RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FACILITY OPERATING PERMIT

PARTS 1 THROUGH 7

EPA ID No. NMD002208627

issued to

ADVANCED CHEMICAL TREATMENT LLC.
ALBUQUERQUE FACILITY

for

HAZARDOUS WASTE STORAGE AND TREATMENT

Located in

BERNALILLO COUNTY, NEW MEXICO

Prepared by the

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS WASTE BUREAU
2905 RODEO PARK DRIVE EAST, BUILDING 1
SANTA FE, NEW MEXICO 87505

June 2026

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PERMIT PART 1 GENERAL PERMIT CONDITIONS

1.1 AUTHORITY

This Permit is issued pursuant to the authority of the New Mexico Environment Department (Department or NMED) under the New Mexico Hazardous Waste Act (HWA), NMSA 1978, §§ 74-4-1 through 74-4-14, in accordance with the New Mexico Hazardous Waste Management Regulations (HWMR), New Mexico Administrative Code 20.4.1 (NMAC).

Pursuant to the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§6901 to 6992k, and 40 CFR Part 271 and Part 272 Subpart GG, the State of New Mexico, through the Department, is authorized to administer and enforce the state hazardous waste management program under the HWA in lieu of the federal program.

This Permit contains terms and conditions that the Department has determined are necessary to protect human health and the environment in accordance with (20.4.1.900 NMAC incorporating 40 CFR §270.32(b)(2), and 20.4.1.500 NMAC incorporating 40 CFR §264.101.

Any violation of a requirement in this Permit may subject the Permittee or their officers, employees, successors, and assigns to: 1) a compliance order under §74-4-10 of the HWA or §3008(a) of RCRA (42 U.S.C. §6928(a)); 2) an injunction under §74-4-10 of the HWA or §3008(a) of RCRA (42 U.S.C. §6928(a)), or §7002(a) of RCRA (42 U.S.C. §6972(a)); 3) civil penalties under §§74-4-10 and 74-4-10.1 of the HWA or §§3008(a) and (g) of RCRA (42 U.S.C. §§6928(a) and (g)), or §7002(a) of RCRA (42 U.S.C. §6972(a)); 4) criminal penalties under §74-4-11 of the HWA or §§3008(d), (e), and (f) of RCRA (42 U.S.C. §§6928(d), (e), and (f)); or 5) some combination of the foregoing. The list of authorities in this paragraph is not exhaustive, and the Department reserves the right to take any action authorized by law to enforce the requirements of this Permit.

1.2. PERMITTEE AND PERMITTED ACTIVITY

The Secretary of the New Mexico Environment Department issues this Permit for hazardous waste management at 6137 Edith Boulevard Northeast (the Facility), Albuquerque, New Mexico to Advanced Chemical Treatment, LLC. (ACT LLC, Owner and Operator, hereafter, the Permittee) (EPA ID Number NMD002208627).

This Permit authorizes the Permittee to accept, manage, treat, and store hazardous waste at the Facility, and establishes the general and specific standards for these activities, pursuant to the New Mexico Hazardous Waste Act (HWA) and the New Mexico Hazardous Waste Management Regulations (HWMR). This Permit also establishes the standards for closure and post-closure care of the Facility, and corrective action pursuant to the HWA and HWMR.

1.2.1. Scope of Permit

This Permit authorizes the management, treatment, and storage of hazardous wastes at the ACT Facility, as identified in Section 1.4 of this Permit Part. Storage of hazardous wastes that requires a permit is not authorized at any other location at the Facility. This Permit also requires the Permittee to conduct closure and corrective actions at any solid waste management units and areas of concern facility wide.

1.2.2. Permit Components

This Permit consists of the regulations incorporated by reference into this Permit, Permit Sections in Parts 1 through 7, and Permit Attachments A through M.

1.3. PERMIT CITATIONS

Whenever the Permit cites a provision of 20.4.1 NMAC or Title 40 Code of Federal Regulations (40 CFR) the Permit shall be deemed to incorporate the citation by reference, including all subordinate provisions of the cited provision, and make binding the full text of the cited provision.

Hazardous waste management regulations are frequently cited throughout this Permit. The federal hazardous waste management regulations, 40 CFR Parts 260 through 273, are generally cited rather than the New Mexico Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC.

The federal regulations are cited because only the federal regulations set forth the detailed regulatory requirements; the State regulations incorporate by reference, with certain exceptions, the federal regulations in their entirety. Citing only the federal regulations also serves to avoid encumbering each citation with references to two sets of regulations. However, it is the State regulations that are legally applicable and enforceable. Therefore, for the purpose of this Permit, and enforcement of its terms and conditions, all references to provisions of federal regulations that have been incorporated into the State regulations shall be deemed to include the State incorporation of those provisions.

1.4. EFFECT OF PERMIT

I. Advanced Chemical Treatment, LLC. (ACT LLC, Owner and Operator, hereafter "the Permittee") is allowed to accept, manage, treat, and store hazardous waste at the Facility, and establishes the general and specific standards for these activities, pursuant to the HWA and the HWMR. The Permittee is required to conduct closure and/or post-closure care corrective action in accordance with the conditions of this Permit. Any storage, treatment, and/or disposal of hazardous waste at the Facility not authorized in this Permit is prohibited.

Subject to 40 CFR §270.4, compliance with this Permit during its term generally constitutes compliance, for purposes of enforcement, with the HWA and/or RCRA, and the implementing regulations at 40 CFR Parts 264, 266, and 268, except for those requirements not included in the permit, which: (1) become effective by statute; (2) are promulgated under 40 CFR Part 268 restricting the placement of hazardous wastes in or on the land; (3) are promulgated under 40 CFR Part 264 regarding the leak detection systems described at 40 CFR §270.4(a)(1)(iii); or (4) are promulgated under Subparts AA, BB, or CC of 40 CFR of Part 265 limiting air emissions. [Refer to 40 CFR §270.1(c) and §270.4] The Permittee must also comply with all applicable self-implementing provisions imposed by statute or rule, including 40 CFR Parts 260, 261, 262, 263, 264, 266, 268.

In relation to those activities specifically authorized or otherwise specifically addressed under this Permit, compliance with this Permit during its term shall constitute compliance, for purposes of enforcement, with Subtitle C of RCRA and the HWA, and the implementing regulations at 40 CFR Parts 264, 266, and 268 to the extent, and with the exceptions, provided by 40 CFR §270.4.

II. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege. (*See* 40 CFR §270.4(b) and §270.30(g)).

III. Issuance of this Permit does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of tribal, state or local laws or regulations. (*See* 40 CFR §§270.4(c)). Compliance with this Permit does not relieve the Permittee from the responsibility of complying with all applicable state or federal laws and regulations (40 CFR §270.32(b)(1), 20.4.1.901(A)(11) and 20.4.1.1100 NMAC).

IV. Compliance with this Permit shall not constitute a defense to any order issued or any action brought under: §§74-4-10, 74-4-10.1, or 74-4-13 of the HWA; §§3008(a), 3008(h), 3013, 7002(a)(1)(B), or 7003 of RCRA; §§104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§9601 to 9675; or any other federal, state or local law providing for protection of public health or the environment. In addition, compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Section 3008(a), solely with respect to those requirements set forth at 40 CFR §270.4(a)(1)(i)-(iv).

V. In instances where the Permit and the Approved Permit Application or Permit Attachments conflict, the Permit shall take precedence.

VI. Unless set forth specifically otherwise herein, requirements of this Permit apply to all owners and operators of the Facility, who are referred to herein collectively as the "Permittee." Actions by any owner or operator to be compliant with this Permit or that are non-compliant with this Permit constitute an action of all owners and operators (except as otherwise specified). [Refer to 40 CFR §264.1(b), §270.1(b)-(c), and §270.10(b).]

1.5 EFFECTS OF INACCURACIES IN PERMIT APPLICATION

This Permit is based on the information submitted by the Permittee in the Permit Application dated March 22, 2017 (Application) and approved by NMED on January 4, 2019. NMED deemed the application technically complete on January 22, 2026. Any inaccuracies found in the Application may be grounds for the termination, revocation and reissuance, or modification of this Permit pursuant to 40 CFR §270.43(a)(2). Where the Permittee becomes aware that it failed to submit any relevant facts in the Application or submitted incorrect information in the Application or in any report to the NMED, it shall promptly submit such facts or information pursuant to 40 CFR §270.30(l)(11).

1.6. PERMIT ACTIONS

1.6.1. Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked, and reissued, or terminated for cause, in accordance with 40 CFR §270.41(a)(2), (i.e., Agency Initiated Permit Modification) and §270.43, (Termination of Permits). If at any time the Department determines that cause for modification, revocation and reissuance, or termination of the Permit exists under 40 CFR §270.41, such as changes due to climate change-related factors (e.g., updated floodplain maps or precipitation data from federal or state sources that may impact facility operations), or §270.43, the Secretary may initiate a modification to the Permit, revoke and reissue the Permit, or terminate the Permit in accordance with those sections. The initiation of a modification to the Permit, revocation or reissuance of the Permit, or termination of the Permit does not stay the applicability or enforceability of any Permit Condition. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any Permit condition. [Refer to 40 CFR §270.4(a)(2), and §270.30(f).]

1.6.2. Modification of the Permit by the Permittee

As set forth at 40 CFR §270.42, the Permittee may request a modification of the Permit at any time. The filing of a request for a Permit modification or the notification of planned changes on the part of the Permittee does not stay the applicability or enforceability of any Permit condition. Modifications to the Permit only reopen the permit conditions subject to the modification and do not constitute a reissuance of the Permit.

1.6.3. Unclassified Permit Modifications

Unless a permit modification is explicitly listed in Appendix I of 40 CFR §270.42 as a Class 1 or 2 permit modification, the Permittee shall not submit the proposed permit modification as a Class 1 or 2 permit modification. The Permittee may only make such permit modification as a Class 3 modification or may request a determination from the NMED as to whether the proposed permit modifications should be reviewed as a Class 1 or 2 modification. If the Permittee requests that the modification be classified as a Class 1 or 2 modification, the Permittee must provide NMED with the necessary information to support the requested classification (40 CFR §270.42(d)(1)).

1.6.4. Permit Renewal

This Permit may be renewed in accordance with 40 CFR §270.30(b) and Permit Condition 1.8.2. Review of any application for a Permit renewal must consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. [Refer to RCRA Section 3005(c)(3).]

1.7. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or any of the information in the Approved Permit Application that any provision of this Permit may reference, is in any circumstance contested or held invalid, the contested or invalid provision(s) will not affect other Permit provisions that are uncontested and valid. All other provisions of the Permit remain fully effective and enforceable. [Refer to 40 CFR §124.16(a).]

1.7.1 Conflict in Language

If there is a conflict between the language of a Permit Condition and the language of a Permit Attachment, where the Attachment includes text provided by the Permittee that is not expressly written by NMED, then the language of the Permit Condition shall control the language in the Permit Attachment. This Permit and 40 CFR Parts 264, 265, 266 and 268 establish the minimum requirements for the design, construction, operation, and maintenance of the Facility. Any language in an attachment, which states or implies discretion to not comply with the minimum requirements of this Permit or 40 CFR §270.32(b)(1) and (2), is not effective and the requirements of this Permit and 40 CFR §270.32(b)(1) and (2) shall control.

1.8. DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in the HWA, 40 CFR Parts 124, and 260 through 273 or other specifically cited provision as appropriate, unless this Permit specifically provides otherwise. Terms not defined shall have the meaning given by RCRA. Where a term is not defined in the HWA, RCRA, implementing regulations, or this Permit, the meaning of the term shall be determined by a standard dictionary reference, EPA guidelines or publications, or the generally accepted scientific or industrial meaning of the term.

Administrative Record - means the administrative record supporting and otherwise relating to the requirements of this Permit, compiled as of the effective date of this Permit, which forms the basis for the terms of this Permit. The Administrative Record includes the full record, and those documents submitted in writing by the NMED, the Permittee, the EPA, or the public, as of the effective date of the Permit for inclusion in the Administrative Record.

Advanced Chemical Treatment LLC (ACT) - means Advanced Chemical Treatment LLC, the Operator of the treatment and storage Facility.

Area of Concern (**AOC**) - means any area having a known or suspected release of a hazardous waste, hazardous constituents or other contaminants that are not from a solid waste management

unit and that the Department has determined may pose a current or potential threat to human health or to the environment. An AOC may include buildings, structures, and other locations at which releases of hazardous waste, hazardous constituents or other contaminants have not been remediated, including releases resulting from one-time or accidental events.

Approved Permit Application – means the Advanced Chemical Treatment LLC Resource Conservation and Recovery Act (RCRA) Permit Renewal Application titled "Hazardous Waste Permit Renewal Application", as received on March 22, 2017, submitted by the Permittee, and approved by NMED on January 4, 2019. NMED deemed the application to be technically complete on January 22, 2026, the issuance date of the Secretary's official decision that this revision of the applicant's permit application was complete, including all referenced appendices, documents, and reports.

British Thermal Unit (BTU) - means a non-metric, traditional unit of heat; defined as the amount of heat required to raise the temperature of one pound of water by one-degree Fahrenheit.

Climate Change - refers to changes in global or regional climate patterns attributed largely to human-caused increased levels of atmospheric greenhouse gases.

Consolidation - means the merging of waste streams carrying the same waste code(s) for the intent of reducing the number of containers.

Contaminant – means any hazardous constituent listed in 40 CFR Part 261, Appendix VIII and 40 CFR Part 264, Appendix IX, any groundwater contaminant listed in the New Mexico Water Quality Control Commission (WQCC) Regulations at 20.6.3103 NMAC; any toxic pollutant listed in the New Mexico WQCC Regulations at 20.6.2.7.T(2) NMAC; methyl tertiary-butyl ether; perchlorate; polychlorinated biphenyls (PCBs); dioxins and furans; total petroleum hydrocarbons; per- and poly fluoroalkyl substances; and any other substances present in soil, sediment, rock, surface water, groundwater, or air for which the NMED determines that monitoring, other investigation, or a remedy is necessary to carry out the purpose of this Permit.

Corrective Action - means all corrective action, as defined in 20.4.7(C)(3) NMAC, necessary to protect human health and the environment for all releases of hazardous waste, hazardous constituents, or other contaminants defined by this Permit Section (1.12), regardless of the time at which waste was placed in the Unit, as required under the State of New Mexico HWA §74-4-4.2(B), 40 CFR §270.32(b)(2) and 40 CFR §264.101. Corrective Action may address releases to air, soil, sediment, surface water or groundwater.

