	56	380	02		Long-Term		Cleanup		
84	0373	Officer's Quarters	130	1,100	02		Long-Term				
85	0373B	Garage-to 373	42	720	02						
86	0374	Water Treatment Plant-W o'Lr Derby-fdn	110	890	02						
87	0378	Chlorinating Station (on airport)	16	150	10				Cleanup		
88	0379	Chlorinating Station	20	210	03				Cleanup		
89	0381				02				Cleanup	Not in T-24	
90	0382	Chlorinating Station	7	56	03						
91	0383A	Officer's Club Storage	16	82	02						
92	0391	Sewage Disposal & Treatment Plant	88	1,100	24						
93	0392	Sewage Lift Station	46	260	34				Cleanup		
94	0393	Sewage Lift Station	46	260	34				Cleanup		
95	0394	West Gate Sewage Treatment Plant	3	140	33						
96	0395	Toxic Yard Sewage Plant-NW of 867B	7	88	06						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
97	0409	Condensate Pump House	4	130	01						
98	0413	WP Storage/SM Storage	670	5,500	01						
99	0413A	Phossy Water Tank-W of 413	120		01						Tanks/Pipes
100	0415	Caustic Makeup Tank-foundation	79	290	01						
101	0432	Sand Blasting Pad/Change House-fdn	180	9,200	01	Leased					
102	0434	West Gas Holder	730		01	Leased					Tanks/Pipes
103	0435	East Gas Holder	720		01	Leased					
104	0459	Acetylene Generator Building	229	3,200	01	Owned					
105	0459A	Lime Slurry Pumphouse	24	81	01	Owned					
106	0459B	Lime Slurry Pumphouse	36	170	01	Owned					
107	0459C	Small Building-N of 459	6	140	01						
108	0461	Tank Farm Pumphouse	51	430	01	Leased					
109	0464	Sample Building	2	55	01						
110	0471B	Electrical Vault	9	160	01	Owned					
111	0471C	TC Refrigeration	66	730	01	Owned					
112	0472	TC Refrigeration	110	1,200	01	Leased					
113	0472A	Lunchroom/Maintainence Equipmt Stor	24	320	01	Owned					
114	0474	Electrical Control House	16	80	01	Leased					
115	0504	DET Emergency Diesel Generator	31	330	01	Owned					
116	0506	DET Control House	68	830	01	Owned					
117	0508	DET Copper Sulfate Treatment	160	4,700	01	Owned					
118	0509	DET Methyl Cl Compressor/Liquifier	69	430	01	Owned					
119	0510	Methyl Isocyanate Refrigeration	28	300	01	Owned					
120	0511	Chlorinated Paraffin Mfg./Storage	2,500	23,000	01	Leased					
121	0511A	Chlorinated Paraffin/Change House	160	1,700	01	Leased					
122	0512A	Flammable Solvent Storage Shed	7	250	01	Owned					
123	0514C	Pump House	1	96	01	Owned					
124	0514D	Refrigeration Compressor	13	200	01	Owned					
125	0514E	Monomethylamine Dilution Control	4	92	01	Owned					
126	0516B	Misc Electrical Equipment Storage	34	210	01	Owned					
127	0518A	Emergency Fire Protection Generator	22	290	01	Owned			Cleanup		
128	0519	Hydrogen Peroxide Storage	82	290	01	Owned					