Corrective Action Complete – means the requirements for corrective action have been satisfied by the Permittee as determined by the NMED.

Days - refers to calendar days unless specified otherwise in this Permit.

Department - means the New Mexico Environment Department and any successor or predecessor agencies.

Discharge - means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of solid waste or hazardous waste into or onto any land or water.

Disposal – means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any water, including groundwater.

EPA - means the United States Environmental Protection Agency and any successor or predecessor agency.

Equipment - each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems required by this subpart.

Extent of Contamination – means the horizonal and vertical area in which the concentration of hazardous waste or constituents in the environmental media being investigated are above detection limits or background concentrations indicative of the region, whichever is appropriate, as determined by the NMED.

Facility - means the Advanced Chemical Treatment LLC, located at 6137 Edith Boulevard N.E., Albuquerque, New Mexico, 87107.

For the purpose of implementing corrective action under 40 CFR §264.101, RCRA Section 3008(h), or the HWA, NMSA 1978, §74-4-10(E), the Facility includes all contiguous property under the control of the owner or operator seeking a permit under the HWA. The Facility also includes all the future/potential SWMUs and AOCs that will be covered by this Permit. The regional location of the Facility is shown in Figure 1 of Permit Attachment M (Figures).

Foreign Source - means a hazardous waste source outside the United States.

Fuel Blending - means an intentional method of combining hazardous waste streams, or hazardous waste and commercial fuels from two or more containers for the purpose of energy recovery.

Groundwater - means interstitial water, which occurs in saturated earth material.

Hazardous Constituents or **Hazardous Waste Constituents** - means 1) any constituent identified in 40 CFR Part 261 Appendix VII that causes EPA to list a hazardous waste in 40 CFR Part 261, Subpart D or 2) any constituent listed in 40 CFR Part 261, Appendix VIII, or 3) any constituent listed in Table 1 of 40 CFR §261.24. For purposes of corrective action, "hazardous constituents" and "hazardous waste constituents" also mean any constituent identified in 40 CFR Part 264 Appendix IX, nitrate and perfluorocarbons.

Hazardous Waste - means any solid waste, or combination of solid wastes which because of its quantity, concentration, physical, chemical, or infectious characteristics meets the description set forth in NMSA §74-4-3(K) or as defined in 40 CFR §261.3. Further, for the purpose of corrective action for solid waste management units and areas of concern conducted pursuant to 74-4-4.2(B) of the HWA, 40 CFR Part 264, Subpart F, or 40 CFR §270.32(b)(2), Hazardous Waste means a hazardous waste as defined in 74-4-3(K) of the HWA. Hazardous waste, for the purpose of corrective action, includes, without limitation any hazardous waste as defined in 40 CFR §261.3, any groundwater contaminant listed in the New Mexico WQCC Regulations in 20.6.2.3103 NMAC, any toxic pollutant listed in 20.6.2.7.T(2) NMAC, any contaminant or constituent defined in this Permit Section (1.8) or for which the EPA has promulgated as maximum contaminant level (MCL) at 40 CFR Parts 141 and 143, perchlorate, total petroleum hydrocarbons, methyl tertiary-butyl ether, polychlorinated biphenyls (PCBs), dioxins, furans, and per- and polyfluoroalkyl substances (PFAS).

HWA – means the New Mexico Hazardous Waste Act, NMSA 1978, 74-4-1 to 74-4-14.

Hazardous Waste Management Regulations - means the New Mexico Hazardous Waste Management Regulations, 20.4.1 NMAC.

Hazardous Waste Management Unit - means a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

Inherently Fuel-Like Waste - means a liquid and an ignitable characteristic waste stream(s) not less than 5,000 BTUs with no more than a 10% water content and shall not include Dioxins, Acute hazardous waste, nonhazardous wastes, halogenated waste, heavy metals, chlorinated compounds, sulphonated compounds or solids and particulate matter. “Inherently fuel-like” wastes undergoing treatment and/or any wastes generated as a result of treatment by fuel blending, shall be considered “inherently fuel-like”.

Interim Measures - means actions necessary to minimize or prevent the further migration of hazardous constituents and limit actual or potential human and environmental exposure to hazardous constituents while long-term corrective action remedies are evaluated and, if necessary, implemented.

Maximum Contaminant Level (MCL) means a maximum contaminant level under the Federal Safe Drinking Water Act, 2 U.S.C. 300f to 300j-26, and the drinking water regulations promulgated thereunder.

NMED - means the New Mexico Environment Department and any successor or predecessor agencies.

Off-Site Source - means a generator of hazardous waste or a treatment, storage, or disposal facility (TSDF) managing hazardous waste located within the United States of America, but outside of the Facility boundary.

Operator means the person responsible for the overall operation of the Facility.

Owner means the person who owns the Facility or part of a Facility.

Permit - means this Permit, EPA ID No. NMD000804294, issued to the Permittee for the Facility pursuant to the HWA and the HWMR, to operate treatment and storage of hazardous waste units and to conduct closure activities, and corrective action, as it may be modified or amended. This Permit is based on the information presented in Parts A and B of the Permit Application submitted by the Permittee in March 2017, and subsequent revisions and supplemental information herein referred to as the Application. This Permit consists of Permit Parts 1 through 7 and Attachments A through M.

Permittee - means Advanced Chemical Treatment LLC.

Post-Closure Care Unit means any hazardous waste management unit subject to post-closure care requirements of 40 CFR Part 264, Subpart G.

RCRA - means the federal Resource Conservation and Recovery Act of 1980 (42 U.S.C. §§6901 to 6992K) as amended by the Hazardous and Solid Waste Amendments (HSWA) in 1984. RCRA is also known as the Solid Waste Disposal Act.

Release - means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of any solid waste, hazardous waste or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing solid waste, hazardous waste or hazardous constituents).

Remediation Waste - means all solid and hazardous wastes; and all media (including groundwater, surface water, soils, and sediments) and debris; that are managed for implementing cleanup.

Secretary - means the Secretary of the New Mexico Environment Department or their Designee.

Solid Waste Management Unit - (**SWMU**) means any discernible unit or area at the Facility at which solid waste has been placed at any time, and from which the Department determines there may be a risk of a release of hazardous waste or hazardous constituents or other contaminants, irrespective of whether the unit or area was intended for the management of solid or hazardous waste. Such units include any area at the Facility at which solid waste has been routinely and systematically released; they do not include one-time spills. (*See* 61 Fed. Reg. 19431, 19442-43 (May 1, 1996)).

Target Analyte List (TAL) Metals – means the list of 23 inorganic target analytes defined by the EPA Contract Laboratory Program Statement of Work. The list consist of the following: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

Treatment - means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

Waste Stream - means waste material generated from a single process or activity that is similar in its physical form and hazardous constituents and is distinguishable from other wastes by EPA Hazardous Waste Numbers and Land Disposal Restriction (LDR) status.

Watercourse - shall have the meaning defined in 20.6.2.7 NMAC

Water Quality Control Commission (WQCC) - means the New Mexico Water Quality Control Commission, and any successor agencies, boards, or commissions.

Water Quality Control Commission Regulations – means the regulations at 20.6.2 NMAC promulgated by the New Mexico Water Quality Control Commission governing the Quality of Ground Water and Surface Water in New Mexico.

1.9 DUTIES AND REQUIREMENTS

1.9.1 Duty to Comply

The Permittee must comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued under 40 CFR §270.61 or temporary authorization issued under 40 CFR §270.42(e). Any Permit noncompliance, except under the terms of an emergency permit or temporary authorization, constitutes a violation of the HWA and RCRA and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification under 74-4-4.2 of the HWA and 40 CFR §270.41 and §270.43; or for denial of a permit renewal application, or other Department action, and may subject the Permittee, its successors and assigns, officers, directors, employees, parents, or subsidiaries to an administrative or civil enforcement action, including civil penalties and injunctive relief under §74-4-4.2 of the HWA. [Refer to 40 CFR §270.30(a).]

No delegation or assignment of the Permittee's responsibilities under this Permit can be made to any person or entity; including a separately organized agency, without the written permission of the Department; this prohibition does not preclude the Permittee's use of contractors for remediation. The Permittee shall not allow any person or entity which currently exists or may be created, including a separately organized agency, to interfere with the performance of its obligations or responsibilities under this Permit.

1.9.2 Duty to Reapply

If the Permittee will continue an activity allowed or required by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for permit renewal per 40 CFR §270.30(b) and 40 CFR §270.10(h), at least one hundred eighty (180) calendar days before this Permit expires, unless permission for a later date has been granted in writing by the Department.

1.9.3 Permit Expiration

The effective date of this Permit shall be 30 calendar days after notice of the NMED's decision has been served on the Permittee, or such later time as the NMED may specify (20.4.1.901.A(10) NMAC). This Permit is effective for a fixed term not to exceed ten years. This Permit and all conditions herein will continue in force under 5 U.S.C. 558(c) pursuant to 40 CFR §270.51(a) until the effective date of a new permit if:

> (i) the Permittee has submitted a timely new complete application per 40 CFR §270.10(c) in compliance with 40 CFR §§270.13 and 270.14, and includes applicable information required by 40 CFR §270.15 through §270.28, and for standards in Parts 260 through 268, as applicable, for a new permit, and
>
> (ii) the Department, through no fault of the Permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit. Permits continued under this paragraph remain fully effective and enforceable. [Refer to 40 CFR §270.10, 270.50, and §270.51.].

1.9.4 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [Refer to 40 CFR §270.30(c).]

1.9.5 Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee must take all reasonable steps to minimize releases of hazardous wastes and hazardous constituents to the environment and must carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [Refer to 40 CFR §270.30(d)]

1.9.6 Proper Operation and Maintenance

The Permittee must at all times properly operate and maintain the Facility and systems of treatment and control (and related appurtenances), which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control (QA/QC) procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. [Refer to 40 CFR §270.30(e).]

1.9.7 Duty to Provide Information

The Permittee must furnish the Department within a reasonable time as specified by the Department, any relevant information which the Department may request to determine whether cause exists for modifying, revoking, reissuing, terminating this Permit, or to determine compliance with this Permit. The Permittee must also furnish the Department, upon request, copies of records required to be kept in accordance with conditions required by this Permit. Information and records requested by the Department pursuant to this condition shall be provided in paper form or in an electronic format acceptable to the Department or both as the Department may specify. [Refer to 40 CFR §270.30(h).]

This Permit condition shall not be construed to limit in any manner the Department's authority under §74-4-4.3 of the HWA, §3007(a) of RCRA, or other applicable law or regulation.

1.9.8 Inspection and Entry

The Permittee must allow the Secretary, or authorized representatives of the Department, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter at reasonable times the Facility and/or the Permittee's premises where a regulated unit is located or a regulated activity is conducted, or where records must be kept under the conditions of this Permit;

2. Have access to and copy, at reasonable times, any records that must be kept in accordance with this Permit;

3. Have access to and photograph any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required.

4. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

5. Sample, measure, or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA and the HWA, any substances or parameters at any location. [Refer to 40 CFR 270.30(i).]

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit. Notwithstanding any provision of this Permit, the Department retains the inspection and access authority which the EPA has under RCRA and other applicable laws.

1.9.9 Monitoring and Records

All samples and measurements taken by the Permittee for the purpose of monitoring must be representative of the medium, waste, or other material being sampled. [Refer to 40 CFR §270.30(j)(1)]. The Permittee shall maintain records of all monitoring information in accordance with 40 CFR §270.30(j)(2).

1.9.9.a. The samples and measurements taken by the Permittee for the purpose of monitoring must be representative of the monitored activity in accordance with the minimum required procedures included in Permit Section 8, Methods and Procedures. [Refer to 40 CFR §270.30(j)(1).]

1.9.9.a.i. The sampling and analytical methods employed by the Permittee must be appropriate to achieve the applicable data quality objectives established by the Waste Analysis Plan and the Quality Assurance Project Plan in the Approved Permit Application. The Permittee shall use the sampling and analysis methods that are referenced in the RCRA regulations, where required. The Permittee shall use representative sampling methods consistent with the most appropriate method from Appendix I of 40 CFR Part 261 and as identified in the Waste Analysis Plan, Permit Attachment C.

For the purposes of this Permit, the Permittee should use the procedures identified in the most recent version of the EPA and/or NMED approved policies and guidance procedures, or an equivalent method approved by the Department for collecting, shipping, analyzing, tracking and controlling samples, using the latest version of *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846 (available at https://www.epa.gov/hw-sw846)*. [Refer to 40 CFR §264.74(b) and §270.31.]

1.9.9.a.ii. The sampling and analytical must be performed by a laboratory certified for the selected method and each specific analyte for which the analysis is performed pursuant to the most recent version of *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods"(U.S. EPA Publication SW-846),* or an equivalent method which has received prior written approval from NMED in accordance with 40 CFR §260.21.

1.9.9.b. The Permittee must retain records of all monitoring information required by this Permit (including all calibration and maintenance records and a record of all monitored measurements, data packages including but not limited to digital and original strip chart recordings for continuous monitoring instrumentation), copies of all reports and records required by this Permit, the certification required by 40 CFR §264.73(b)(9), and records of all data used to complete the application for this Permit, for a period of at least three (3) years from the date of the sample,

measurement, report, record, certification, or application. These periods may be extended at the request of Secretary/NMED at any time and are automatically extended during the course of any unresolved enforcement action regarding this Facility. The Permittee must maintain records for all groundwater monitoring wells and associated groundwater surface elevations, and any investigation and cleanup activities for the active life of the Facility. [Refer to 40 CFR §264.74(b), and §270.30(j)(2).]

1.9.9.c. Records of monitoring information must specify, to the extent applicable:

1.9.9.c.i. The dates, exact locations, and times of sampling or measurements;

1.9.9.c.ii. The individual(s) who performed the sampling or measurements;

1.9.9.c.iii. The date(s) analyses were performed;

1.9.9.c.iv. The name(s) and qualification(s) of the individual(s) who performed the analyses;

1.9.9.c.v. The measuring techniques, analytical technique(s) or method(s) used; and

1.9.9.c .vi. The results of such analyses.

[Refer to 40 CFR §270.30(j)(3).].