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
129	0519A	Hydrogen Peroxide Pumphouse	4	160	01	Owned					
130	0520	Sample Pump/pH Probes Storehouse	1	36	01	Owned					
131	0521B	Compressor House/Maintainence	93	670	01	Owned					
132	0521C	Lunchroom/Field Foreman Office	41	640	01	Owned					
133	0522	WP Cup Filling/Acetylene Mfg	890	9,400	01						
134	0522A	Phossy Water Tank	17	112	01						Tanks/Pipes
135	0522B	Change House/Administration Bldg	420	5,100	01						
136	0523A	WP Storage Tank House	140	1,500	01						
137	0524	WP Filling Building-fndatn	27	1,400	01						
138	0525A	Refrig Compressor/Electrical Vault	31	440	01	Owned					
139	0527	Change House/Quonset Hut	16	1,000	01						
140	0529	NaOH Make Up/Azodrin Support Struct	87	750	01	Leased					
141	0531	Warehouse	970	11,000	01	Leased					
142	0534C	Emergency Generator/Electric Vault	27	210	01	Owned					
143	0534D	Emergency Generator	46	440	01	Owned					
144	0538A	Compressor Building	67	690	01						
145	0539	Electrical Substation Builiding	17	430	01						
146	0541A	Magazine	9	88	01						
147	0543	Maintainence Shops/Instrument Lab	2,000	25,000	01				Cleanup		
148	0543A	Steam Meter Pit	12	93	01				Cleanup		
149	0543B	Facilities Engineers	590	8,700	01				Cleanup		
150	0545	Paint Shop	22	800	01						
151	0546	Sewage Lift Station	12	72	01						
152	0548	Water Pumping Station	370	2,300	01						
153	0549	Reservoir and Cooling Tower	630	4,500	01						
154	0550	Lift Station	6	280	01						
155	0553	Vault	8	64	01						
156	0555	Guardhouse/Gas Mask Training(TW-14)	5	210	01						
157	0557	Salvage Yard Storage/Maintenance	51	1,000	01	Owned					
158	0561A	Acetylene Compressor-foundation	400	5,000	01						
159	0571A	Electrical Vault	21	85	01	Owned					
60	0605	Flammable Materials Storehouse	2	170	03						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
161	0606	Flammable Materials Storehouse-fdn	1	170	03						
162	0607	Flammable Materials Storehouse	2	210	03						
163	0608	Flammable Materials Storehouse	2	210	03						
164	0611	Data Processing Building	440	4,600	04		Short-Term				
165	0612	Courier Building	240	5,100	04		Short-Term				
166	0613	Management Information Systems	480	6,500	04		Short-Term				
167	0614	Warehouse	920	11,000	03						
168	0615	Warehouse	920	11,000	03						
169	0617	Warehouse	920	11,000	03						
170	0621	Property Disposal/Salvage Ofice	890	19,000	04				Cleanup		
171	0621A	Truck Scale Platform	56	740	04				Cleanup		
172	0622	Paint Shop/General Storage	160	1,700	04						
173	0623	Carpenter Shop/Hobby Shop/Auto Shop	230	4,200	04						
174	0625	Warehouse	870	11,000	04				Cleanup		
175	0626	Machine and Welding Shop-foundation	100	6,000	04						
176	0626C	Heavy Equipment Shop-foundation	10	580	04						
177	0627B	Flammable Materials Storehouse	5	240	04						
178	0629	Service Station	44	290	04						
179	0629E	Service Station Shelter	35	25	04						
180	0630	Gas Meter House	37	240	03				Cleanup		
181	0631A	Flammable Materials Storehouse	5	240	04						
182	0632	Gas-Fired Heating Plant	420	1,400	04		Short-Term		Cleanup		
183	0633	Cafeteria/Bug Lab/Movie Theatre	130	2,500	04						
184	0633A	Laboratory/Storehouse	56	680	04						
185	0633B	Hazardous Materials Storage	140	640	04				Cleanup		
186	0634	Flammable Materials Storehouse	58	400	04				Cleanup		
187	0635	Admin Offices-Rocky Mtn Railcar	48	590	03						
188	0639	Lumber Storage	94	4,500	04						
189	0641	Warehouse-foundation	95	900	03						
190	0644	NCO Quarters-foundation	17	1,400	03						
191	0644A	Garage/Storage-foundation	1	40	03						
192	0647A	Motor Pool Dispatch Office	35	1,000	04						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
193	0647B	Motor Pool Vehicle Storage	100	9,600	04		Short-Term				
194	0647C	Motor Pool Vehicle Storage	29	3,000	04		Short-Term				
195	0647D	Motor Pool Vehicle Storage	29	3,000	04		Short-Term				
196	0648	Road Oil Pump and Boiler House	56	350	04						
197	0670				03				Cleanup	Not in T-24	
198	0673	Railcar Scale House	2	88	03				Cleanup		
199	0679	Warehouse/Can Scouring-foundation	62	780	10						
200	0680	Radio Range B-foundation	2	49	09						
201	0684	Guard Tower-E of 644, N of 675-fndn	6	64	03						
202	0685	Guard Tower-SE of 673-foundation	6	64	03						
203	0688	Guard Tower-E of 615-foundation	6	64	03						
204	0727	Facilities Maintenance	98	3,600	01	Owned			Cleanup		•
205	0729	General Purpose Warehouse	1,600	23,000	01	Leased			Cleanup		
206	0731	Reserve Center/Office/Change House	770	12,000	01						
207	0732	Army Reserve Warehouse/M19 Bomb Rew	3,900	47,000	01						
208	0733A	Magazine	34	400	01						
209	0733B	Magazine	34	400	01						
210	0733C	Magazine	34	400	01						
211	0733D	Magazine	58	400	01						
212	0733E	General Purpose Magazine	65	400	01						
213	0733F	General Purpose Magazine	69	400	01						
214	0735	Foamite/Oil Product Storage	37	440	01						
215	0743	RMA Laboratory/Change House/Office	360	5,400	01						
216	0743A	Chemical Sewer Lift Station	4	36	01						
217	0744	Gasoline/Benzol Pumphouse	78	760	01						
218	0745	Fire Fighting Manifolds for 745ABC	21	24	01						
219	0746	Gasoline Unloading Rack	2	1	01	Leased					
220	0748	Flammable Materials Storehouse	49	400	01						
221	0751	Paint and Process Shop	640	5,500	01						
222	0752	Carpenter Shop/Storage	610	4,900	01						
223	0752A	Lumber Storage	110	1,000	0 1						
224	0753	Steam Fitter Maintenance/Storage	52	000	0						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
225	0754	Lumber Storage	49	840	01						
226	0765	Potable Water Purificaton			01				Cleanup	Not in T-24	
227	0784	Guard Station-SE of 742-foundation	6	64	01						
228	0787	Warehouse	480	9,600	06		Long-Term		Cleanup Use		
229	0801	Radio Relay Station-N of 1726	12	180	25				Cleanup		
230	0808	No Bdry Groundwater Treatment Plant	650	3,900	23				Cleanup Use		
231	0809	Irondale Groundwater Treatment Sys.	320	3,000	33				Cleanup		
232	0810	NW Bndry Groundwater Treatment Bldg	490	3,100	27				Cleanup		
233	0825	Basin A Neck Treatment Bldg.			35				Cleanup	Not in T-24	
234	0831	Technical Escort/Officer's Quarters	120	1,100	35				Cleanup		
235	0831A	Garage/Storage Shed	27	360	35				Cleanup		
236	0833	Lumber Storage Shed	82	580	35						
237	0836	Air Force Seismic Monitoring	590	7,100	24						
238	0840	Air Monitoring Station			25				Cleanup	Not in T-24	
239	0841	CO Public Service Co Meter House	82	200	12				Cleanup and Beyond		
240	0851	Pistol Range House	6	250	19						
241	0853	Observation Pit/Mortar Range	94	2,000	30		Long-Term				
242	0854	Concrete Wall	12	200	26						
243	0863	Target Range House	5	260	12						
244	0864	General Storehouse	10	400	06						
245	0865	Warehouse	41	1,000	06						
246	0866	Toxic Yard Office & Change House	140	2,400	06				Cleanup		
247	0867A	Toxic Yard Metal and Wood Shop	67	1,600	06						
248	0867B	Flammable Materials Storehouse	13	190	06						
249	0871A	Magazine	66	600	06		Long-Term				
250	0871B	Magazine	66	600	06		Long-Term				
251	0871C	Magazine	66	600	06						
252	0871D	Magazine	86	800	06						
253	0872A	Magazine	86	800	06						
254	0872B	Magazine	86	800	06						
255	0872C	Magazine	86	800	06						
256	0872D	Magazine	86	800	06						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
257	0873A	Magazine	86	800	06						
258	0873B	Magazine	86	800	06						
259	0873C	Magazine	86	800	06						
260	0874A	Magazine	86	800	06						
261	0874B	Magazine	86	800	06						
262	0874C	Magazine	86	800	06						
263	0874D	Magazine	86	800	06						
264	1403	2-HF Storage Tanks & Unloading Dock	83		25						Tanks/Pipes
265	1404	Carbon Tetrachloride Storage Tank	83		25						Tanks/Pipes
266	1405	Hydrochloride Acid Storage Tanks	83		25						Tanks/Pipes
267	1502	Unloading Dock-Isopropanol Storage	83		25						Tanks/Pipes
268	1504A	Monitoring Shed	7	220	25						
269	1505A	Sentry Station	2	85	25						
270	1507	Methanol Storage Tank	83		25						Tanks/Pipes
271	1508	TBA Storage Tank	84		25						Tanks/Pipes
272	1509	Isopropanol Dehydration Unit	76	400	25			Treaty			
273	1510	Fuel Oil Tank	1,200		25						Tanks/Pipes
274	1510A	Fire Apparatus Buildng/Foam Storage	16	130	25						
275	1512	Sentry Station/Gate House	18	130	25			Treaty			
276	1611A	Sentry Station	4	84	25						
277	1618	General Storehouse-N of North Plant	36	1,000	25						
278	1619	Administration Building-N o'N Plant	8	320	25						
279	1622	General Storehouse-N of North Plant	34	970	25						
280	1701	Warehouse	2,300	26,000	25			Treaty	Cleanup		
281	1704	Compressed Air Plant	1,400	9,100	25			Treaty			
282	1705	Instruction Building/Cafeteria	250	4,000	25			Treaty			
283	1706	Sentry Station/Gatehouse	44	360	25		Long-Term	Treaty			
284	1707	Cooling Tower	560	2,800	25			Treaty			
285	1710	Clinic and Administration Building	920	15,000	25				Cleanup		
286	1711	Gas Meter House	6	170	25				Cleanup		
287	1712	Gas Heating Plant	320	2,300	25						
288	1713	Standby Generator Plant	100	2,500	25			Treaty	Cleanup		