1.10. REPORTING REQUIREMENTS

1.10.1. Reporting Planned Changes

Except as otherwise provided under 40 CFR §270.42, the Permittee must give advance notice to the Secretary in writing, as soon as possible, of any planned physical alterations or additions to the permitted Facility. Any notice provided under this section must include any necessary request for a permit modification pursuant to 40 CFR §270.42. The Permittee shall not commence modifications or physical alterations or additions prior to receiving a permit modification. [Refer to 40 CFR §270.30(l)(1).]

1.10.2. Reporting Anticipated Noncompliance

The Permittee must give a minimum of 60 calendar days' advanced written notice to the NMED of any planned changes in the permitted Facility or activity which may result in noncompliance with Permit requirements. The Permittee may not manage, treat, store, or dispose of hazardous waste in the modified portion of the Facility except as provided in 40 CFR §270.42 until the Permittee and a registered professional engineer certify the modification has been done in compliance with the permit and the Secretary has inspected and determined the modification is compliant with the permit or has waived inspection in accordance with 40 CFR §270.30(l)(2).

1.10.3. Transfer of Permits

This Permit is not transferable to any person, except after notice to the Secretary and receipt of approval from the NMED in accordance with 40 CFR §270.40(b).

1.10.3.a. The Permittee shall inform the Secretary in writing and obtain prior written approval from the Secretary before transferring ownership or operational control of the Facility. [Refer to 40 CFR §270.40 and §270.42.]

1.10.3.b. The Permittee may make changes in ownership or operational control of the Facility as a Class 1 modification after obtaining prior written approval from the NMED in accordance with 40 CFR §270.42(a)(2).

1.10.3.c. Before transferring ownership or operation of the Facility during its operating life, the Permittee must notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270 and this Permit, including the financial assurance requirements of 40 CFR §270.40(b). [Refer to 40 CFR §264.12(c), §270.30(l)(3) and §270.40.]

1.10.3.d. The Permittee must inform the new owner or operator that they must submit a revised permit application no later than 90 days prior to the scheduled change. [Refer to 40 CFR §270.40(b).]

1.10.3.e. A written agreement containing the specific date for transfer of the Permit responsibility to the new Permittee must also be submitted to the Secretary with the revised permit application required by 40 CFR §270.40(b).

1.10.3.f. The Secretary may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary in accordance with 40 CFR §270.40. [Refer to 40 CFR §270.40(a).]

1.10.3.g. When a transfer of ownership or operational control occurs, the Permittee shall comply with the requirements of 40 CFR Part 264, Subpart H (Financial Requirements) until the new owner or operator has demonstrated that they are complying with the requirements of that Subpart. The new owner or operator must demonstrate compliance with Subpart H requirements within six months of the date of the change of ownership or operational control of the facility. Upon demonstration to the Secretary by the new owner or operator of compliance with Subpart H, the Secretary shall notify the Permittee that they no longer need to comply with Subpart H as of the date of notification. [Refer to 40 CFR §270.40(b).]

1.10.4. Compliance Schedule Reporting

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit or Permit Condition must be submitted no later than 14 calendar days following each scheduled date. [Refer to 40 CFR §270.30(l)(5).]

1.10.5. Twenty-Four-Hour Reporting

1.10.5.a. The Permittee must report to the Secretary, both orally and in writing, any noncompliance which may result in the release of contaminants or may endanger human health or the environment. Any such information must be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. The oral report shall be made by calling the Hazardous Waste Bureau's main telephone number (505) 476-6000 during regular business hours, or by calling the New Mexico Department of Public Safety (DPS) dispatch telephone number (505) 827-9300 during non-business hours and requesting that the report be forwarded to the NMED spill number (505) 827-9329. The 24-hour report using the NMED and DPS telephone numbers shall provide information that includes:

1.10.5.a.i. Information concerning any release of any hazardous waste or hazardous constituents that may cause an endangerment to public drinking water supplies; and

1.10.5.a.ii. Any information of a release or discharge of hazardous waste or hazardous constituents, or of a fire or explosion from the Facility which could threaten the environment or human health outside the Facility. [Refer to 40 CFR §270.30(l)(6)(i).]

1.10.5.b. The description of the noncompliance and its cause must include:

1.10.5.b.i. Names, addresses, and telephone numbers of the Permittee;

1.10.5.b.ii. Name, address, and telephone number of the Facility;

1.10.5.b.iii. Date, time, and type of incident;

1.10.5.b.iv. Name and quantity of materials involved;

1.10.5.b.v. The extent of injuries, if any;

1.10.5.b.vi. An assessment of actual or potential hazards to the environment and/or human health outside the Facility, where this is applicable; and

1.10.5.b.vii. Estimated quantity and disposition of recovered material that resulted from the incident. [Refer to 40 CFR §270.30(l)(6)(ii).]

1.10.5.c. A written submission must also be submitted to the Secretary within five (5) calendar days from the time that the Permittee first becomes aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected, and, if not, the anticipated time it is expected to be corrected; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee shall include in the report all records of spill response activities pursuant to 40

CFR §264.74(a). The Secretary may waive the five-day written notice requirement in favor of a written report within 15 days. [Refer to 40 CFR §270.30(l)(6)(iii).] Upon receipt of the 24-hour incident report, NMED will send a courtesy copy of the written incident report, for the record, to EPA's Office of Resource Conservation and Recovery at *ORCRincidenttracking@epa.gov.*

1.10.6. Manifest Discrepancy Report

If a significant discrepancy in a manifest is discovered, the Permittee shall attempt to reconcile the discrepancy. If not resolved within 15 calendar days, the Permittee shall submit a letter report, including a copy of the manifest to the NMED in accordance with 40 CFR §264.72 and 40 CFR §270.30(l)(7).

1.10.7. Unmanifested Waste Report

This report must be submitted to the Secretary within 15 days of receipt of unmanifested waste. [Refer to 40 CFR §264.76 and §270.30(l)(8)]. The Permittee shall also submit an Unmanifested Waste Report to the EPA e-Manifest System.

1.10.8. Biennial Report

The Permittee must submit a biennial report covering facility activities during odd numbered calendar years. The Biennial Report must be submitted to NMED via the RCRAinfo application, or other means acceptable to NMED, by March 1 of each even-numbered year. The Biennial Report shall accurately provide the information regarding generation, receipt and destination facility for each hazardous waste managed at the Facility. The report must also address all facility activities during the previous calendar year in accordance with the requirements of 40 CFR §264.75 and §270.30(l)(9).

1.10.9. Other Noncompliance

The Permittee must report all other instances of noncompliance not otherwise required to be reported in Permit Conditions 1.10.1. through 1.10.4. The reports must contain the information listed in Permit Condition 1.10.5. [Refer to 40 CFR §270.30(l)(10).]

The Permittee must report all other instances of noncompliance not otherwise required to be reported in Permit Conditions 1.10.1. through 1.10.4 within 60 calendar days, in a "Report of Non-Compliance" submitted in accordance with Permit Condition 1.11. The Reports of Noncompliance must contain the information listed in Permit Conditions 1.10.3.a and 1.10.3.b. [Refer to 40 CFR §270.30(l)(10).]

1.10.10. Other Information

Whenever the Permittee becomes aware that the Permittee failed to submit any relevant facts in a Permit application or submitted incorrect information in a Permit application or in any report to the Department, the Permittee must promptly submit such facts or information in writing no later

than 15 calendar days upon discovery of the omission or incorrect information. [Refer to 40 CFR §270.30(l)(11).]

1.11. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to or requested by the Secretary, or a designee or authorized representative of the Secretary shall be signed and certified in accordance with 40 CFR §270.11 and §270.30(k). The Permittee shall provide written notification to the Department within thirty (30) days of any changes concerning the names of and contact information for the responsible corporate and principal executive officers or their duly authorized representatives.

1.12. REPORTS, NOTIFICATIONS, AND SUBMISSIONS

1.12.1. Except as provided in Permit Condition 1.12.3, all reports, correspondence, notices, or other submissions that require a signature and are required by this Permit to be submitted to the Secretary, must be delivered by certified U.S. Postal Service mail, courier/delivery service, hand delivery, or private courier service to:

Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313
Telephone Number: (505) 476-6000
Facsimile Number: (505) 476-6030

All original plans, reports, notifications, or other submissions required by this Permit shall be submitted as two paper (hard) copies and two electronic copies, to the NMED by certified mail, courier/delivery service or hand delivery.

Electronic submittals shall be in a format acceptable to the NMED.

1.12.2. All deliverables submitted in paper form pursuant to Permit Condition 1.12.1. must also be submitted in electronic format to the addressee(s) identified in Permit Condition 1.12.3.

1.12.3. All reports, correspondence, notices, or other submissions required by this Permit to be submitted to the Secretary must be submitted to the Hazardous Waste Bureau (HWB) Chief by electronic mail, or other electronic delivery method.

1.12.4. <u>Approval of Submittals</u>

All documents that the Permittee prepares under the terms of this Permit and submits to the Department are subject to the provisions of the Hazardous Waste Permit and Corrective Action Fee Regulations 20.4.2 NMAC. Documents requiring NMED approval that are not subject to the provisions of 20.4.2 NMAC also may be reviewed and approved, approved with modifications or directions, disapproved, denied, or rejected by the NMED in accordance with 20.4.2.201.B.

Upon the Department's written approval, all submittals and associated schedules are incorporated into this Permit and shall become enforceable as part of this Permit in accordance with the terms of the NMED's written approval, and such documents, as approved, shall control over any contrary or conflicting requirements of this Permit. Incorporating a work plan to the Permit is not considered to be a permit modification. This provision does not affect any public process that is otherwise required by this Permit, the HWA, or its implementing regulations.

Failure to submit any of the work plans, schedules, reports, or other deliverable documents that the Permittee is required to prepare under this Permit according to the schedules or deadlines in this Permit, may subject the Permittee to enforcement action under Section 74-4-10 of the HWA, or other applicable provisions of law, which may include fines, civil penalties, or suspension or revocation of the Permit. Failure to submit any of the required items, the submission of inadequate or insufficient information, or failure to comply with NMED direction or with the approved work plans or schedules is a violation of this Permit and may subject the Permittee to enforcement action in accordance with Permit Section 1.1.

Any noncompliance with approved plans and schedules shall cause the Permittee to be in noncompliance with this Permit. The NMED may grant extensions of written requests for due dates for submittals of reports and other deliverables, provided that the Permittee includes a written justification showing good cause and a proposed schedule for submittal, in accordance with Permit Section 1.10.4.

1.12.5. Extension of Time

The Permittee may seek an extension of time in which to perform a requirement of this Permit, for good cause, by sending a written request for extension of time and proposed revised schedule to the NMED at least 10 days prior to the due date for the submittal. The request shall state the length of the requested extension and describe the basis for the request. The NMED will respond in writing to any request for extension following receipt of the request. If the NMED denies the request for extension, it will state the reasons for the denial.

1.13. CONFIDENTIAL INFORMATION

In accordance with 40 CFR §270.12, the Permittee may claim information to be submitted by this Permit as entitled to confidential treatment at the time of submittal. Any claim must include justification satisfactory to the Department that such records, reports, or information, or a particular part thereof, if made public, would divulge information entitled to protection under Section 1905 of Title 18 of the United States Code. Such information deemed by the Department to be confidential information may be disclosed to officers, employees, or authorized representative of the Department or the United States concerned with carrying out the Resource Conservation and Recovery Act of 1976, or when relevant in any proceedings under the Hazardous Waste Act. If the Permittee asserts such a claim, the information will be treated in accordance with the procedures in 40 CFR Part 2. Any such claim must be asserted at the time of submittal in the manner prescribed on the application form, or in the case of other submittals, by stamping the words "confidential business information" on each page containing such information. If no claim

is made at the time of submission, the information may be made available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information). [Refer to 40 CFR Part 2, Subpart B, Section 74-4-4.3(D) and (F) of the HWA, and 40 CFR §270.12.].

1.14. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

In addition to the Permit, Approved Permit Application and any modifications thereof during the term of the Permit, the Permittee must maintain at the Facility or at an approved location identified in the Approved Permit Application, the following documents and all amendments, revisions, and modifications to these documents, at a minimum:

1.14. a. Waste Analysis Plan, as required by 40 CFR §264.13 and this Permit.

1.14. b. Inspection schedules, as required by 40 CFR §264.15(b)(2) and this Permit.

1.14. c. Personnel training documents and records, as required by 40 CFR §264.16(d) and this Permit, although training records on current personnel must be kept until closure of the Facility, training records on former employees must be kept for at least three (3) years from the date the employee last worked at the Facility in accordance with 40 CFR §264.16(e).

1.14. d. Contingency Plan, as required by 40 CFR §264.53(a) and this Permit.

1.14.e. Operating Record, as required by 40 CFR §264.73 and this Permit.

1.14.f. Closure Plan, as required by 40 CFR §264.112(a) and this Permit.

1.14.g. Post-Closure Plan, as required by 40 CFR §264.118(a) and this Permit.

1.14.h. Annually adjusted cost estimates for Facility closure and/or post-closure and/or corrective action, as required by 40 CFR §264.142(d), 40 CFR §264.144(d), and 40 CFR §264.101(b), and this Permit.

1.14.i. Documents implementing Corrective Action for Solid Waste Management Units at the Facility as required by 40 CFR §264.101 and this Permit, including, as required, RCRA Facility Assessments, RCRA Facility Investigations, Corrective Measures Studies, Remedy Selection Documents, and others as specified in the Permit.

1.14.j. A copy of the current completeness determination and current approved Permit Application including all appendices and attachments.

1.14.k. All other documents required to be maintained for the active life of the Facility in accordance with the requirements of this Permit.

For the purposes of the requirement that records be maintained "at the Facility or at an approved location identified in the Approved Permit Application" in accordance with this Permit Condition,

except for the Contingency Plan, such records may be maintained in either hardcopy at the Facility or electronic format, provided they are made available to and are readily accessible to the NMED and EPA for the period that applies to the record. [Refer to 1.14.1.d. and also General Facility Permit Condition 2.14 (Record Keeping and Reporting)]

All records, including plans, required under this Permit must be furnished upon request, and made available at all reasonable times for inspection by any officer, employee, or representative of the NMED and EPA who is duly designated by the Secretary. [Refer to 40 CFR §264.74(a).].

1.15. INFORMATION REPOSITORY

The Permittee must establish and maintain an Information Repository (IR) that meets the requirements of 40 CFR §124.33. The Information Repository must include, but it is not limited to, the following records:

1.15. a. Final Permit and Attachments.