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
289	1715				25				Cleanup	Not in T-24	
290	1717	Chlorinating Station	11	120	25				Cleanup		
291	1718	Valve Pit & Chlorinating Station	24	260	25				Cleanup		
292	1719	Electrical Distribution System	13	130	25				Cleanup		
293	1726	Elevated Process Water Tank, North Plants	270		25		Short-Term		Cleanup		Tanks/Pipes
294	1728	Potable Water Tank	69		25						Tanks/Pipes
295	1730	Guardhouse	13	110	31						
296	1734	Change House	48	470	31		Long-Term				
297	NN0101	Valve Gate-W side of Upper Derby	20	49	01		Long-Term				
298	NN0102	Foundation-N of 534B	19	750	01						
299	NN0103	Bathroom-N of 533	3	120	01						
300	NN0104	Flare Tower-N of 571B. NW of 571	17	660	01	Owned					
301	NN0105	Gas Meter House-SW of 508	5	200	01						
302	NN0106	Fertil & Waste Loadng Fac-N of 728	78	99	01						
303	NN0107	Metal Shed-W of 733B	1	310	01						
304	NN0108	Metal Shed-W of 733C	1	310	01						
305	NN0109	Guard Station-NE of 732	1	64	01						
306	NN0110	Metal Shed-S of 521B	3	80	01						
307	NN0111	Three Metal Incinerator-NW of 541	150	440	01	Owned					
308	NN0112	Stack Observation Station-E of 527	12	280	01						
309	NN0113	2 Metal Sheds-S of 474 SS	27	250	01						
310	NN0114	Wooden Hut-SW of 461	2	22	01						
311	NN0115	Flare Tower-N of Lime Pond	17	660	01	Owned					
312	NN0116	Long Metal Shed-S of 544	47	6,000	01						
313	NN0117	2 Sheds-SW of 557	4	130	01						
314	NN0201	Concrete Silo-NW of 254	350	1,300	02						
315	NN0202	Brick Structure-E of SS 361	15	140	02						
316	NN0204	Coal Hopper foundation-N of 334	38	1,100	02						
317	NN0205	Brick Valve House-S of 321B	27	150	02						
318	NN0300				03				Cleanup	Not in T-24	
319	NN0301	Metal Shed-N of 618	1	410	03						
320	NN0302	Metal Shed-N of 618	1	410	03						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
321	NN0303	Metal Shed-N of 619	1	2,400	03						
322	NN0304	Metal Shed-N of 619	1	1,900	03						
323	NN0601	Loading Dock-W of 866	150	11,000	06						
324	NN0602	Long Metal Shed-W of 865	1	3,500	06						
325	NN0603	Metal Shed-E of 867A	1	510	06						
326	NN0902	Survey Tower-N of Post Office	1	140	09				Cleanup		
327	NN1208	Brick Structure-900'SW of 846	9	81	12						
328	NN1209	Concrete Bunker-1100'S of 846	14	68	12						
329	NN1210	Concrete Bunker-1250'S of 846	10	56	12						
330	NN1211	Concrete Bunker-1300'S of 846	14	68	12						
331	NN1212	Concrete Bunker-1350'S of 846	6	64	12						
332	NN1213	AMSA/OMS Maintenance Shop-N of 841	780	10,000	12						
333	NN2001	Antenna Installation-1/2 mi N o'9th	17	44	20						
334	NN2002	Tank Pad-N of 9th, 2/3 mi E of F St	14	380	20				Cleanup		
335	NN22	36 GW Wells-NW Boundary Treatment			22						
336	NN23	36 GW Wells-N Boundary Treatment			23						
337	NN2301	Abandoned Water Purification Plant	60	1,600	23						
338	NN24	56 GW Wells-N Boundary Treatment			24						
339	NN2401	Concrete Structure-E of Bog	3	25	24						
340	NN2402	Wooden Shed-N of Trickling Filters	7	170	24						
341	NN2403	2 Trickling Filters-S of 391	1,800	17,000	24						
342	NN2404	Imhoff Tank-S of 391	410	2,800	24						
343	NN2405	Antenna Installation-N of 836	12	44	24						
344	NN2501	Shed-NW of 1618	8	300	25						
345	NN2502	Gas Pump & Pad-NE of 1618	32	950	25						
346	NN2503	Pumping Station-S of 1510	4	72	25						
347	NN2601	Decon Pad/Tank-NE of Basin F	58	2,300	26						
348	NN2602	Valve gate-N end of Reservoir C	19	56	26						
349	NN28	2 GW Wells-Irondale Treatment			28						
350	NN3001	Metal Shed-E of 853	1	580	30						
351	NN3002	Metal Shed-E of 853	1	580	30						
352	NN3101	Metal Shed-N of 1734	1	80	31						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
353	NN3102	3 Sets Shed Siding-1100'SE of 1735	2,400	59,000	3 1						
354	NN3103	Storage Bldg-Toxic Storage Yard	1	1,500	31						
355	NN3104	Shack-W of Berms-Toxic Storage Yard	1	70	31						
356	NN3105	Shed-NW End of Berms-Toxic Storg Yd	1	110	31						
357	NN3106	Shed-NE End Berms-Toxic Storage Yd	2	4,000	31						
358	NN3107	Antenna Station-Toxic Storage Yard	4	32	31						
359	NN3108	Shed-SW End of 1st Berm-Toxic Yard	1	110	31						
360	NN3109	Shed-SE End of 1st Berm-Toxic Yard	2	4,000	31						
361	NN33	45 GW Wells-Irondale Treatment			33						
362	NN3501	3 Communications Antenna Pits	6	48	35						
363	NN3601	Incinerator-500'NE of 834	30	350	36						
364	NN3602	Incinerator-1000'SE of 834	6	100	36						
365	NN3603	Metal Shed-NW of 725	4	140	36						
366	NN3604	Metal Shed-SW of 725	6	200	36						
367	NN3605	Metal Shed-SE of 725	2	200	36						
368	NNT0101	Vertical Tank-TF0101	21		01						Tanks/Pipes
369	NNT0103	Vertical Tank-TF0106	1		01						Tanks/Pipes
370	NNT0105	Horizontal Tank-TF0108	1		01						Tanks/Pipes
371	NNT0106	Vertical Tank-TF0109	2		01						Tanks/Pipes
372	NNT0107	Horizontal Tank-E of 471C	1		01						Tanks/Pipes
373	NNT0110	Horizontal Tank-E of 536	1		01						Tanks/Pipes
374	NNT0111	Vertical Tank-TF0105	5		01						Tanks/Pipes
375	NNT0201	Undrground Oil Tank w/DCPD-W of 321	1		02						Tanks/Pipes
376	PR01	Pipe Runs in Section 1	2,000		01						Tanks/Pipes
377	PR02	Pipe Runs in Section 2	520		02						Tanks/Pipes
378	PR04	Pipe Runs in Section 4	100		04						Tanks/Pipes
379	PR25	Pipe Runs in Section 25	820		25						Tanks/Pipes
380	PR36	Pipe Runs in Section 36	470		36						Tanks/Pipes
381	SS 0100	Substation-1T-30'N of 866			06						
382	SS 0101	Substation-2T-200'NE of 866			06						
383	SS 0102	Substation-1T-500'W of 867A			06						
384	SS 0103	Substation-1T-700'W of 865			06						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
385	SS 0104	Substation- 1T-400'N of 872A			06						
386	SS 0105	Substation-1T-NE of 867A			06						
387	SS 0111	Substation-2T-N side 111			35						
388	SS 0112	Substation-1T-150'S of 112			02		Short-Term				
389	SS 0121	Substation-1T-NW corner of section			03						
390	SS 0141	Substation-3T-E of 141			04						
391	SS 0176	Substation-1T-W of Staff Quarters			03						
392	SS 0213	Substation-3T-SE of 213			02		Short-Term				
393	SS 0232	Substation-3T-SW of 254			02						
394	SS 0243	Substation-1T-W of 243			02						
395	SS 0245	Substation-3T-S of 245			02						
396	SS 0311	Substation-1T-S of 311			02						
397	SS 0312	Substation-1T-S of 312			01						
398	SS 0312A	Substation-1T-NE of 312			36						
399	SS 0313	Substation-3T-W of 313			01						
400	SS 0313-2	Substation-3T-W of 313			01						
401	SS 0314	Substation-3T-NW of 314			01						
402	SS 0315	Substation-3T-SW of 315			01						
403	SS 0316	Substation-1T-S of 316			01						
404	SS 0316A	Substation-3T-S of 316A			01						
405	SS 0317	Substation-1T-NW of 433			01						
406	SS 0321	Substation-6T-S of 321			02						
407	SS 0321A	Substation-3T-SW of 242			02						
408	SS 0321B	Substation-1T-SE of 242			02						
409	SS 0325	Substation- 14T-between 325 & 311			02						
410	SS 0327	Substation-3T-W of 332			02						
411	SS 0328	Substation-3T-N of 328			02						
412	SS 0330	Substation-1T-SW of 337			02						
413	SS 0335	Substation-3T-S of 336			02						
414	SS 0342	Substation-3T-ENE of 342			02						
415	SS 0344	Substation-5T-E of 344			02						
416	SS 0355	Substation-3T-E of 356			02						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
449	SS 0529	Substation-3 T-S of 540			01						
450	SS 0531	Substation-1T-W of 531			01						
451	SS 0534	Substation-3 T-200'N of 534A			01						
452	SS 0539	Substation-2T-SE of 537			01						
453	SS 0541	Substation-3T-W of 541			01						
454	SS 0543	Substation-5T-W of 543			01						
455	SS 0548	Substation-1T-N of 548			01						
456	SS 0548A	Substation-1T-101'W of 548			01						
457	SS 0556	Substation-1T-N of 541			01						
458	SS 0571	Substation-3 T-75'W of 504A			01						
459	SS 0575	Substation-1T-N of 504			01						
460	SS 0575A	Substation-1T-N of 505			01						
461	SS 0611	Substation-3T-S of 611			04		Short-Term				
462	SS 0612	Substation-1T-E of 612			04		Short-Term				
463	SS 0613	Substation-3T-NW of 613			04		Short-Term				
464	SS 0614	Substation-1T-W of 614			03						
465	SS 0616	Substation-3T-N of 614			03						
466	SS 0618	Substation-3T-N of 618			03						
467	SS 0618-2	Substation-1T-W of 618			03						
468	SS 0622	Substation-1T-NE of 621			04						
469	SS 0624	Substation-3T-E of 624			04						
470	SS 0625	Substation-1T-E of 624			04						
471	SS 0627	Substation-3T-E of 627			04		Short-Term				
472	SS 0627A	Substation-1T-E of SS 627			04		Short-Term				
473	SS 0629	Substation-3T-NE of 629			04						
474	SS 0631	Substation-3 T-N of 631			04						
475	SS 0632	Substation-1T-NE of 632			04		Short-Term				
476	SS 0633	Substation-3 T-S of 633			04						
477	SS 0634	Substation-3T-SE of 634			04						
478	SS 0635	Substation-1T-W of 635			03						
479	SS 0647	Substation-1T-E of 647A			03						
480	SS 0673	Substation-1T-1200'NNE of 619			03		Short-Term				