1.15. b. Current Approved Permit Application Parts A and B, including appendices and attachments.

1.15. c. Any pending requests for Permit Modifications or Renewal associated with this Permit submitted pursuant to 40 CFR §270.42.

1.15. d. All Final Permit Modifications.

1.15. e. Any documents such as Performance Demonstration Test (PDT) Work Plans, PDT Reports, and Human Health and Ecological Risk Assessment Updates, approved by the Secretary in the preceding 3 years.

1.15. f. Final NMED/EPA RCRA Inspection Reports for the preceding 3 years.

1.15. g. The Waste Minimization Report submitted pursuant to Permit Section 2.5.

The information repository must be located and maintained at a site chosen by the Permittee and approved by the Secretary. If an electronic, internet-based repository is used for the information repository, it must be publicly accessible and maintained by the Permittee to allow public access to the records on as continuous a basis as is technically feasible. [Refer to 40 CFR §124.33 (d) and 40 CFR §270.30(m).]

The Permittee shall establish the IR within 180 days of the effective date of this Permit or within 90 days of the Department's approval of the location, whichever is later.

The Permittee must update the information repository with appropriate information when permit events take place (*e.g.*, permit modifications, trial burn tests, if applicable, etc.) and at least every five (5) years throughout the life of this Permit. Records maintained in the information repository need only be maintained for the periods of time otherwise required by this Permit. [Refer to 40

CFR §124.33(f) and §270.30(m).]

Notice of the location of the information repository must be sent to all persons on the Facility mailing list previously received from the Department and in accordance with the requirements of 40 CFR §124.33(e) and §270.30(m).]

1.16. COMPLIANCE SCHEDULE

The Permittee must comply with the Compliance Schedule(s) located in Permit Section 1.10.4 and Permit Attachment I of this Permit. The Permittee shall certify the accomplishment of an item listed in the Compliance Schedule in a written notice to the Secretary within five (5) calendar days of accomplishing each item listed in the compliance schedule. [Refer to 40 CFR §270.33].

PERMIT PART 2 GENERAL FACILITY REQUIREMENTS

2.1 DESIGN, CONSTRUCTION, MAINTENANCE, AND OPERATION OF THE FACILITY

2.1.1. Design and Operation

The Permittee shall design, construct, maintain, and operate the Facility to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste or hazardous waste constituents or other contaminants to air, soil, sediment, groundwater, or surface water which could threaten human health or the environment, as required by 40 CFR § 264.31.

2.1.2. Climate Change Consideration

The Permittee must consider the potential adverse effects of climate change impacts. Adverse impacts of climate change can include the frequency and intensity of extreme weather events, changing wind patterns, temperature fluctuations, increased precipitation, inland flooding, storm surges, changes in groundwater levels and direction of flow, drought, and increase risk of wildfires. These potential impacts can threaten the resilience of engineering and other controls at the Facility. The Permittee must ensure that the design and operation of the treatment and storage facility areas meet the standard in Section 2.1.1 in the face of future adverse climate conditions for protection of human health and the environment.

2.2 WASTE SOURCES

2.2.1. Permitted Waste

The Permittee shall treat and store only those hazardous wastes specified in Permit Parts 3,4, and Permit Attachment B (Authorized Wastes).

2.2.2. Hazardous Waste from Foreign Sources

Foreign Source means a hazardous waste source outside the United States. The Permittee shall not accept, store, treat, or otherwise manage hazardous wastes from foreign sources at the Facility.

2.2.3. Hazardous Waste from Off-site Sources

The Permittee may accept, treat, store, or otherwise manage at the Facility, only the hazardous wastes from off-site sources with an available final disposal path.

The Permittee shall receive from off-site sources only the hazardous waste types listed in Permit Attachment B (Authorized Wastes) for treatment and storage at the Facility.

2.2.4. Prohibited Waste

The Facility shall not accept the following wastes from off-site generators:

i. *Dioxin Contaminated Wastes*: The Permittee shall not consolidate dioxin contaminated wastes with other wastes but shall manage such wastes as drum in/drum out.

ii. *Hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations equal to or greater than 50 parts per million (ppm).* The Permittee must obtain a permit from the EPA for management of Toxic Substances Control Act (TSCA) wastes in order to accept and manage wastes containing PCBs with concentrations greater than 50 (parts per million) ppm. A copy of this permit shall be submitted to the New Mexico Environment Department (NMED) prior to acceptance of such waste.

iii. *Potential unstable fuels*: Wastes containing Hydrazine compounds or other rocket fuels-related compounds may only be received in lab packs/loose pack configurations to be consolidated into larger lab packs for offsite shipment

iv. *Explosives:* Any substance or article, including a device, that is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or that, by chemical reaction, is able to function in a similar manner even if not designed to function by explosion.

v. *Radioactive Wastes*: Wastes regulated by NMED or the New Mexico Oil Conservation Division (OCD) and defined in 20.3.14 NMAC, or materials regulated under the Atomic Energy Act of 1954, as amended.

vi. *Medical waste:* Waste including infectious/biologic/pathogenic solid waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. This also includes infectious waste as defined in 20.9.2.7.I (5) NMAC.

vii. *Packing house and killing plant offal:* Defined as a special waste by 20.9.2.7.S(13)(b) NMAC.

viii. *Unknown or unidentified waste:* These wastes shall not be accepted at the Facility except by special provision and direction from the NMED Secretary (e.g., emergency clean-up operations) or until full characterization has been performed.

ix. *Cyanide or Reactive Cyanide*: In order to be consistent with Permit Conditions 2.10.2, the Permittee is not allowed to manage cyanide or reactive cyanide since they have the potential to generate hydrogen cyanide.

2.2.5. Waste Characterization Information Provided by the Generator

The generator must provide the following waste characterization information for each waste stream:

i. a completed Waste Profile Form signed by an authorized agent of the generator. This form may be changed if the Facility believes that more information is warranted or if there are changes in regulations governing the Facility;

ii. other documentation that supports the information presented on the Waste Profile Form (e.g., safety data sheets [SDSs]);

iii. a description of the process that generated the waste;

iv. all other supporting data required by 40 CFR § 268.7;

v. all required certifications;

vi. waste analysis data used to characterize the waste documentation and/or process knowledge documentation, as applicable; and

If waste analysis is used to characterize the waste, the generator must supply, at a minimum, the following waste analysis data for each representative sample to the Permittee:

a. identification of the sample medium (e.g., liquids, sludge, soil);

b. information about waste stratification;

c. final laboratory reports including case narratives, waste analyses, and QA/QC analyses; and

d. identification of the laboratory that performed the waste analyses.

The Facility shall evaluate the way each representative sample was obtained in order to determine whether it is truly representative of the waste stream. The Facility shall evaluate the information provided by the supplier and shall use the documents listed below for guidance:

- The Sampling Plan, Section 2.4 of this document,
- Standard Practice for Sampling Waste and Soil for Volatile Organics (American Society for Testing and Materials (ASTM) D4547-91),
- Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, (US Environmental Protection Agency Publication SW-846, latest edition), and
- RCRA Sampling Procedures Handbook (EPA Region VI).

In certain cases, generators may meet the waste analysis requirements by supplying acceptable knowledge (AK), including process knowledge and waste analysis.

Process knowledge includes detailed information of a waste obtained from existing published or documented waste analysis data or studies on hazardous wastes generated by processes similar to that which generated the waste, or industry or trade association hazardous waste profile studies, or EPA documents. Examples of waste streams where process knowledge may be adequate for characterization are K-listed wastes (hazardous wastes from specific sources), which are identified by comparing the specific process that generated the waste to those processes listed in 40 CFR § 261.32. The application of process knowledge is appropriate where the physical/chemical make-up of the waste is well known and consistent. Process knowledge is typically used in conjunction with physical and laboratory analysis.

2.2.6. Paperwork Evaluation

The Permittee shall evaluate all the waste characterization paperwork to determine if it adequately represents the physical and chemical characteristics of the waste stream and whether the waste stream is appropriate for management at the Facility. As part of the pre-shipment process, the Permittee shall work with the customer or the off-site waste generator to ensure that all necessary waste analyses and waste characterization information are provided to meet the applicable requirements for acceptance.

If waste analysis was used to characterize the waste, the Permittee shall evaluate the data to determine that:

i. appropriate extraction and preservation techniques were used;

ii. appropriate parameters were selected for analysis;

iii. appropriate analytical methods were used;

iv. recommended holding times were met;

v. detection limits were below applicable standards (e.g., the LDR standards); and

vi. the quality of the analytical data is up to date, valid, and adequate for making a waste determination based on an evaluation of the final laboratory reports.

If the data supplied are not adequate to provide a complete characterization of the waste stream, the Facility shall either require additional information from the generator or shall not accept the waste.

All of the waste characterization information supplied by the generator shall be maintained in the Facility's Operating Record. In addition, the Facility's evaluation of this information and the results of any independent analysis shall be maintained in the Operating Record.

2.3 LAND DISPOSAL RESTRICTIONS

The Permittee shall comply with the requirements of 40 CFR Part 268. The Permittee is prohibited from treatment and storage of hazardous wastes restricted from land disposal as specified in 40 CFR Part 268, unless the requirements of 40 CFR Part 268, Subpart E, are met.

Pursuant to 40 CFR § 268.7, the Permittee shall determine if a hazardous waste managed under this Permit must be treated before it may be land disposed in accordance with 40 CFR §§ 268.40, 268.45, 268.48, and 268.49. The Permittee shall make this determination in one or both of the following ways, as appropriate:

a. Testing the waste for either total constituent concentrations for the hazardous constituents of concern or the concentrations of hazardous constituents in an extract of the waste using Test Method 1311, depending upon whether the treatment standard for the waste is expressed as a total constituent concentration or the concentration of the constituent in the waste extract.

b. Using Acceptable Knowledge of the waste that includes chemical analyses data provided by the generator of the waste or specific information regarding the waste composition and properties that is adequate to determine if the waste can be land disposed or both.

2.3.1 Prohibition on Dilution or Aggregation as a Substitute for Treatment

In accordance with 40 CFR § 268.3, the Permittee shall not dilute waste that is restricted from land disposal or the residue from treatment of restricted waste. Dilution to avoid an applicable treatment standard includes, but is not limited to, the addition of solid waste to reduce a hazardous constituent's concentration and ineffective treatment that the Permittee does not destroy, remove, or permanently immobilize hazardous constituents. The Permittee shall not aggregate a waste that is restricted from land disposal with other waste or materials as a substitute for compliance with 40 CFR § 268.3. Aggregating or mixing wastes as part of a legitimate treatment process is not considered impermissible dilution for purposes of complying with this Permit.

2.3.2 Documentation of Exclusion or Exemption

Pursuant to 40 CFR § 268.7(a)(7), the Permittee shall place a one-time notice in the Facility Operating Record for any land disposal prohibited wastes that the Permittee determines are excluded from the definition of hazardous or solid waste or determines are exempted from Subtitle C regulation under 40 CFR §§ 261.2 through 261.6 subsequent to the point of generation. Exemptions required to be documented include, but are not limited to, hazardous waste managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at 40 CFR §§ 264.1(g)(6) and 260.10. The Operating Record shall include in this documentation a description of the process that generated the waste, the justification for its exemption or exclusion, and a description of the final disposition of the waste.

The Permittee shall not place in any land disposal unit the wastes specified in 40 CFR Part 268 after the effective date of the prohibition unless the Department has established disposal or treatment standards for the hazardous waste and the Permittee meets such standards and other applicable conditions of this Permit. Notwithstanding the foregoing, the Permittee may land

dispose hazardous waste restricted by 40 CFR Part 268 which does not meet treatment standards if a variance from the treatment standards has been granted by the Department pursuant to 40 CFR §§ 268.44.

2.4 WASTE ANALYSIS

2.4.1 General Waste Characterization Requirements

The Permittee shall accept, treat, store, or otherwise manage at the Facility only those hazardous wastes that have been characterized in accordance with 40 CFR § 264.13, the requirements of this Permit Part, and Permit Attachment C (Waste Analysis Plan).

At a minimum, the Permittee must obtain and document all of the necessary information that must be known to manage a hazardous waste in accordance with 40 CFR Part 264, this Permit Part, and Permit Attachment C (Waste Analysis Plan), including but not limited to:

i. Applicable EPA hazardous waste numbers
ii. Waste characterization necessary to prevent the mixing or placing of incompatible wastes in the same container or tank (*see* 40 CFR § 264.17 and § 264.177) and to prevent the impairment of containers or tank. (*See* 40 CFR § 264.172);
iii. Waste characterization necessary to prevent accidental or spontaneous ignition or reaction of ignitable or reactive wastes, including, but not limited to, ignition or reaction in containers and tanks. (*See* 40 CFR § 264.17 and 40 CFR § 264.177);
iv. Whether the waste contains free liquids; and
v. A description of the waste generation process that includes material inputs, or other information, as needed to determine hazardous waste codes and physical form of the waste.

The Permittee shall obtain and document the following additional information as needed to treat a hazardous waste in accordance with 40 CFR Part 268:

a. Applicable additional EPA hazardous waste numbers
b. Waste characterization necessary to determine whether the waste is prohibited from land disposal, including applicable underlying hazardous constituents and treatment requirements under 40 CFR §§ 268.40, 268.45 and 268.49 for treatment that will be performed at the Facility.

If the Permittee determines that the characterization provided by the customer and/or generator is incomplete, the Permittee may reject the waste, or the Permittee shall characterize the waste by using stratified random sampling and analysis methods that are specified in SW-846, or approved by the Department, acceptable knowledge, or a combination of the two. If acceptable knowledge of the waste cannot be obtained and the customer/generator asks that the waste not be rejected, the Permittee shall utilize sampling and analysis to complete that characterization.

The Permittee shall maintain all waste characterization information in the Facility Operating Record. For records that contain waste characterization information concerning any hazardous wastes managed under this Permit, which are required to be archived elsewhere at the Facility

(e.g., laboratory record books), the Permittee shall maintain a traceable identifier to this documentation or use another method to facilitate access to the information by the Permittee and the Department (*see* 40 CFR § 270.32(b)(2)). The Permittee shall maintain waste characterization documentation in accordance with the record retention requirements in Permit Section 2.14.4.

2.4.2 Sampling and Analysis of Hazardous Wastes

The Permittee shall perform all sampling and analytical procedures used for waste characterization in accordance with Permit Attachment C, the most recent version of U.S. EPA Publication, "*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*" *(SW-846*), or an equivalent method which has received prior written approval from the Department in accordance with 40 CFR § 260.21.