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
481	SS 0725	Substation-3 T-S of SS 726			36						
482	SS 0726	Substation-3 T-200'S of 725			36						
483	SS 0727	Substation-1T-W side of 727			01						
484	SS 0728	Substation-3 T-E of 728			01						
485	SS 0729	Substation-6T-E of 729			01						
486	SS 0732	Substation-6T-S of 732			01						
487	SS 0742	Substation-6T-N of 742			01						
488	SS 0747	Substation-1T-75'S of 729			01						
489	SS 0755	Substation-3 T-S of 868C			01						
490	SS 0756	Substation-1T-W of 868C			01						
491	SS 0757	Substation-1T-S of 463D			01						
492	SS 0780	Substation-1T-N of T1505			01						
493	SS 0781	Substation-1T-NE of T1507			01						
494	SS 0782	Substation-1T-N of 732			01						
495	SS 0791-2	Substation-1T-E of 145			11						
496	SS 0806D	Substation-1T-SE of 806			26						
497	SS 0806G	Substation-1T-0.25 mi SW of 9 & D			26						
498	SS 0808ABC	Substation-3T-NE of 808			23						
499	SS 0808D	Substation-1T-0.3 mi SW of 808			23						
500	SS 0808E	Substation-1T-0.2 mi SW of 808			23						
501	SS 0808F	Substation-1T-427'SSE of 808			24						
502	SS 0808G	Substation-1T-800'SE of 808			24						
503	SS 0808H	Substation-1T-0.36 mi ESE of 808			24						
504	SS 0808I	Substation-1T-0.49 mi ESE of 808			24						
505	SS 0808K	Substation-1T-0.68 mi ESE of 808			24						
506	SS 0808L	Substation-1T-0.65 mi E of 808			24						
507	SS 0809	Substation-3 T-S of 809			33						
508	SS 0809A	Substation-3 T-300'SW of 809			33						
509	SS 0809B	Substation-3 T-200'W of 809			33						
510	SS 0809C	Substation-3 T-400'N of 809			33						
511	SS 0809D	Substation-3 T-700'NE of 809			33						
512	SS 0809E	Substation-3 T-500'E of 809			33						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
513	SS 0809F	Substation-3 T-0.2 mi S of 809			33						
514	SS 0831	Substation-3 T-200'S of 8th & D St			35						
515	SS 0831E	Substation-1T-538'SSE of 8th & D St			36						
516	SS 0832	Substation-1T-300'E of 159			34						
517	SS 0836	Substation-3 T-S of 836			24						
518	SS 1402	Substation-3 T-150'W of 1601/1701			25						
519	SS 1403	Substation-3 T-S of 1701			25						
520	SS 1404	Substation-3 T-130'S of 1501			25						
521	SS 1501	Substation-7T-SE of 1501			25						
522	SS 1505	Substation-3 T-E of 1505			25						
523	SS 1506	Substation-2T-NW corner of 1506			25						
524	SS 1510	Substation-2T-150'W of 1601			25						
525	SS 1601-1	Substation-1T-E of 1601			25						
526	SS 1601-2	Substation-1T-E of 1601			25						
527	SS 1602	Substation-2T-100'SE of 1606			25						
528	SS 1603	Substation-3 T-100'NE of 1602			25						
529	SS 1605	Substation-1T-between 1605 & 1608			25						
530	SS 1606-1	Substation-3 T-100'E of 1606			25						
531	SS 1606-2	Substation-1T-100'NE of 1606			25						
532	SS 1607	Substation-3 T-100'E of 1607			25						
533	SS 1609	Substation-1T-150'NE of 1609			25						
534	SS 1611	Substation-1T-E of 1611			25						
535	SS 1611AB	Substation-2T-S of 1611			25						
536	SS 1614	Substation-2T-NE o'1615			25						
537	SS 1616	Substation-2T-NE of 1616			25						
538	SS 1701	Substation-3 T-100'E of 1701			25						
539	SS 1702	Substation-2T-W of 1702			25						
540	SS 1703	Substation-1T-S of 1703			25						
541	SS 1704-1	Substation-3 T-E of 1704			25						
542	SS 1704-2	Substation-2T-E of 1704			25						
543	SS 1704-3	Substation-3 T-E of 1704			25		Long-Term				
544	SS 1706	Substation-1T-N of 1706			25						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
545	SS 1707	Substation-1T-S of 1704			25						
546	SS 1710	Substation-3T-100'E of 1710			25						
547	SS 1711	Substation-3T-100'E of 1706			25						
548	SS 1724	Substation-3T-200'N of 1706			25						
549	SS 1730	Substation-2T-NW of 1730			31						
550	SS 1731	Substation-1T-200'NW of 1730			31						
551	SS 1732	Substation-1T-NW corner of section			31						
552	SS 1735	Substation-3T-E of 1736			31						
553	SS 1736	Substation-2T-200'S of 1736			31						
554	SS 6C	Substation-1T-SW corner of section			02						
555	SS 7215	Substation-1T-fenced railcar area			36						
556	SS 7C	Substation-1T-112'ESE 7th & C			02						
557	SS AL338	Substation-1T-SE corner of section			31						
558	SS AWL021	Substation-1T-S of pool rd			02						
559	SS CPR 1	Rectifier-1R-130'SSE of 254			02						
560	SS CPR 10	Rectifier-1R-S of 742A			01						
561	SS CPR 2	Rectifier-1R-W of 313			01						
562	SS CPR 3	Rectifier-1R-146'W of 326			02						
563	SS CPR 4	Rectifier-1R-E of 352A			02						
564	SS CPR 5	Rectifier-1R-with SS 514			01						
565	SS CPR 6	Rectifier-1R-with SS 515			01						
566	SS CPR 7	Rectifier-1R-NE of SS 411			01						
567	SS CPR 8	Rectifier-1R-W of 433			01						
568	SS CPR 9	Rectifier-1R-W of 542			01						
569	SS F182	Substation-1T-500'W of T1512			36						
570	SS FL842	Substation-1T-N of 1618			25						
571	SS GA	Substation-1T-0.1mi N of 732			36						
572	SS H-1	Substation-2T-SE of 319			01						
573	SS LDLA	Substation-1T-W of Lower Derby			01						
574	SS NN2201	Substation-1T-640'NNW of 810			22						
575	SS NN2202	Substation-1T-960'NNW of 810			22						
576	SS NN2203	Substation-1T-1260'NW of 810			22						

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
577	SS NN2204	Substation-1T-1600'NW of 810			22						
578	SS NN2205	Substation-1T-2050'NW of 810			22						
579	SS NN2206	Substation-1T-2500'NW of 810			22						
580	SS NN2207	Substation-1T-800'WNW of 810			22						
581	SS NN2208	Substation-1T-1100'WNW of 810			22						
582	SS NN2209	Substation-1T-1350'WNW of 810			22						
583	SS NN2210	Substation-1T-1670'WNW of 810			22						
584	SS NN2211	Substation-1T-2370'WNW of 810			22						
585	SS NN2301	Substation-3T-200'N of 808			23						
586	SS NN2501	Substation-1T-SE corner of 1602			25						
587	SS NN2601	Substation-1T-S of 806			26						
588	SS NN2701	Substation-3T-W of 810			27						
589	SS PSCOST	Substation-1T-1/8 mi S of 7th on C			02						
590	SS PT56/57	Substation-2T-NE of 510			01						
591	SS SBA	Substation-3T-SE side of 834			36						
592	SS SWIM	Substation-1T-W of pool/on C			02						
593	SS WR	Substation-1T-600'NE of 732			36						
594	T 0026	Horizontal Tank-TF0107	1		01	Owned					Tanks/Pipes
595	T 0064	Horizontal Tank-TF0107	1		01	Owned					Tanks/Pipes
596	T 0065	Vertical Tank-TF0103	31		01						Tanks/Pipes
597	T 0075	Vertical Tank-TF0103	1		01						Tanks/Pipes
598	T 0076	Vertical Tank-TF0103	1		01						Tanks/Pipes
599	T 0078	Vertical Tank-TF0103	1		01						Tanks/Pipes
600	T 0139	Horizontal Tank-TF0107	1		01						Tanks/Pipes
601	T 0190	Horizontal Tank-TF0107	3		01						Tanks/Pipes
602	T 0289	Air Receiver/Surge Tank-NE of 516	1		01						Tanks/Pipes
603	T 1040	Vertical Tank-TF0107	1		01	Owned					Tanks/Pipes
604	T 1128	Methanol Tank-TF0104	1		01						Tanks/Pipes
605	T 1129	MMAA Tank-TF0104	1		01						Tanks/Pipes
606	T 1132	Trimethylphosphite(TMP) Tank-TF0103	1		01						Tanks/Pipes
607	T 1133	MMA Tank-TF0104	1		01						Tanks/Pipes
608	T 1140	Chloroform Tank-TF0104	1		01						Tanks/Pipes