The Permittee shall ensure that samples collected and analyzed for waste characterization are representative of both the nature and the entire volume of the waste under consideration.

The Permittee shall ensure that the sampling and analytical procedures used preserve each sample in its original physical form and composition and ensure prevention of contamination or changes in concentration of the constituents to be analyzed.

The Permittee shall identify, collect, or prepare, and analyze the appropriate number of quality control samples associated with each sample collected (including trip and field blanks, field duplicates, and field spikes). When performing laboratory analysis required under Section 2.4.2 of this Permit Part (2), the Permittee shall analyze the appropriate number of method blanks, laboratory duplicates, and other laboratory control samples to assess the quality of the data generated. The Permittee shall maintain a record of these quality assurance procedures and results in the Facility Operating Record, as required under 40 CFR § 264.73 and Permit Section 2.14.2.

If the Permittee uses an independent contract laboratory to perform waste analyses, the Permittee shall require the analytical laboratory to conduct such analyses in accordance with the waste analysis conditions set forth in this Permit.

When using laboratory analysis to characterize an unknown waste for which no information is available concerning its chemical makeup or origin, the Permittee shall require the laboratory to report concentrations of all hazardous constituents listed at 40 CFR § 268.48, Table UTS, that the analytical test method used is capable of measuring, as specified in the most recent version of the U.S. EPA's *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*" *(SW-846*). (*See* 40 CFR § 270.32(b)).

When using laboratory analyses to determine whether a waste meets its applicable Land Disposal Restrictions (LDR) treatment standard concentrations specified in 40 CFR § 268.40, Treatment Standards for Hazardous Wastes, in compliance with 40 CFR §§ 268.7(a) and (b), the Permittee shall ensure that the analytical method detection limits are appropriate for making such a determination. (*See* 40 CFR § 270.32(b)).

2.4.3 Acceptable Knowledge

If the Permittee uses Acceptable Knowledge for waste characterization, the Permittee shall include as part of the Acceptable Knowledge documentation all the background information assembled and used in the characterization process. Acceptable Knowledge documentation must be maintained in writing or in an electronic format in the Facility Operating Record. Acceptable Knowledge records must document the resolution of any data discrepancies between Acceptable Knowledge sources. When Acceptable Knowledge is insufficient to characterize a waste, the Permittee shall perform the necessary sampling and analysis to characterize the waste in accordance with Section 2.4.1 of this Permit Part.

The Permittee shall assign a traceable identification number to this documentation to facilitate access to this information by the Permittee and the Department and maintain the documentation in the Facility Operating Record in accordance with Permit Section 2.14.2.

2.4.4 Waste Characterization Review

The Permittee shall ensure that the initial characterization of any hazardous waste is reviewed or repeated according to the frequency established in Permit Attachment C (Waste Analysis Plan) to verify that characterization is accurate and up to date, as required by 40 CFR § 264.13(b)(4). The Permittee shall also:

i. Annually review the characterization of ten percent by volume of the hazardous wastes to verify that the characterization is accurate.
ii. Require the generator to recharacterize the hazardous waste whenever there is a change in waste-generating processes that may affect the physical or chemical properties, listed status of the waste, or the land disposal restriction status of the waste.
iii. Require the generator to recharacterize the hazardous waste whenever the Permittee is notified by an off-site facility that has received the hazardous waste from the Facility that the characterization of the waste received at the off-site facility does not match a pre-approved waste analysis certification or accompanying waste manifest or shipping paper.

All waste characterization reviews shall be documented in the Operating Record.

2.4.5 Wastes Received from Off-Site

If hazardous waste is received at the Facility from an off-site source identified at Permit Section 2.2.3, the Permittee shall obtain waste characterization information from the source. If acceptable knowledge is used for the waste characterization, the Permittee shall require the source to provide all process, testing and other acceptable knowledge documentation used to characterize the waste as required by 40 CFR § 264.13. In addition, the Permittee shall ensure that all applicable waste characterization requirements specified in Permit Section 2.4.1 have been met and documented, and that waste characterization paperwork has been reviewed for accuracy as specified in Permit Section 2.2.6.

The Permittee shall ensure that the waste matches the identity of the waste designated on the accompanying manifest or shipping paper. If discrepancies between the waste received from an

off-site treatment facility and the information on the manifest are found, the Permittee shall comply with the requirements of 40 CFR § 264.72 to resolve the discrepancies.

2.4.6. Characterization of Treated Waste and Treatment Residues

Treated wastes and treatment residues shall be characterized through knowledge of process and supplemented by sampling and analysis data, as appropriate, using the process described in Section C.3.1 of Permit Attachment C (Waste Analysis Plan). Treated wastes and treatment residues shall be characterized to determine each of the following, as applicable, for each waste:

i. Whether the treatment effectively met the treatment-specific goals;
ii. Whether the treated waste or residue meets the applicable treatment standards (including requirements and standards for UHCs if applicable) associated with the treatment performed;
iii. If the treated waste or residue will not undergo further treatment prior to disposal, whether the treated waste or residue meets all applicable treatment standards (including requirements and standards for UHCs if applicable);
iv. The presence of hazardous waste constituents and characteristics that could have been introduced during treatment;
v. Whether the treated waste or residue requires further management as a hazardous waste; and
vi. The suitability for further treatment by one or more methods available on-site to make the waste safer and more amenable to further management on- or off-site.

These characterization criteria are summarized in Table C-3, Permit Attachment C (Waste Analysis Plan). All treated waste and treatment residues shall be characterized by the process described in Section C.3.1, Permit Attachment C (Waste Analysis Plan). Characterization of treated wastes and treatment residues shall include consideration of both listed and characteristic wastes that were present in the untreated wastes. The Permittee shall also follow the appropriate regulatory requirements for characterizing wastes that are listed solely because they exhibit one or more of the characteristics of ignitability, reactivity, or corrosivity.

Wastes that are treated shall be subject to sampling and analysis to characterize the waste and determine the effectiveness of the treatment, as appropriate.

The Permittee shall characterize any wastes generated on-site by determining whether the waste is a hazardous waste in compliance with the requirements of 40 CFR § 264.13, Section 2.4.1 of this Permit Part, and Permit Attachment C (Waste Analysis Plan). The Permittee shall also comply with the record-keeping requirements specified in 40 CFR § 264.73.

2.4.7 Procedures to Ensure Compliance with LDR Requirements

The Permittee shall comply with LDR requirements for wastes through compliant management of wastes subject to LDR storage prohibitions, and through characterization of treated waste for LDR compliance, and processing of the applicable LDR certifications and notifications for such treated wastes.

2.4.8 Characterization of Hazardous Wastes for LDR Compliance

Hazardous waste generated through treatment at the Facility (e.g., treated waste, treatment residue) shall be characterized as required by the off-site TSDF receiving the waste to determine whether it meets the applicable LDR treatment and in accordance with the requirements of this Permit.

Waste that must meet concentration-based treatment standards prior to shipment off-site for disposal shall be evaluated by the Permittee to determine if applicable constituent concentration levels have been attained.

If acceptable knowledge or use of a specified treatment technology is not appropriate for determining LDR compliance status, the treated waste or treatment residue shall be sampled and analyzed to determine if it meets LDR treatment standards. The analysis shall determine the total concentration of hazardous waste constituents in the waste, or the concentrations of hazardous waste constituents in an extract of the waste obtained using Test Method 1311 in SW-846, as appropriate. Analytical results obtained in compliance with LDR requirements shall be retained within the Unit Operating Record. Characterization of treatment waste and treatment residues for LDR compliance will include hazardous waste constituents that were introduced as part of the treatment process.

For wastes generated through treatment, the Permittee shall comply with the applicable requirements of 40 CFR § 268.7(b), § 268.40, and § 268.49. Hazardous wastes treatment residues and treated wastes that are determined through characterization to meet the applicable treatment standards and that have been generated through treatment using technologies specified in 40 CFR § 268.42 and § 268.44 shall also be sent to a permitted TSDF for disposal without further treatment. Treatment residues that do not meet all of the applicable treatment standards shall be sent to a permitted TSDF for further treatment prior to land disposal.

Whenever the Permittee sends waste to an off-site TSDF for treatment or disposal as described above, it shall be in accordance with that facility's waste acceptance criteria. For treated wastes and treatment residues, the Permittee shall review the LDRs as they relate to the further treatment or disposal of the treated waste or treatment residues at the TSDF that intends to accept the waste. Part of this review includes evaluating the waste for UHCs and Universal Treatment Standards and documenting the results of the evaluation as part of the certification process. UHCs must be declared if reasonably expected to be present in D001 through D043 wastes. The Permittee shall complete an appropriate LDR notification form (including signed certification) that accompanies the Uniform Hazardous Waste Manifest as part of the shipping documentation to the TSDF. Records shall be maintained at the Facility as discussed in Section 2.14.2 of Permit Part 2. The Permittee shall obtain approval from the TSDF and meet TSDF-specific waste analysis requirements (including LDR requirements) prior to shipment.

2.4.9. Waste Characterization for Compliance with RCRA Air Emission Requirements

The Permittee shall characterize hazardous wastes subject to emission controls in accordance with this Permit Section 2.4 (Waste Analysis) and Attachment C (Waste Analysis Plan).

The Permittee shall characterize hazardous wastes managed in containers to determine the average volatile organic compound (VOC) concentration relative to 500 parts per million by weight (ppmw) at the point of waste origination in compliance with 40 CFR Part 264, Subpart CC. The Permittee shall determine the average VOC concentration either by utilizing acceptable knowledge or by using the procedures specified in 40 CFR § 264.1083(a). The Permittee shall review and update this determination at least once every 12 months following the date of the initial determination in compliance with 40 CFR § 264.1082(c)(1).

The Permittee is not required to characterize the waste for its average VOC concentration in the following circumstances.

a) The container storing the wastes has a total capacity of less than 0.1 cubic meters (approximately 26 gallons). (*See* 40 CFR § 264.1080(b)(2)).

The Permittee shall not be required to determine the average VOC concentration of wastes if control of air pollution emissions from containers is achieved utilizing the container construction specifications and operation requirements specified in 40 CFR § 264.1086(b)(1).

2.5 WASTE MINIMIZATION PROGRAM

The Permittee shall implement and maintain a waste minimization program to reduce the volume and toxicity of hazardous wastes generated at the Facility (*see* 40 CFR § 264.73(b)(9)). The waste minimization program shall include proposed, practicable methods currently available to the Permittee to minimize the present and future threat to human health and the environment. The Waste Minimization Program shall include the following items:

i. Plan for reducing the volume and toxicity of hazardous waste at the Facility and recycling of hazardous waste at the Facility;
ii. Employee training designed to identify and implement source reduction and recycling opportunities for all hazardous wastes;
iii. Waste minimization and recycling implemented over the last year and additional waste minimization efforts that could be implemented at the Facility in the next federal fiscal year; and
iv. Estimated costs devoted to waste minimization and recycling of hazardous waste.

The Permittee shall submit to the Department a report regarding progress made in the waste minimization program in the previous year. The report shall address items (1) - (4) above, shall show changes from the previous report, and shall be submitted annually by December 15 for the previous fiscal year ending September 30th.

2.6 DUST SUPPRESSION

The Permittee shall not use waste or used oil for dust suppression or road treatment (*see* 40 CFR § 266.23(b)).

2.7 SECURITY

2.7.1 Barriers and Means to Control Entry

The Permittee shall prevent the unknowing entry and minimize the possibility for the unauthorized entry of persons or livestock into the active portion of the Facility to include any less than 90-day hazardous waste accumulation or storage areas. The Permittee must comply with all of 40 CFR § 264.14 security provisions to protect from unrestricted entry into the Facility.

The Permittee shall ensure the Facility's security by implementing the following measures as specified by 40 CFR § 264.14(b):

1. 24-hour surveillance system continuously monitoring and controlling entry into the Facility; or

2. Controlled entry into the Facility at all times via gates, stations, or other means (e.g., attendants, locks, prohibited or controlled roadway access).

The Permittee shall maintain and ensure the effectiveness of all security fences, entry gates, and entry stations surrounding the Facility.

2.7.2 Warning Signs

The permanent perimeter fence surrounding the Facility and the entrance to it shall be posted with "Danger: Unauthorized Personnel Keep Out" signs (or signs with equivalent language). The signs shall state the warning in English and Spanish, shall be legible from a distance of 25 feet, and shall be visible from any approach to the facility, as required by 40 CFR § 264.14(c).

2.8 GENERAL INSPECTION REQUIREMENTS

The Permittee shall inspect the Facility and remedy any malfunctions, deterioration, operator errors, and discharges which have caused or may lead to:

- A release of hazardous waste constituents or other contaminants to the environment; or

- Pose a threat to human health or the environment. (40 CFR § 264.15(a)).

The Permittee must develop and follow a written schedule for inspecting all waste management structures, base materials, containers, facility monitoring equipment, safety and emergency equipment, security devices, and operating equipment that are important in preventing, detecting, and responding to environmental or human health hazards associated with hazardous wastes as required by 40 CFR § 264. 15(b)(1) and (b)(4)).

The Permittee shall implement the inspection program for the Facility in compliance with the operating schedule, recordkeeping, and response action obligations listed in Permit Attachment E (Inspection Plan).

The Permittee shall maintain Attachment E (Inspection Plan) at the administrative office of the Facility. The Permittee's ability to access an electronic version of this Permit's inspection requirements at the above locations shall be deemed to satisfy this Permit condition. Electronic versions of inspection records shall match the inspection forms included in Permit Attachment E (Inspection Plan). Electronic versions of inspection records for the previous three (3) years must be accessible for viewing by NMED personnel upon request in accordance with 40 CFR § 264. 15(d).

2.8.1 Inspection Schedule

The Permittee shall inspect the Facility's hazardous waste management areas and all associated structures and equipment, in compliance with the inspection schedules contained in Attachment E (Inspection Plan) and in accordance with 40 CFR § 264.15(b).

2.8.2 Repair of Equipment and Structures

The Permittee shall remedy any deterioration or malfunction of equipment or structures discovered during an inspection within 24 hours of discovery. If repair or replacement of such equipment or structures cannot be accomplished within 24 hours of discovery, at a minimum, the repairs or replacement shall be completed on a schedule which ensures the problem does not lead to an environmental or human health hazard as required by 40 CFR §§ 264.15(c). The Permittee shall document the reasons for exceeding the 24-hour remedy requirement specified in this Permit Section (2.8.2) in the Facility Operating Record.