Place #	Structure Number	Description of Structure	Bank Vol (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
609	T 1146	Dicetene Tank-TF0110	2		01						Tanks/Pipes
610	T 1147	Dicetene Tank-TF0110	2		01						Tanks/Pipes
611	T 1168	Brine Storage Tank-SE corner 528	5		01						Tanks/Pipes
612	T 1178	Acetone Storage Tank-TF0103	1		01						Tanks/Pipes
613	T 1216	Mother Liquor/Dinitro Tank-TF0102	6		01						Tanks/Pipes
614	T 1324	Brine Storage Tank-TF0103	1		01						Tanks/Pipes
615	T 1327	Vertical Tank-TF0103	17		01						Tanks/Pipes
616	T 1340	Crystal, Acetone Tank-TF0102	16		01						Tanks/Pipes
617	T 1392	Vertical Tank-E of 512	5		01						Tanks/Pipes
618	T 1463	Vertical Tank-TF0104	2		01						Tanks/Pipes
619	T 1570	Vertical Tank-TF0105	5		01	Owned					Tanks/Pipes
620	T 1606	Horizontal Tank-TF0109	5		01						Tanks/Pipes
621	T 1973	Vertical Tank-TF0103	2		01						Tanks/Pipes
622	TF0107	Tank Farm-W & S of 514A	110		01						Tanks/Pipes
623	TF2501	Tank Farm-W of 1704	25		25						Tanks/Pipes
624	TW-13	Open Storage-foundation-N of 1611	120	5,800	25						
625	V 1064	Vertical Tank-TF0109	1		01						Tanks/Pipes
626	V 1214	Vertical Tank-TF0106	2		01						Tanks/Pipes
627	V 1220	Vertical Tank-TF0106	6		01						Tanks/Pipes
628	V 1250	Horizontal Tank-TF0104	1		01						Tanks/Pipes
629	V 1253	Horizontal Tank-TF0104	1		01						Tanks/Pipes
630	V 1267	Surge Vessel-TF0105	2		01						Tanks/Pipes
631	V 1270	Horizontal Tank-TF0105	1		01						Tanks/Pipes

[1] These buildings may be reevaluated for potential historic preservation or future use. The Rocky Mountain Arsenal National Wildlife Refuge Act states that "transfer shall be made without cost to the Secretary of the Interior and shall include such improvements on property as the Secretary of the Interior may request in writing for refuge management purposes."

Table 5.4-9 Inventory of No Future Use, Agent History Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
1	0313	Laboratory	1,000	10,000	01						
2	0315	Warehouse-Laundry	1,000	10,000	01						
3	0319	Magazine/Flammable Material Storage	52	400	01						
4	0414	Mustard Scrubber Unit-foundation	79	310	01						
5	0416	H/Dichlor Disposal Reactor-foundatn	79	300	01						
6	0417	H/Dichlor Decon Pit-foundation	79	280	01						
7	0422	H Manufacture/Aldrin Production	2,100	23,000	01	Leased					
8	0426	Mustard Disposal Reactor-foundation	59	1,600	01	Leased					
9	0427	Decontamination Pit-fdn	4	80	01	Leased					
10	0428	Incinerator	6	56	01						
11	0429	H Brine Mixing/Pesticide Mfg.	15	560	01						
12	0512	Filling/Pesticide Production	610	3,800	01	Leased		Treaty			
13	0514	Lewisite/HD/Pesticide Production	3,200	27,000	01	Leased		Treaty			
14	0514A	L/M- 1 Storage/Dowtherm Boiler	110	1,700	01	Leased		Treaty			
15	0516	Lewisite Distillation/Pest. Prod.	1,400	13,000	01	Leased					
16	0517	Offices/Change House/Laboratory	1,300	18,000	01	Leased					
17	0528	HD Burning/Pesticide Manufacture	380	2,200	01	Leased					
18	0536	Ammo.Dem.Facility/Crude Mustard Sto.	990	4,100	01						
19	0537	Thaw House	2,300	16,000	01			Treaty			
20	0538	Ton Container Reconditioning Plant	1,200	15,000	01			Treaty			
21	0540	Ton Container Renovation Plant	330	4,900	01						
22	0541	Warehouse/WP Filling	770	11,000	01						
23	0725	Bomb Testing Station	99	460	36						
24	0726	Bomb Test Building	40	430	36						
25	0728	HD Filling/Pesticide Storage/Wareh.	1,400	21,000	01				Cleanup		
26	0742	Warehouse	4,800	49,000	01			Treaty	Cleanup		
27	0742A	Tank House	330	1,300	01			Treaty			
28	0785	Warehouse	1,400	29,000	06		Long-Term				
29	0786	Warehouse	480	9,600	06		Long-Term		Cleanup		
30	0788	Warehouse	480	9,600	06		Long-Term		Cleanup		
31	0791	Warehouse	480	9,600	31				Cleanup		
32	0792	Drum Storage Warehouse	440	9,600	31				Cleanup		

Table 5.4-9 Inventory of No Future Use, Agent History Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
33	0793	Drum Storage Warehouse	470	9,600	31				Cleanup		
34	0794	Drum Storage Warehouse	520	9,600	31				Cleanup		
35	0795	Drum Storage Warehouse	480	9,600	31				Cleanup		
36	0796	Warehouse	480	9,600	31				Cleanup		
37	0797	Drum Storage Warehouse	480	9,600	31				Cleanup		
38	0798	Drum Storage Warehouse	480	9,600	31				Cleanup		
39	0881	Igloo Storage	210	1,600	06		Long-Term		Cleanup		
40	0882	Igloo Storage	210	1,600	06				Cleanup		
41	0883	Igloo Storage	210	1,600	06						
42	0885	Igloo Storage	210	1,600	06		Long-Term		Cleanup		
43	0886	Igloo Storage	210	1,600	06				Cleanup		
44	1501	GB Manufacturing/Demil. Building	9,000	81,000	25			Treaty			
45	1503A	Scrubber Facility-1503 A/B/C=1503	440	580	25			Treaty			
46	1503B	Scrubber Facility-1503=1503A/B/C	88	580	25			Treaty			
47	1503C	Scrubber Facility-1503=1503A/B/C	79	580	25			Treaty			
48	1504	200-ft Steel Stack	630	710	25			Treaty			
49	1506	GB Storage	1,900	9,000	25			Treaty			
50	1601	GB Filling	7,700	69,000	25			Treaty			
51	1601A	Ammunitions Demilitarization Facility	670	2,800	25			Treaty			
52	1602	Paint Storage	620	2,200	25			Treaty			
53	1603A	Scrubber Facility	89	580	25						
54	1603B	Scrubber System-1603=1603A/B	89	580	25						
55	1605	Munitions Storage Igloo	150	1,000	25						
56	1606	Cluster Assembly Buildinge	14,000	60,000	25			Treaty			
57	1607	Warehouse	1,700	26,000	25			Treaty	Cleanup		
58	1608	Munitions Storage Igloo	150	1,000	25						
59	1609	Munitions Storage Igloo	150	1,000	25						
60	1610	Munitions Storage Igloo	150	1,000	25						
61	1611	Demilitarization Facility	3,100	32,000	25						
62	1613	Explosive Unpacking Building	77	750	25			Treaty			
63	1614	Warehouse	260	7,800	25						
64	1615	Warehouse	170	4,000	25			Treaty			

Table 5.4-9 Inventory of No Future Use, Agent History Medium Group

Place #	Structure Number	Description of Structure	Bank Volume (BCY)	Size (SF)	Section	Shell Use	USFWS Use[1]	Treaty	Cleanup Use	Added After Task 24	Pipe Runs & Tanks
65	1616	Warehouse	85	4,000	25			Treaty			
66	1702	Weld Shop	49	2,400	25						
67	1703	Spray Dryer Facility	2,700	28,000	25			Treaty			
68	1727	Industrial Waste Sewer	36	700	25			Treaty			
69	1735	Loading Dock	670	11,000	31						
70	T 0027	Vertical Tank-TF0107	1		01						Tanks/Pipes

[1] These buildings may be reevaluated for potential historic preservation or future use. The Rocky Mountain Arsenal National Wildlife Refuge Act states that "transfer shall be made without cost to the Secretary of the Interior and shall include such improvements on property as the Secretary of the Interior may request in writing for refuge management purposes."