2.8.3 Inspection Logs and Records

The Permittee shall record the results of each inspection conducted in accordance with Permit Section 2.8 and Attachment E. At a minimum, the Permittee shall produce a record of the date and time of the inspection, an identification of the Facility's waste management areas and associated structures or equipment, the name and signature of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions taken as specified in 40 CFR § 264.15(d). The Permittee shall ensure that these records are clearly legible, all handwritten information is in ink, and errors are crossed out with a single line, initialed, and dated by the individual making the correction.
The Permittee shall record the following observations or actions in the Facility Operating Record:

1. The results of any preventive maintenance activities including, but not limited to, maintenance on floors, secondary containment structures, unit drainage structures, and fire protection equipment at the Facility;
2. Any malfunctions and deterioration of such structures or equipment;
3. Any errors potentially affecting waste containment or compliance with this Permit;
4. The locations, dimensions, and repairs of all identified cracks or gaps in floors or base materials;
5. Any discharges of hazardous waste, hazardous constituents, or fire suppression systems at the Facility; and
6. Any occurrences that might cause or exacerbate contamination of the Facility.

The Permittee shall maintain inspection logs in the Facility Operating Record as specified in Permit Section 2.14.2.

2.9 PERSONNEL TRAINING

In order to reduce the potential for incidents related to hazardous waste management, which may pose a threat to human health and the environment, the Permittee shall ensure that all Facility personnel who are involved in hazardous waste management activities regulated under this Permit successfully complete all training programs in compliance with the training requirements specified in 40 CFR § 264.16 and the training requirements included in Attachment F (Personnel Training Plan).

2.10 SPECIAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements for handling ignitable, reactive, and incompatible wastes specified at 40 CFR §§ 264.17, 264.176, and 264.177. The Permittee shall also follow the procedures described in Permit Attachment A (Facility Description). In doing so the Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated from sources of ignition or reaction including, but not limited to open flames, smoking, cutting, and welding, hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat.

The Permittee shall ensure that containers holding ignitable or reactive wastes are located at least 15 meters (50 feet) from the Facility boundary as required by 40 CFR §§ 264.176.

The Permittee shall take precautions during the management of ignitable, reactive, and incompatible waste, to prevent reactions that could lead to or cause the following in accordance with 40 CFR § 264.17(b):

1. Generation of extreme heat, pressure, fire, explosions, or violent reactions;
2. Production of uncontrolled toxic mist, fumes, dusts, or gases in enough quantities to threaten human health or the environment;
3. Production of uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
4. Damage to the structural integrity of the container, permitted unit, or other structure associated with the Facility;
5. A threat to human health or the environment;
6. Spontaneous combustion; or
7. Reaction of wastes with water. Water-reactive wastes shall not be stored in waste management areas equipped with automatic water sprinkler systems. When water-reactive wastes are present in such waste management areas (e.g. for temporary staging), the Permittee shall isolate the wastes with water-resistant barriers such as cabinets or over pack drums to prevent water from coming in contact with the waste.

2.10.1 Ignitable and Reactive Waste Precautions

The Permittee shall prevent accidental ignition or reaction of ignitable or reactive wastes by taking the following precautions.

1. Ensure there are no sources of open flames in, on, or around the containers or tanks;
2. Segregate and separate ignitable or reactive wastes and protect them from sources of ignition or reaction such as cutting and welding, frictional heat, sources of sparks (e.g., static, electrical, mechanical), hot surfaces, spontaneous ignition, and radiant heat (e.g., heat-generating wastes).
3. Ensure that no forklifts or other motorized equipment are used in the vicinity of open containers or tanks of ignitable or reactive wastes unless such equipment is designed for use in flammable environments.
4. Maintain adequate clearance around fire hydrants at permitted units;
5. Use only non-sparking/spark-proof tools when managing open containers or tanks of hazardous waste that contain ignitable or reactive wastes, and when opening or closing such containers. When flammable or reactive liquids are transferred from one container to another (for conductive containers), grounding procedures or equivalent methods shall be used to minimize or dissipate static electric charge;
6. Ensure appropriate lightning protection is provided for all storage units;
7. Perform inspection, testing, and maintenance of fire protection equipment;
8. Confine smoking and open flames to designated areas that are a minimum of 50 feet from areas where ignitable or reactive wastes are handled; and
9. Ensure that the Facility's fire suppression system is compatible with the waste being stored at the Facility.

2.10.2 Incompatible Waste Precautions

The Permittee shall ensure that any storage container or tanks holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other waste or materials or protected from them by means of a dike, berm, wall, or other device in accordance with 40 CFR § 264.177(c).

The Permittee shall ensure that wastes are not stored with incompatible wastes or materials within or on the same secondary containment structure. The Permittee shall ensure that all wastes are stored in containers or tanks made of or lined with materials that are compatible with the wastes. (40 CFR § 264.172).

The Permittee shall not store cyanides and cyanide mixtures or solutions with acids if a mixture of the materials could generate hydrogen cyanide. The Permittee shall not store corrosive liquids above or adjacent to flammable or oxidizing wastes except when it is known that the mixture of the wastes could not cause a fire or a dangerous evolution of heat or gas.

The Permittee shall ensure that hazardous wastes are not placed in an unwashed container or tanks that previously held an incompatible waste or material as specified in 40 CFR § 264.177(b).

2.10.3 Presence of Liquids in Containers

Containers and tanks that contain free liquids shall be stored in areas equipped with secondary containment. Before storing containers and tanks in areas without secondary containment, the Permittee shall verify that the containers and tanks do not contain free liquids by direct observation and/or reviewing the information provided by the waste generator as detailed under the Waste Analysis Plan in Permit Attachment C.

2.11 PREPAREDNESS AND PREVENTION

2.11.1 Required Equipment

At a minimum, the Permittee shall maintain the equipment set forth in Permit Attachment D (Contingency Plan), and as required by 40 CFR § 264.32.

The Permittee shall maintain required equipment, including internal communications or alarm systems; devices to summon emergency assistance; fire control, spill control, and decontamination equipment; and adequate water volume and pressure for fire suppression equipment at the Facility. The Facility shall be equipped with fire suppression systems. The Permittee shall maintain portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment as required by 40 CFR § 264.32(c). The Permittee shall make available fire control inspection records upon request by the Department.

A list of required equipment, with the location and capabilities of the equipment, is provided in Permit Attachment D (Contingency Plan) of this Permit. (40 CFR § 264.32).

2.11.2 Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in Permit Attachment D (Contingency Plan), as necessary, to assure its proper operation in time of emergency, as required by 40 CFR § 264.33.

This equipment shall undergo inspection at a frequency specified in Attachment E (Inspection Plan), and in accordance with 40 CFR §264.15(b)(4) to ensure that all equipment is in good working order.

If testing identifies any nonfunctioning communication equipment, alarm system component or fire protection component, spill control or decontamination equipment, the Permittee shall promptly repair the malfunctioning equipment and shall provide substitute equipment or systems during the time it takes to make repairs.

The Permittee shall assure that communications and alarm systems and fire protection, spill control, and decontamination equipment are inspected or tested according to the inspection plans and schedules detailed in Permit Attachment E. Maintenance, repair, and replacement of emergency equipment shall be performed as needed to ensure continuous proper function.

2.11.3 Access to Communications or Alarm System

The Permittee shall maintain access to the communications or alarm system as required by 40 CFR § 264.34, and in accordance with Permit Attachments D (Contingency Plan) and E (Inspection Plan).

The Permittee shall ensure that whenever waste is being managed at the Facility, the personnel involved shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another individual. In the event of an emergency, this communication equipment or method must allow personnel to contact the Emergency Coordinator and the Emergency Operations Center. (40 CFR § 264.32(a-b) and 40 CFR § 264.34).

2.12. HAZARD PREVENTION

2.12.1. Preventing Hazards in Loading and Unloading

Only closed waste containers shall be accepted for transportation to the Facility. Prior to transport, containers shall be inspected to ensure that they are properly closed, labeled, secured, and in suitable condition for transport.

If loading and unloading operations occur outdoors, they shall be conducted in an area immediately adjacent to the Facility to minimize the distance that the waste must be moved. Spills that occur during loading or unloading operations shall be promptly cleaned up, and if an emergency, in accordance with spill response procedures contained in Permit Attachment D (Contingency Plan). All loading and unloading areas shall be level, and the asphalt, concrete, or other pavement maintained in good condition.

Loading and unloading areas shall be free of overhead obstructions and other obstructions to visibility and operations. All containers shall be handled in a manner to prevent shifting or falling while being stored or transported. Containers too large to hand carry shall be transported using forklifts, drum dollies, pallet jacks, or other appropriate equipment. Waste-handling equipment shall be maintained and operated in accordance with manufacturers' guidance. Except as necessary in an emergency, only qualified personnel trained in hazardous waste management procedures will be allowed to handle waste at the Facility. The Permittee shall be aware of weather conditions and other operations that could adversely affect the safety of waste management operations and shall exercise caution.

2.12.2. Preventing Runoff or Flooding

Run-on of surface water from surrounding areas, run-off of hazardous waste or hazardous waste constituents, runoff of surface water contaminated with hazardous waste or hazardous waste constituents shall be prevented at the storage areas of the Facility both by design and operating practices. The storage area run-on and run-off features, and operating precautions are described in Permit Attachment A (Facility Description).

2.12.3. Preventing Contamination of Water Supplies

Releases of waste or chemicals shall be cleaned up promptly. Releases occurring outside of buildings shall be immediately contained upon discovery. (40 CFR § 270.32(b)(2)).

2.12.4. Mitigating Effects of Equipment Failure and Power Outages

In the event of a power loss or equipment failure at the Facility, the Permittee shall place the affected equipment in a safe state, close or cover all open containers and tanks of hazardous wastes, stop operations until power is restored, or take other measures to ensure the failure or outage does not adversely affect human health or the environment. (40 CFR §270.30(d)).

In the event of equipment failure:

a) For a release caused by a spill that has not damaged the integrity of the treatment system, the Permittee shall remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the treatment system to service.

b) For a release caused by a leak from a treatment unit to the secondary containment system, the Permittee shall repair the treatment unit before returning it to service. The material released shall be removed thoroughly from the affected area.

c) If the Permittee replaces a component of the treatment system to eliminate the leak, that component must satisfy the requirements for new tank systems or components required by 40 CFR §§ 264.192 and 264.193.

2.12.5. Preventing Undue Exposure

Facility personnel and visitors at the storage areas and at SWMUs/AOCs undergoing corrective action shall be required to use appropriate PPE to protect themselves from hazards, including, but not limited to, handling heavy containers, operating waste-handling equipment, weather conditions, and contact with or other exposure to hazardous wastes and hazardous waste constituents.

2.12.6. Arrangements with Local Authorities

The Permittee shall maintain Coordination Agreements with the police, fire department, State and local emergency response teams, and one or more local hospitals that would respond to emergencies at the Facility. The Coordination Agreements shall be in writing executed by the Permittee and the local authorities and shall include the requirements provided in 40 CFR § 264.37(a). Any such agreements shall be listed in Attachment D (Contingency Plan).

2.13. CONTINGENCY PLAN

2.13.0 Extreme Climate Change Impact

The Permittee shall consider potential adverse climate change impact in its design of the contingency plan. This shall include a consideration of the following extreme climate events in order to comply with the requirements for protection of human health and the environment pursuant to the 40 CFR§270.32(b)(2) : The Permittee shall consider potential adverse climate change impact of the following:

1. **Severe heat** and drought events.
2. **Structure and Wildfires** preparedness in case of such events occurring at and in proximity to the Facility.
3. **Flooding:** A significant portion of the eastern half of the Facility lies in the 100-year flood plain as shown on Figure 4, Permit Attachment M (Figures, Flood Plain Map). Measures taken to prevent flooding of the facility is presented in Permit Attachment A, Section A.2.4, where the Facility stated that the waste management building was built about 5 feet above the surrounding areas in order to prevent flooding in the surrounding areas extending to the permitted hazardous waste storage and treatment facility.

2.13.1 Implementation of Contingency Plan

The Permittee shall implement the Contingency Plan (Permit Attachment D) in accordance with this Permit and 40 CFR §264.51(b) immediately whenever at the Facility (including any unit undergoing post-closure care) in the event of:

1. A release of a hazardous waste or hazardous waste constituents occurs which could threaten human health or the environment.
2. an explosion; or
3. a fire.

2.13.2 Distribution

The Permittee shall maintain current copies of the Contingency Plan in the main Facility office and in the Facility Operating Record. The Permittee also shall distribute copies of the current Contingency Plan to all entities with which the Permittee has arrangements in accordance with Permit Section 2.12.6.

The Permittee shall distribute the Contingency Plan within fifteen days of the effective date of this Permit and within fifteen days of the effective date of any modification of the Contingency Plan to all entities with which the Permittee has arrangements in accordance with Permit Section 2.12.6 in accordance with 40 CFR § 264.53. The Permittee shall ensure that all copies of the Contingency Plan distributed outside the Facility are sent in hard copy by mail. The Permittee shall obtain a record of receipt to ensure distribution to each recipient. A record of compliance with this requirement shall be maintained in the Facility Operating Record.

The Permittee shall ensure that evacuation routes for the Facility are prominently posted at the Facility. (40 CFR § 264.52f).

2.13.3 Amendments to Plan

Pursuant to 40 CFR § 264.54 the Permittee shall review the Contingency Plan and amend the Plan, if necessary, whenever:

1. This Permit is revised.
2. The Contingency Plan fails during an emergency.
3. The Permittee modifies the Facility in either its design, construction, operation, maintenance, or other circumstances.
4. A change in the Facility design or operation affects the response necessary in an emergency.
5. The Permittee modifies the list of Emergency Coordinators.
6. The Permittee modifies the list of emergency response equipment; or
7. The Permittee reviews and evaluates their emergency response resources and capabilities with respect to hazardous waste management and finds deficiencies.

The Permittee shall ensure that all amendments to the Contingency Plan adhere to the permit modification requirements at 40 CFR §§ 270.42, including the modification classifications listed in 40 CFR § 270.42 Appendix 1, Category B.6.