Table 5.4-10 Soil Exceedance Categories, Medium Groups, and Subgroups

Human Health Exceedance Category

- Basin A Medium Group
- Basin F Medium Group
  - Basin F Wastepile Subgroup
  - Former Basin F Subgroup
- Secondary Basins Medium Group
- Sewer Systems Medium Group
  - Chemical Sewers Subgroup
  - Sanitary/Process Water Sewers Subgroup
- Disposal Trenches Medium Group
  - Complex Trenches Subgroup
  - Shell Trenches Subgroup
  - Hex Pit Subgroup
- Sanitary Landfills Medium Group
- Lime Basins Medium Group
  - Section 36 Lime Basins Subgroup
  - Buried M-1 Pits Subgroup
- South Plants Medium Group
  - South Plants Central Processing Area Subgroup
  - South Plants Ditches Subgroup
  - South Plants Balance of Areas Subgroup
- Buried Sediments/Ditches Medium Group
  - Buried Sediments Subgroup
  - Sand Creek Lateral Subgroup
- Undifferentiated Medium Group
  - Section 36 Balance of Areas Subgroup
  - Burial Trenches Subgroup

Biota Exceedance Category

- Surficial Soil Medium Group
- Lake Sediments Medium Group
- Ditches/Drainage Areas Medium Group

Potential Agent Presence Category

- Agent Storage Medium Group
  - North Plants Subgroup
  - Toxic Storage Yards Subgroup

Potential UXO Presence Category

- Munitions Testing Medium Group

Table 5.4-11 Summary of Soil Medium Groups and Subgroups

Medium Groups	Subgroup	Description
Munitions Testing	—	This group is comprised of sites having similar histories and uses. The sites, considered potential HE-filled UXO presence areas and predominantly located in the eastern portions of RMA, were used for testing or destruction of nonchemical munitions. These sites typically contain slag, debris, and potential UXO in the uppermost 1 ft of soil and therefore present physical hazards. The mortar impact area in Section 30 may contain UXO at depths as deep as 6 ft. COC concentrations were not detected above human health SEC at any of the sites.
Agent Storage	North Plants	Sites in this subgroup have potential agent presence but do not contain human health exceedances except as isolated detections. They are located in the North Plants GB manufacturing area. These sites are presumed to contain agent based on use histories and detections of agent breakdown products. Isolated detections of arsenic exceed the human health SEC. Portions of the sites in this subgroup potentially pose risks to biota.
	Toxic Storage Yards	Sites in this subgroup (including the New and Old Toxic Storage Yards) are located in the storage areas in the eastern portion of RMA and are considered to potentially contain agent based on use histories and detections of agent breakdown products. However, sampling has not indicated the presence of agent at these sites. The Old Toxic Storage Yards were retained as sites presumed to contain agent. Isolated detections of chloroacetic acid and arsenic exceed the human health SEC.
Lake Sediments	—	Sites within this medium group include sediments from lakes located in the southern portion of RMA and sediments from the North Bog. They were grouped together based on the potential risk they present to ecological receptors. Contamination has resulted from the influx of suspended solid- or dissolved-phase contaminants transported to the lakes by surface water or groundwater. Isolated exceedances of human health SEC include chlordane and chromium and acute exceedances of aldrin and dieldrin. Water is not currently allowed to pond in Upper Derby Lake, and portions of Upper Derby Lake contain soil that poses a potential risk to biota.
Surficial Soil	—	This medium group consists of areas of shallow soil contamination (including Basin F Exterior) posing risk to biota that are not included as sites in other medium groups/subgroups. Portions of this group contain OCPs above human health SEC. This group also contains the pistol and rifle ranges.
Ditches/Drainage Areas	—	Exceedance sites within this medium group have various disposal and release histories and contain low levels of contaminants, primarily OCPs, that pose risks to biota.

Table 5.4-11 Summary of Soil Medium Groups and Subgroups

Medium Groups	Subgroup	Description
Basin A	—	This medium group is comprised of two sites within the Basin A high-water line. Basin A contains soil and sediment that were contaminated by organic and inorganic chemicals from manufacturing wastewater discharged to the basin. The medium group is also characterized by the potential presence of agent and agent-filled UXO. Agent was detected in the southern portion of Basin A. COCs detected above the human health SEC include primarily OCPs; soil near the center of the basin exceeds the principal threat criteria.
Basin F	Basin F Wastepile	This subgroup consists of the Basin F Wastepile that was formed as a result of the Basin F IRA. The IRA has included incineration of Basin F liquids in the SQI, excavation of Basin F soil from below the original asphalt liner and the final grading, capping, and revegetation of the excavated area. The Basin F Wastepile consists of excavated sediment and soil that are contaminated with organic compounds, arsenic, and metals at concentrations exceeding human health SEC and principal threat criteria. The total concentrations of organics are inferred to be on the order of 1,000 to 10,000 ppm. This material also contains elevated levels of salts due to the high chloride content in the wastewater stored in the former Basin F.
	Former Basin F	The former Basin F site consists of the former basin area, including the area beneath the Basin F Wastepile. Basin F received wastewaters through the chemical sewer system, and the site is expected to contain somewhat elevated levels of salts due to the high chloride content in the wastewater. COCs remaining in the soil exceeding human health SEC include OCPs and chloroacetic acid; large portions of the former basin exceed principal threat criteria. The Basin F IRA included the installation of a soil cover.
Secondary Basins	—	Sites within this subgroup consist of four liquid disposal basins (Basins B, C, D, and E) that collected overflow water from Basin A and the former deep disposal well. These sites are expected to contain somewhat elevated levels of salts that are a result of the storage of wastewater with high chloride content. COCs detected in the soil above human health SEC include OCPs, although the majority of contamination potentially poses risks to biota only.
Sewer Systems	Sanitary/ Process Sewers	Sites within this subgroup consist of sanitary and process water sewers. Soil around these sewer lines does not exceed human health SEC and does not pose risks to biota based on the depth of the sewer lines; however, these sewer lines potentially serve as conduits for the migration of groundwater contamination.
	Chemical Sewers	Sites within this subgroup consist of chemical sewers. COCs in the soil exceeding human health SEC and principal threat criteria in portions of South Plants include OCPs, volatile organics, and chloroacetic acid. These sewers are further characterized by the potential presence of agent.

Medium Groups	Subgroup	Description
Disposal Trenches	Complex Trenches	This subgroup is characterized by trenches or pits that were filled with trash and manufacturing/military wastes. Wastes are suspected to consist of drums of solid and liquid material, wood, glass, metal, laboratory and manufacturing equipment, and miscellaneous material. This subgroup is further characterized by the potential presence of agent and agent-filled UXO.
	Shell Trenches	This subgroup is characterized by trenches or pits that were filled with trash and manufacturing/military wastes in the area of the Shell Trenches. Wastes are suspected to consist of drums of solid and liquid material. IRA activities at this site have consisted of the placement of a soil cap across the entire site and a vertical barrier surrounding the site.
	Hex Pit	This site was historically used for disposal of hex bottoms, a tarry, chlorinated wastestream resulting from the production of HCCPD. The soil at this site is contaminated with these resinous materials. This material was buried in thin-gauge caustic barrels and in bulk.
Sanitary Landfills	—	This medium group consists of sanitary landfills and inferred trenches that are predominantly located in the eastern and western portion of RMA. These sites contain trash and rubbish, but are not anticipated to contain drums of hazardous material, agent, or UXO.
Lime Basins	Section 36 Lime Basins	The Section 36 Lime Basins, used for the neutralization of process wastes related to agent production, are characterized by soil/sludge mixtures with high pH levels and the potential presence of agent. COCs in the soil/sludge exceeding human health SEC include primarily OCPs; low-level inorganic contamination is also present. IRA activities at this site involved placing a soil cover across the entire site.
	M-1 Pits	The Buried M-1 Pits, used for the neutralization of process wastes related to agent production, are characterized by soil/sludge mixtures with high pH levels and the potential presence of agent. COCs in the soil/sludge exceeding human health SEC and principal threat criteria primarily consist of arsenic and mercury. This subgroup is distinguished by percentage levels of arsenic and mercury.

Medium Groups	Subgroup	Description
South Plants	South Plants Central Processing Area	This subgroup consists of the main processing area within the South Plants. Contamination has resulted from manufacture, storage, and disposal of chemicals and from the demilitarization of agent-filled ordnance. A wide range of COCs in the soil exceeding human health SEC and principal threat criteria include volatiles, OCPs, and arsenic. The soil in this area potentially contains agent.
	South Plants Ditches	This subgroup consists of the drainage ditches within South Plants. Contamination has resulted from manufacture, storage, and disposal of chemicals and from the demilitarization of agent-filled ordnance. COCs in the soil exceeding human health SEC and principal threat criteria include primarily OCPs. Also, contaminated soil in these ditches potentially poses risk to biota.
	South Plants Balance of Areas	The remainder of the sites within South Plants were placed in this subgroup. Contamination at these sites has resulted from manufacture, storage, and disposal of chemicals and from the demilitarization of agent-filled ordnance, and from windblown dispersion of contaminants from the Central Processing Area. COCs in the soil exceeding the human health SEC and principal threat criteria primarily consist of OCPs and ICP metals. Most of the contaminated soil in the balance of South Plants potentially poses risks to biota. This subgroup is also characterized by the potential presence of high explosives-filled UXO and agent.
Buried Sediments/ Ditches	Buried Sediments	This subgroup consists of two sites that contain contaminated sediments that were dredged from the adjacent lakes (Lake Ladora and Derby lakes), deposited in unlined ditches at their current locations, and covered with clean soil. COCs exceeding human health SEC include OCPs.
	Sand Creek Lateral	This subgroup consists of the northern and southern segments of the Sand Creek Lateral that transported runoff from the South Plants Central Processing Area during storm events and snowmelt, and of the drainage ditches used to transport water to and from the Secondary Basins and to drain the South Plants and North Plants process areas. COCs in the soil exceeding Human Health SEC primarily consist of OCPs.
Undifferentiated	Section 36 Balance of Areas	Sites within this subgroup are located in the southern area of Section 36. They do not have unique site-type characteristics or contamination patterns. COCs in the soil exceeding human health SEC include OCPs and chloroacetic acid. This subgroup is also characterized by the potential presence of agent and agent-filled UXO.
	Burial Trenches	Sites within this subgroup consist of trenches that are located in Sections 30 and 32 related to munitions testing and disposal. COCs in the soil exceeding human health SEC include chromium and lead. The sites are also characterized by the potential presence of HE-filled UXO.

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
North Plants				
Human Health	Arsenic	312–10,000	2,800	1
Biota	Dieldrin	0.01–2.9	0.13	1
	Endrin	0.003–0.09	0.01	
	Arsenic	2.8–260	41	
	Mercury	0.05–2.9	0.32	
Toxic Storage Yards				
Human Health	Chloroacetic Acid	80–134	115	6
	Arsenic	270–4,000	1,600	
Biota	Arsenic	BCRL–140	3.6	
	Mercury	BCRL–30	0.15	
Lake Sediments				
Human Health	Aldrin	BCRL–31	11.8	3
	Dieldrin	BCRL–3.4	0.7	
	Chlordane	BCRL–57	1.8	
Biota	Aldrin	BCRL–2.7	0.060	
	Dieldrin	BCRL–2.9	0.069	
	Chlordane	BCRL–9.3	0.056	
	DDE	BCRL–1.3	0.018	
	DDT	BCRL–3.0	0.35	
	Mercury	BCRL–18	0.43	
	Arsenic	BCRL–16	0.69	
Surficial Soil				
Human Health	Aldrin	0.048–390	17	1
	Dieldrin	0.001–560	27	
	Lead (firing ranges)	Not Available	Not Available	
Biota	Aldrin	BCRL–3.0	0.016	1
	Dieldrin	BCRL–3.5	0.057	
	Endrin	BCRL–13	0.039	

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
Ditches/Drainage Area				
Biota	Aldrin	BCRL–0.094	0.005	1
	Dieldrin	BCRL–2.2	0.27	
	Endrin	BCRL–2	0.053	
	DDE	BCRL–0.78	0.027	
	DDT	BCRL–0.32	0.01	
	Arsenic	BCRL–50	6.6	
	Mercury	BCRL–1.9	0.16	
Basin A				
Human Health	Aldrin	BCRL–720	42	
	Dieldrin	BCRL–2,600	150	
	Endrin	BCRL–3,200	110	
	Isodrin	BCRL–160	9	
	Chlordane	BCRL–2,900	100	
	Arsenic	BCRL–28,000	350	
	Chromium	BCRL–98	13	
	DDT	BCRL–105	3	
	DDE	BCRL–21	1.4	
	Mercury	BCRL–11,000	140	
Biota	Aldrin	BCRL–1.9	0.04	
	Dieldrin	BCRL–3.6	0.53	
	Endrin	BCRL–3.0	0.10	
	Arsenic	BCRL–230	25	
	Mercury	BCRL–54	0.67	
	DDT	BCRL–0.73	0.01	
	DDE	BCRL–0.71	0.01	
Basin F Wastepile				
Human Health[3]	Aldrin	0.1–3,100	Not Available	NA
	Dieldrin	0.1–700	Not Available	
	Endrin	9.2–900	Not Available	
	Isodrin	3.16–3,000	Not Available	
	Chloroacetic	110–760	Not Available	
	Acid	3,4–110	Not Available	
	1,2-Dichloroethane DCPD	1,500–2,000	Not Available	

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
Former Basin F				
Human Health	Aldrin	BCRL–2,900	260	10
	Dieldrin	BCRL–1,100	130	
	Endrin	BCRL–710	47	
	Isodrin	BCRL–10,000	360	
	Chloroacetic	BCRL–7,000	960	
	Acid	BCRL–20,000	670	
	DCPD			
Secondary Basins				
Human Health	Aldrin	BCRL–180	21.6	
	Dieldrin	BCRL–120	28.2	
	Chlordane	BCRL–3.0	0.68	
	Endrin	BCRL–8.4	2.1	
	Chromium[4]	BCRL–120		
	Arsenic	BCRL–140	9.8	
	Mercury	BCRL–1.6	0.17	
Biota	Aldrin	BCRL–2.7	0.08	
	Dieldrin	BCRL–3.4	0.69	
	Endrin	BCRL–0.57	0.07	
	DDE	BCRL–1.0	0.006	
	Arsenic	BCRL–56	10	
	Mercury	BCRL–0.23	0.086	
Chemical Sewers				
Human Health	Aldrin	BCRL–20,000	Not Available	10
	Dieldrin	BCRL–200	Not Available	
	Isodrin	BCRL–1,000	Not Available	
	DDT	BCRL–500	Not Available	
	Chloroacetic	BCRL–230	Not Available	
	Acid	BCRL–32,000	Not Available	
	DBCP	BCRL–4,000	Not Available	
	HCCPD	BCRL–200	Not Available	
	Carbon	BCRL–400	Not Available	
	Tetrachloride	BCRL–740	Not Available	
	Chloroform			
	Arsenic			