2.13.4 Emergency Coordinator

The Permittee shall designate an Emergency Coordinator required at 40 CFR § 264.55, who shall be responsible for coordinating all emergency response measures related to the management of hazardous wastes. An Emergency Coordinator shall always be on call, be familiar with the Contingency Plan, and shall have the authority to commit promptly the personnel and financial resources needed to implement the Contingency Plan in accordance with 40 CFR § 264.55. The Permittee shall name at least one alternate Emergency Coordinator who shall assume the responsibilities of the Emergency Coordinator in accordance with Permit Attachment D (Contingency Plan).

The Permittee shall notify the NMED in writing of changes to the personnel designated as Emergency Coordinators (EC) and listed with their telephone numbers in Attachment D (Contingency Plan), Table D-1 within five business days of making a change. This notification shall be a Class 1 permit modification, following Permit Section 1.5.

2.13.5. Required Emergency Procedures

2.13.5.1. Immediate Notifications

In the event of an imminent or actual emergency, Permitted Unit personnel shall immediately activate the internal facility alarm or communication systems to notify all facility personnel. The Emergency Coordinator shall ensure that the appropriate federal, tribal, state, and local agencies with designated response roles are notified as necessary.

2.13.5.2. Hazard Assessment

The Emergency Coordinator shall, in the event of a fire, explosion, or release:

1. As soon as practicable, identify the character, source, amount, and areal extent of any released materials as required by 40 CFR § 264.56(b)); and

2. Assess possible hazards to human health or the environment that may result from the release, fire, or explosion, considering both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water runoff from water or chemical agents used to control fire and heat induced explosions as specified in 40 CFR § 264.56(c).

2.13.5.3 Reporting Emergencies

If the Emergency Coordinator determines that there has been a release, fire, or explosion that may threaten human health or the environment outside of the Facility boundary, he or she shall report the emergencies as follows:

1. If an assessment indicates that evacuation of local areas may be advisable, he or she shall immediately notify the appropriate local authorities and shall be available to assist appropriate officials in deciding whether local areas should be evacuated in accordance with 40 CFR § 264.56(d)(1); and

2. Immediately notify the New Mexico Department of Public Safety dispatcher (1-505-827-9329), and the National Response Center (1-800-424-8802) (40 CFR § 264.56(d)(2)). This notification shall include the list of items found in Permit Attachment D Section D.4.

2.13.5.4 Mitigative Measures

When the Contingency Plan is implemented under Permit Section 2.13.5, the Emergency Coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other wastes or other substances at the Facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released wastes, and removing or isolating containers as specified in 40 CFR § 264.56(e).

2.13.5.5 Monitoring

When the Contingency Plan is implemented under Permit Section 2.13.5, the Emergency Coordinator shall measure and characterize, to the extent practicable, any air emissions both inside and outside the Facility boundary caused by a fire, explosion, or release to the atmosphere. (40 CFR § 270.32(b)(2)).

In the event that the Facility stops operations in response to a fire, release, or explosion, the Emergency Coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in containers, tanks, valves, pipes, or other equipment as appropriate in accordance with 40 CFR § 264.56(f).

2.13.6. Post-Emergency Procedures

Immediately after an emergency in which the Contingency Plan was implemented, the Emergency Coordinator shall provide for the treatment, storage, or disposal of recovered wastes, contaminated soils or surface water, or any other material or contaminated environmental media that resulted from the fire, explosion, or release at the Facility as specified by 40 CFR § 264.56(g).

The Emergency Coordinator shall, as required by 40 CFR § 264.56(h), ensure that in the affected areas of the Facility:

1. No waste that may be incompatible with the released material is treated, stored, or disposed of in the impacted area until cleanup procedures are completed; and

2. All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.

2.13.7 Need for Further Corrective Action

If, after implementation of the Contingency Plan in response to a fire, explosion or release, the NMED determines that the area affected by the fire, explosion or release has not been entirely remediated, the Permittee shall conduct corrective action as directed by the Department and in accordance with Permit Part 7 (Corrective Action Procedures).

2.13.8 Notification and Record Keeping

The Permittee shall notify the NMED of implementation of the Contingency Plan in compliance with 40 CFR § 264.56(i) and Permit Section 1.9.5.

Before operations resume in the Facility's affected areas the Permittee shall notify the NMED, in writing, that the Facility is in compliance with Permit Section 2.13.6.

2.14. RECORD KEEPING AND REPORTING

The Permittee shall comply with the record keeping and reporting requirements specified throughout this Permit and in 40 CFR § 264.73.

2.14.1 Manifest Systems

The Permittee shall comply with the record keeping and reporting requirements associated with manifests in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received or shipped from the Facility.

2.14.2 Operating Record

The Permittee shall comply with the recordkeeping and reporting requirements specified in 40 CFR § 264.73(a), 40 CFR § 270.30(j)(2) and (3), and elsewhere in this Permit. Pursuant to 40 CFR § 264.73, the Permittee shall maintain a written Operating Record at the Facility for the active life of the Facility, except as provided by 20.4.1.501.A(5).

All electronic records shall be readily accessible in a format capable of producing a paper copy immediately upon request. Any substantive alterations made to the electronic record shall be documented, dated, and made part of the Facility Operating Record.

The Permittee shall incorporate into the Facility Operating Record the following documents and all amendments, revisions and modifications to these documents:

1. A description of the hazardous waste received and the methods of storage at the Facility in accordance with Appendix I of 40 CFR Part 264.
2. The location of each type of hazardous waste within the Facility storage units, and the total quantity of all hazardous wastes at each unit. This information must include cross-references to specific manifest document numbers for any waste received in accordance with Permit section 2.2.3.
3. Records and results of waste analyses and waste determinations that are performed pursuant to Permit Attachment C (Waste Analysis Plan), and 40 CFR §§ 264.13, and any section cited in 264.73(b)(3);
4. Reports and details of all emergencies that required the implementation of Permit Attachment D (Contingency Plan) as specified in 40 CFR § 264.56(i).
5. Information on any instance of fire, explosion, spill, or release from, or at, the Facility regardless of whether the incident required implementation of the Contingency Plan.
6. Records and results of inspections for each Unit as required in Permit Attachment E (Inspection Plan) and 40 CFR § 264.73(b)(5).
7. Monitoring, testing, analytical data, and response actions when required by 40 CFR §§ 264.13, 264.191, 264.1082, 264.1083, and 264.1086 through 264.1090.
8. Notices to off-site generators as specified in 40 CFR § 264.12(b).

9. An annual certification, pursuant to 40 CFR 264.73(b)(9), stating a Facility program is in place to reduce the volume and toxicity of hazardous waste generated.
10. All monitoring reports and records required by this Permit, including but not limited to:
    a. records of all monitoring data used to complete Permit Application(s),
    b. all data gathered or generated during the closure process, and
    c. all raw data, such as laboratory reports, drilling logs, bench scale or pilot scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit. Raw data shall be made available to the Department upon request.
11. Documentation demonstrating distribution of the Contingency Plan in accordance with Permit Section 2.13.2.
12. Documentation demonstrating the installation and maintenance of secondary containment system coatings or sealants as required at Part 3, Permit Section 3.6.
13. Personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain the Facility in compliance with 40 CFR § 264.16(d) and (e), and Permit Attachment F (Personnel Training Plan).
14. Documentation of all instances where an indoor fire suppression system has been activated resulting in fire suppressants directly contacting hazardous waste.
15. This Permit, including the Waste Analysis Plan set forth in Attachment C (Waste Analysis Plan), the Contingency Plan as set forth in Attachment D (Contingency Plan), the Closure Plans set forth in Attachment G (Closure Plans), as required under 40 CFR § 264.112 and all other Permit Parts and Attachments.

The Permittee shall maintain the Operating Record at the Facility where it can easily be retrieved and reviewed:

1. Inspection Schedule and all completed inspection records for that the Facility for the current calendar year as set forth in Attachment E (Inspection Plan), as required by 40 CFR § 264.15(b) and this Permit,
2. Records for the current year of all training required by this Permit for current personnel at the Facility;
3. The Contingency Plan for the Unit (consisting of the general Facility requirements and the applicable Unit-specific requirements in Permit Attachment D).

Corrective action documents required by Part 7 of this Permit shall be retained at the Facility by the Permittee through completion of closure of the Facility and through completion of post-closure care, if applicable.

2.14.3 Availability of Facility Operating Record

The Permittee shall furnish and make reasonably available for inspection, upon request by any officer, employee, or representative of the NMED, the Facility Operating Record and all other records required under 40 CFR Part 264 or this Permit in accordance with 40 CFR § 264.74(a) and pursuant to 74-4-4.3 NMSA 1978). Information and records requested by the Department pursuant to this condition shall be made available for inspection in hard copy or in an electronic format as acceptable to NMED.

2.14.4 Record Retention

The Permittee shall retain all records required by this Permit during the course of any unresolved enforcement action regarding the Facility or as required by the Department as specified by 40 CFR § 264.74(b)).

PERMIT PART 3
STORAGE OF HAZARDOUS WASTE IN CONTAINERS

3.1. GENERAL CONDITIONS

The Permittee shall store and otherwise manage containers of hazardous waste in accordance with 40 CFR Part 264, Subpart I (Use and Management of Containers) and Attachment A (Facility Description).

The Permittee shall store containers of hazardous wastes subject to this Permit only at the Units specified in Attachment J (Hazardous Waste Management Units), Table J-1.1 (Units Permitted for Storage in Containers (Process Code S01and Units Permitted for Treatment in Tanker Trucks. The Permittee is authorized to store only those wastes identified by EPA Hazardous Waste Numbers (waste codes) listed in Attachment B (Authorized Wastes). The Permittee shall not store containers of hazardous waste in excess of the maximum capacities listed in Attachment J, Table J-1.1.

3.1.1 Storage Prohibitions

Hazardous wastes are prohibited from land disposal unless they meet the applicable regulatory treatment standards. Prohibited wastes (i.e., wastes that do not meet the applicable treatment standards) may be stored for up to one year at the Facility in compliance with 40 CFR § 268.50(b). The Permittee shall assume that all the hazardous wastes at the Facility are prohibited from land disposal (i.e., they do not meet the applicable treatment standards) and shall apply the one-year storage limit to all hazardous wastes stored at the Facility.

3.1.2 Storage Locations

Hazardous waste segregation shall be implemented in accordance with 40 CFR § 264.31 in order to prevent the possibility of explosions, fires, and other reactions that endanger human health and the environment. Hazardous waste types shall only be stored in the specific locations listed in Attachment J, Table J-1.1.

Hazardous waste shall be stored and segregated in specific rooms on the floor and in specific tiers as specified in Attachment J, Table 1.1. The Permittee shall ensure no more than 125,000 gallons (2272 55-gal drums or the volume equivalent) shall be accumulated in the Container Storage Rooms, Consolidation Area and Treatment Area at any time.

Hazardous waste containers in each storage warehouse shall display the Generator's name and address, EPA Identification Number, and the Manifest Tracking Number pursuant to 40 CFR § 262.32 in addition to displaying the indication of hazard(s), and RCRA hazardous waste code. Such markings are to be located on the front of the containers for inspectors to be able to clearly identify the contents without obstacles impeding visibility of the container.

The Permittee shall mark the date of receipt and acceptance at the facility on each hazardous waste container clearly to be visible for inspection, as required by 40 CFR § 262.34 (iv)(2).

The Permittee shall label or mark clearly each container with the words "Hazardous Waste" as required by 40 CFR § 262.34 (iv)(3). The Permittee shall also comply with the recordkeeping and reporting requirements specified under 40 CFR § 264.73, and Section 2.14.2 of this Permit (Operating Record).

3.2 CONDITION OF CONTAINERS

The Permittee shall ensure that all containers used to store hazardous wastes subject to this Permit are in good condition (e.g., no severe rusting or structural defects) in accordance with 40 CFR § 264.171. If a container is not in good condition or begins to leak, the Permittee shall transfer the waste from such a container into a container that is in good condition immediately upon discovery of the problem, as required by 40 CFR § 264.171.

3.3 ACCEPTABLE STORAGE CONTAINERS

The Permittee shall only use containers that comply with 40 CFR Part 264 Subpart I for storage of hazardous waste at the Facility.

3.4 COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall use containers made of, or lined with materials that will not react with, and are otherwise compatible with the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired as specified by 40 CFR § 264.172.

3.5 MANAGEMENT OF CONTAINERS

1. The Permittee shall ensure that all containers are kept closed during storage except when waste is added or removed from the container or when a container's contents need to be repackaged (40 CFR § 264.173(a). The Permittee shall not open, handle, or store a container holding hazardous waste in a manner that may rupture the container or cause the container to leak. (*See* 40 CFR § 264.173(b)).
2. The Permittee shall mark containers either with the words "Hazardous Waste" or with other words that identify the contents of the containers. All containers that contain hazardous waste shall be clearly labeled as containing hazardous waste in accordance with 40 CFR § 262.34(a)(3).
3. The Permittee shall ensure that when waste containers are moved during storage, the location of each hazardous waste and the quantity at each location is documented in accordance with Permit Section 2.12 and 40 CFR § 264.73(b)(2).

3.5.1 Storage Configuration and Required Aisle Space

1. The Permittee shall always maintain adequate aisle space to allow the unobstructed movement of personnel, emergency medical equipment, fire protection equipment, spill control equipment, and decontamination equipment within the Facility. Additionally, emergency egress aisles with a minimum aisle space of four feet must be maintained at all personnel doors. (40 CFR § 264.35).
2. Containers placed in the center of each room shall be placed on pallets. The pallets shall at the most be double-stacked, with each pallet holding up to four 55-gallon drums.
3. The stacking configuration of waste containers shall not exceed the load-bearing capacity of the floor or metal grating. Containers stacked on metal shelving shall only occur on the first and second tiers; containers placed on the third tier shall be stored on pallets.
4. The Permittee shall store gas cylinders containing waste in a manner that provides support and restraint, (e.g., racks, baskets, or specially constructed pallets).
5. The Permittee shall store containers in a manner that allows for their inspection, as specified in Section 3.7 of this Permit Part, and in a manner that their container labels are visible.
6. The Permittee shall ensure that all hazardous waste containers being managed under transporter/transfer facility requirements in the Container Storage Areas are located in an area clearly identified with signage and temporary floor markings. Each area shall be marked to indicate that it is for transfer only. The accumulation time limit for containers in this area is 10 days.

3.5.2 Outdoor Storage and Tanker Truck Staging Time Limit

3.5.2.1 The Permittee shall ensure that hazardous waste containers that are stored outdoors and are not being actively managed are protected from degradation caused by precipitation or other weather conditions using weather-protective equipment (e.g., secured tarp) or are protected by the design of the equipment.