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
Complex Trenches[5]				
Human Health	Aldrin	BCRL–40	Not Available	14
	Isodrin	BCRL–27	Not Available	
	Chlordane	BCRL–150	Not Available	
	DBCP	BCRL–6.7	Not Available	
	Chromium	BCRL–5,200	Not Available	
	Lead	BCRL–10,000	Not Available	
	Mercury	BCRL–860	Not Available	
	Arsenic	BCRL–4,500	Not Available	
Biota	Aldrin	BCRL–0.19	Not Available	
	Dieldrin	BCRL–3	Not Available	
	Endrin	BCRL–4.7	Not Available	
	DDE	BCRL–2.9	Not Available	
	DDT	BCRL–0.18	Not Available	
	Arsenic	BCRL–98	Not Available	
	Mercury	BCRL–70	Not Available	
Shell Trenches[5]				
Human Health	Aldrin	BCRL–1,000	Not Available	10
	Dieldrin	BCRL–500	Not Available	
	Endrin	BCRL–400	Not Available	
	Isodrin	BCRL–1,000	Not Available	
	Chlordane	BCRL–70	Not Available	
	DBCP	BCRL–700	Not Available	
	HCCPD	BCRL–40,000	Not Available	
Hex Pit[5]				
Human Health	Aldrin	BCRL–1,000	Not Available	10
	Dieldrin	BCRL–500	Not Available	
	Endrin	BCRL–400	Not Available	
	Isodrin	BCRL–1,000	Not Available	
	Chlordane	BCRL–70	Not Available	
	HCCPD	BCRL–40,000	Not Available	

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
Sanitary Landfills				
Human Health	Aldrin	BCRL–420	2.5	12
	Dieldrin	BCRL–300	3.0	
	Endrin	BCRL–38	0.31	
	Isodrin	BCRL–27	0.16	
	Chlordane	BCRL–3.1	0.02	
	DDT	BCRL–61	0.44	
	Chromium	BCRL–1,800	18	
	Lead	BCRL–8,600	65	
	Cadmium	BCRL–1,100	5.8	
Biota	Aldrin	BCRL–3.2	0.09	
	Dieldrin	BCRL–2.6	0.17	
	DDE	BCRL–5.6	0.19	
	DDT	BCRL–61	1.3	
	Endrin	BCRL–20	0.39	
	Arsenic	BCRL–120	5.5	
	Mercury	BCRL–3.5	0.11	
Section 36 Lime Basins				
Human Health	Aldrin	BCRL–1,700	190	10
	Dieldrin	BCRL–780	90	
	Endrin	BCRL–400	41	
	Isodrin	BCRL–400	48	
	Chlordane	BCRL–240	25	
	DDE	BCRL–13	1.9	
	DDT	BCRL–2.6	0.06	
	Arsenic	BCRL–900	100	
	Mercury	BCRL–56	5.4	
Buried M-1 Pits				
Human Health	Aldrin	BCRL–27	0.55	10
	Dieldrin	BCRL–36	0.82	
	Isodrin	BCRL–7.1	0.099	
	HCCPD	BCRL–1,300	44	
	DCPD	BCRL–7,800	195	
	Cadmium	BCRL–2,400	320	
	Arsenic	27–100,000	17,000	
	Mercury	1.3–83,000	4,300	

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
South Plants Central Processing Area				
Human Health	Aldrin	BCRL–15,000	580	10
	Dieldrin	BCRL–6,300	210	
	Endrin	BCRL–3,700	67	
	Isodrin	BCRL–300	19	
	Chlordane	BCRL–1,500	15	
	Chloroacetic	BCRL–350	13	
	Acid	BCRL–300	7.5	
	DDT	BCRL–5,300	28	
	HCCPD	BCRL–14,000	275	
	DBCP	BCRL–140	1.9	
	Carbon	BCRL–40,000	580	
	Tetrachloride	BCRL–970	6.7	
	Chloroform	BCRL–14,000	230	
	DCPD	BCRL–540	5.1	
	Arsenic	BCRL–280	20	
	Cadmium	BCRL–7,100	310	
	Chromium	BCRL–17,000	300	
	Lead			
	Mercury			
Biota	Aldrin	BCRL–3.4	0.19	
	Dieldrin	BCRL–3.4	0.73	
	Endrin	BCRL–1.2	0.029	
	DDE	BCRL–1.6	0.023	
	DDT	BCRL–8.6	0.03	
	Arsenic	BCRL–289	11	
	Mercury	BCRL–56	2.04	
South Plants Ditches				
Human Health	Aldrin	0.60–4,400	270	
	Dieldrin	0.71–805	58	
	Isodrin	BCRL–23	2.3	
	Chlordane	BCRL–6.3	0.4	
	Chromium	BCRL–62	12	
	Endrin	BCRL–3.4	0.17	
	DDE	BCRL–2.1	0.20	
	DDT	BCRL–10	0.4	
	Arsenic	BCRL–6.1	0.42	
	Mercury	BCRL–15	0.30	
Biota	Aldrin	BCRL–2.3	0.11	
	Dieldrin	BCRL–2.7	0.69	
	Endrin	BCRL–0.31	0.038	
	DDE	BCRL–3.2	0.12	
	DDT	BCRL–0.81	0.047	
	Mercury	BCRL–2.5	0.10	

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
South Plants Balance of Areas				
Human Health	Aldrin	BCRL–6,900	14	10
	Dieldrin	0.67–1,500	33	
	Endrin	BCRL–46	1.6	
	Isodrin	BCRL–390	18	
	Chlordane	BCRL–370	4.2	
	DDE	BCRL–9.7	0.53	
	DDT	BCRL–140	1.4	
	HCCPD	BCRL–2,000	23	
	Chromium	BCRL–2,200	62	
	Lead	BCRL–4,900	340	
	Mercury	BCRL–8,600	500	
Biota	Aldrin	BCRL–3.5	0.037	
	Dieldrin	BCRL–3.6	0.32	
	Endrin	BCRL–1.17	0.011	
	DDE	BCRL–1.02	0.006	
	DDT	BCRL–1.7	0.15	
	Arsenic	BCRL–180	0.73	
	Mercury	BCRL–41	0.065	
Buried Sediments				
Human Health	Dieldrin	26.1–53	40	10
	Chlordane	BCRL–8.9	0.8	
Sand Creek Lateral				
Human Health	Aldrin	BCRL–400	27.8	2
	Dieldrin	BCRL–140	18.5	
	Isodrin	BCRL–4.0	0.24	
	Chlordane	BCRL–9.7	0.42	
	Chloroacetic Acid	230	Not Applicable	
	Chromium	BRCL–490	180	
	Lead	BCRL–2,000	800	
	DDE	BCRL–4.7	0.04	
	DDT	BCRL–6.0	1.0	
Biota	Aldrin	BCRL–3.7	0.30	
	Dieldrin	BCRL–3.6	0.44	
	Endrin	BCRL–3.8	0.087	
	DDE	BCRL–4.7	0.095	
	DDT	BCRL–6.0	0.10	
	Arsenic	BCRL–190	5.8	
	Mercury	BCRL–2.3	0.13	

Table 5.4-12 Summary of Contaminant Concentrations Within the Soil Exceedance Volumes

Medium Group/ Subgroup	Contaminants of Concern	Range of Concentrations Within Exceedance Volume[1] (ppm)	Average Concentration Within Exceedance Volume[1] (ppm)	Exceedance Depth (ft)[2]
Section 36 Balance of Areas				
Human Health	Aldrin	BCRL–120	11	10
	Dieldrin	BCRL–140	24	
	Endrin	BCRL–46	5.3	
	Isodrin	BCRL–37	1.6	
	Chlordane	BCRL–140	2.2	
	Chloroacetic	BCRL–320	52	
	Acid	BCRL–1.8	0.10	
	DDE	BCRL–23	0.20	
	DDT	BCRL–16	2.4	
	Arsenic	BCRL–50	0.46	
	Mercury			
Biota	Aldrin	BCRL–2.2	0.061	
	Dieldrin	BCRL–3.5	0.010	
	Endrin	BCRL–3.1	0.12	
	Chlordane	BCRL–11	0.84	
	DDE	BCRL–1.6	0.010	
	DDT	BCRL–8.6	0.028	
	Arsenic	BCRL–39	3.85	
	Mercury	BCRL–56	0.5	
Burial Trenches				
Human Health	Chromium	BCRL–39	20	10
	Lead	BCRL–3,400	190	

[1] Concentrations listed are based on the samples present within the respective exceedance volumes only. For modeled sites, the range and average represent estimated contaminant concentrations for the modeled exceedance volume. See Section 7.1.4 for more discussion on soil contaminant modeling.

[2] Human health exceedance depths represent the maximum depth of any detected human health exceedances.

[3] Concentrations inferred from remedial investigations sampling at Former Basin F prior to interim response action.

[4] Present above human health SEC in one sample in NCSA-4a.

[5] Concentrations for these sites represent samples taken throughout the site. Limited information is available for soil concentrations within the disposal trenches proper.