3.5.2.2 The Tanker Trucks, which contain hazardous waste awaiting treatment shall not hold the waste for longer than 3 calendar days before treatment 40 CFR 264.270(32)(b)(2).

3.5.3 Waste Handling Building

The Permittee shall manage and store hazardous waste in the Container Storage buildings as specified in Permit Attachment A subject to the Permit Conditions presented below in Sections 3.5.4 through 3.5.6.

3.5.4 Storage Locations and Quantities

The Permittee shall manage and store hazardous waste containers at the Facility as specified below in Table 3.1. The Permittee shall manage and store quantities of hazardous waste containers in these locations not to exceed the maximum capacities specified in Table 3.1.

Table 3.1: Maximum Storage Capacities of the Facility Warehouse

Warehouse Storage Unit	Area (Square Feet)	Maximum Storage Capacity (Gallons)	
Room A	(35.5x24) = 846	11,000	A detailed description of the EPA hazardous waste types stored in each of the rooms A, B, C, D, E, and F of the warehouse and their characteristics is provided in Permit Attachment A (Facility Description).
Room B	(35.5x24) = 846	11,000	
Room C	(94.5x48) = 4536	59,400	
Room D	(95.5x47) = 4489	55,550	
Room E	(106x47) = 4982	71,500	
Room F	(106x47) = 4982	70,950	
Maximum Permitted Storage Capacity for all Warehouse Rooms and outdoor Areas	**20,681**	**125,000**	

3.5.5 Storage of Hazardous Waste Containers on the Concrete Floor

The Permittee shall accept, manage, and store hazardous waste containers unloaded from the trucks transporting waste containers from off-site generators to the Facility in individual storage areas, segregated by waste type and compatibility. Each storage area shall have a concrete floor that slopes towards the aisles to expose any spills quickly as described in Permit Attachment A (Facility Description).

3.5.6 Storage Time Limit

The Permittee shall not store any hazardous waste in the Facility for more than one (1) year.

3.6 CONTAINMENT SYSTEMS

3.6.1 Containers with Free Liquids

The Permittee shall maintain secondary containment systems in all permitted areas used to store wastes which contain free liquids, in compliance with 40 CFR §264.175. The secondary containment systems at the Advanced Chemical Treatment, Inc. hazardous waste treatment and storage facility are shown on Figure 7, Permit Attachment M (Figures). The secondary containment systems shall also:

1. Have sufficient capacity to contain at least 10 percent of the volume of containers or the volume of the largest container, whichever is greater.
2. Prevent contact between containers and spilled material or waste.
3. Prevent run-on and run-off; and
4. Prevent releases of liquids from the secondary containment system.

The containment systems at the Facility shall be designed to be sufficiently impervious to contain leaks, spills, or accumulated precipitation until the liquid is removed. Asphalt or asphaltic pavement shall not be used to construct secondary containment systems without the use of a chemical resistant sealing material that prevents adsorption or infiltration of hazardous waste or hazardous constituents into the asphalt or asphalt pavement.

Unless waste is removed or another form of secondary containment is provided, the Permittee shall immediately repair any damage to a secondary containment system. The Permittee shall perform all repairs using an appropriate repair method (e.g., American Concrete Institute (ACI) standards or manufacturer's recommendations), on a schedule that will prevent harm to human health or the environment, as required by (40 CFR § 264.15(c)).

The Permittee shall apply chemical resistant coatings or sealants, if applicable, to the repaired area before waste storage activities resume. The Permittee shall record any damage or repair to containment systems in the inspection logs required by Permit Section 3.7.

Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as necessary to prevent overflow of the collection system as specified by 40 CFR § 264.175(b)(5). The Permittee shall determine the source of liquids that accumulate in secondary containment systems. If the source of the release can be identified (e.g., a leaking container) the Permittee shall characterize the liquid based on knowledge of the source of leak and shall remove and manage it appropriately. If the source cannot be identified, or if the liquid cannot be characterized based on knowledge of the source of the leak, the Permittee shall follow the process described in Permit Attachment C (Waste Analysis Plan) to characterize the liquid for appropriate management. The liquid shall then be pumped into containers, or absorbed onto absorbent material, or swept up, as appropriate, and placed into containers.

Accumulated liquids or water generated during fire suppression activities in the Facility shall be characterized using the process described in the Waste Analysis Plan contained in Permit Attachment C. Accumulated liquids present in secondary containment systems from precipitation

or snowmelt shall be characterized in accordance with Permit Attachment C and managed appropriately.

3.6.2 Containers that do not Contain Free Liquids

For containers that do not contain free liquids the Permittee shall ensure that:

1. The containers are stored in storage areas that are sloped or otherwise designed and operated to drain and remove liquids resulting from precipitation in accordance with 40 CFR § 264.175(c)(1); or
2. The containers are elevated or otherwise protected from contact with accumulated liquids in accordance with 40 CFR § 264.175(c)(2).

The Permittee shall comply with the secondary containment requirements for containers that do not contain free liquids and contain wastes that have the following waste codes: F020, F021, F022, F023, F026, and F027 as specified by 40 CFR § 264.175(d)(1).

3.7 INSPECTIONS

The Permittee shall inspect the Facility for the condition of containers and secondary containment systems, safety equipment, and aisle space for evidence of leaks; deterioration of the containment system by corrosion, cracking, differential settlement, or other factors; and to ensure safety equipment and aisle space are adequate in the event of an emergency as specified in Attachment E (Inspection Plan) and in accordance with 40 CFR § 264.174.

Containers in which hazardous waste is placed shall be visually inspected at the time they first arrive at the Facility. A visual inspection shall be done to ensure that there are no cracks, holes, gaps, or other defects in the storage area and to also ensure that the cover or other closure devices are secured in the closed position. At each storage area where containers will be stored, the Permittee shall:

1. Check the condition of containers and the placement of their covers or other closure devices.
2. For containers subject to air emission standards in 40 CFR §264.1086(c), when a defect is detected for the container cover or closure devices, the Permittee shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than five calendar days after detection. If repair of a defect cannot be completed within five calendar days, then the container shall be overpacked in a container meeting the requirements of 40 CFR §264.1086(c), or the hazardous waste shall be removed from the container, and the container shall not be used to manage hazardous waste until the defect is repaired.
3. For containers not subject to air emission standards in 40 CFR § 264.1086(c), the Permittee shall take corrective action no later than 24 hours after detection, and repairs shall be completed as soon as possible but no later than five calendar days after detection upon

discovery of a defect in a container or cover to ensure the problem does not lead to an environmental or human health hazard or noncompliance with this Permit.

4. Document the condition of damaged or defective containers and any remedial actions taken. The documentation shall be placed in the Facility Operating Record in accordance with Permit Section 2.14.2 (Operating Record).

3.8 ORGANIC AIR EMISSIONS

The Permittee shall control air emissions from each hazardous waste container at the Facility in accordance with the applicable regulations specified under 40 CFR §264.1082.

PERMIT PART 4 TREATMENT OF HAZARDOUS WASTE IN CONTAINERS

4.0 INTRODUCTION

This Permit Part sets forth the conditions for treatment of hazardous waste in containers by fuel blending. The Permittee shall treat hazardous waste by fuel blending pursuant to the following permit conditions and the requirements specified in 40 CFR Part 264, Subpart X (Miscellaneous Units).

Treatment means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

4.1 GENERAL CONDITIONS FOR WASTE TREATMENT BY FUEL BLENDING

Fuel Blending is an intentional method of combining compatible hazardous waste streams, or hazardous waste and commercial fuels from two or more containers for the purpose of energy recovery. Fuel Blending constitutes treatment as defined in 40 CFR §260.10. This method of waste treatment is permitted as a miscellaneous unit in accordance with the applicable Sections of 40 CFR Part 264 Subpart X. Fuel blending is subject to 40 CFR §261.6(a)(2), §266.101, and §268.7(b)(6). Containers of hazardous waste slated for fuel blending, and temporarily stored in the container storage areas, shall be sampled and analyzed in accordance with the Waste Analysis Plan in Permit Attachment C. The unintentional result of consolidating hazardous waste which culminates in an inherently fuel like product is considered incidental and shall not be considered treatment under this section.

The Permittee may treat the waste codes listed for treatment in Permit Part A, included as Permit Attachment B (Authorized Wastes). The Permittee may treat the following waste codes by fuel blending in tanker trucks, and no other hazardous or solid waste. The EPA categorizes tanker trucks as Containers:

F001-F005, K001, K048-K052, K060, K107-K111, U055-U056, U064, U117, U137, and U154.

The Permittee shall conduct fuel blending activities in tanker trucks at the facility subject to the following conditions:

(1) The Facility may receive and treat hazardous wastes in tanker trucks. The facility shall determine if incoming tanker truck residuals meet compatibility specifications and ensure all information shall be established in the operating record. Incoming tanker trucks that are received solely for the purpose of fuel blending shall be visually inspected, sampled, and analyzed for compatibility testing in the absence of acceptable knowledge of the previous waste. Incoming tankers shall have less than 42 gallons of residual waste from the previous shipment. Acceptable knowledge that is deemed unsatisfactory by the NMED shall be considered insufficient and non-representative; therefore, incoming tanker trucks

that are not sampled and analyzed, and which do not meet acceptable knowledge standards set by the NMED shall require triple rinsing and the rinsate shall be disposed of in accordance with hazardous waste regulations. If a bulk shipment arrives at the facility in a tanker truck with the same residual material from the same generator on the shipping papers (e.g., manifest), one discreet sample shall be collected for analysis.

(2) Prior to Fuel blending, the Facility shall conduct the "useful contribution" test for each hazardous secondary material to be treated, as required by 40 CFR §260.43(b)(1)(i) and (b)(1)(v) for each hazardous secondary material to be treated. A hazardous secondary material provides a useful contribution if it contributes valuable ingredients to a product or intermediate to be treated as stated in 40 CFR §260.43(b)(1)(i); while §260.43(b)(1)(v) states that it must be used as an effective substitute for a commercial product.

(3) Prior to fuel blending, the Facility must demonstrate how treatment meets the conditions of legitimate recycling specified by 40 CFR §260.43(a).

(4) Fuel blending shall only take place on the south end of the east Loading Dock Parking shown on Figure 1, Permit Attachment M (Figures). The fuel blending area shall contain grounded equipment to reduce sparking potential, and spill containment must be in place during each waste transfer event. The tanker truck in which fuel blending is carried out shall be grounded to prevent static electrical charges from being dissipated during the transfer of waste from the loading dock.

(5) The waste accumulation start date shall be placed in the operating record and tracked in order to disprove speculative accumulation.

(6) All Hazardous waste streams, prior to blending, shall have a BTU value of 5,000 or greater as generated.

(7) Fuel blending tankers shall meet the air emission standards of 40 CFR §264.1086(e)(6) during the transfer of hazardous waste in or out of a level 3 container.

(8) Waste storage containers that handle hazardous waste containing 500 parts per million or more by weight of volatile organic compounds shall adhere to the standards set in 40 CFR Part 264 Subpart CC: Air Emission Control Standards.

(9) The Permittee shall prepare and maintain operating records in accordance with 40 CFR §264.1089(a) and §264.1089(d) per 40 CFR §264.1086(e)(5).

(10) Waste determination shall be provided if the Permittee chooses to place waste with a total volatile organic concentration less than 500 ppmw in a tanker truck or container that is not equipped with the specified organic air emission controls or place the waste with an organic vapor pressure below the specified limits in a tank using a cover without a closed vent system and control device.

(11) The Permittee shall maintain no more than 10% water content in each waste stream undergoing treatment by fuel blending in a tanker truck.

Sampling devices shall be appropriate for the type of waste and container being sampled. For fuel blending, a physical pH test and Specific Gravity shall routinely be performed on wastes destined for the tanker truck if acceptable knowledge is unavailable. If there is a question concerning potential incompatibilities with the waste streams and other materials to be fuel blended, the facility shall perform a bench-scale compatibility test prior to the transfer of waste into the tanker.

Treatment by fuel blending shall be used for energy recovery. Liquid wastes in small, single, large/bulk, drums, or combination packaging may be blended into larger containers not to exceed 330 gallons and transferred to tankers not to exceed a capacity of 6,000 gallons for off-site transport and energy recovery. All fuel blending activities shall occur on the south end of the East Loading Dock, which shall be equipped with bonding and grounding equipment. Containers of hazardous waste receiving inherently fuel-like liquid wastes continuously or intermittently must be capable of catching and retaining all the wastes during transfer from a device to the container. Fuel blending activities shall meet the secondary containment requirements specified at 40 CFR §264.175. Containers to be emptied for fuel blending shall be emptied via a vacuum system equipped with appropriate relief valves to maintain internal pressure to avoid explosions.

Funnels used to add or remove liquid wastes from containers with closed-head and closed top drums shall be fitted with a locking mechanism. Alternatively, funnels with a one-way valve allowing hazardous waste to flow into the container but prohibiting the waste or emission from exiting the container may also be used. Personnel transferring hazardous wastes from smaller containers into the tanker truck shall use non-sparking funnels equipped with spring closed lids.

Secondary containment must exist where fuel blending is conducted around the consolidation area by means of physical separation, surface coating compatibility, or temporary/removable containment equipment.

The Permittee shall meet air emission standards by applicable regulations under 40 CFR 264 Subparts BB and CC.

4.1.1 Condition of Tanker Trucks

The facility may receive and treat hazardous waste in the tanker truck. Tanker trucks shall have less than 42 gallons of residual waste from the previous shipment prior to accepting waste for fuel blending. Tanker trucks accepting waste for fuel blending shall have 72 hours from the date and time the waste is first placed in the tank until it is shipped off to the designated energy recovery facility. The date and time shall be recorded in the Facility operating record for each tanker load of fuel blended waste. If there is a question concerning potential incompatibilities with the waste stream and other material in the storage tank, the facility must collect a sample and send it to a certified lab for compatibility testing; compatibility must be verified prior to the transfer.

The facility shall make the determination if incoming tanker trucks residuals meet compatibility specifications and ensure that all information shall be established in the operating record.

Incoming tanker trucks received solely for the purpose of fuel blending shall be visually inspected and their contents sampled and analyzed for compatibility testing in the absence of acceptable knowledge of the previous waste. Incoming tankers shall have less than 42 gallons of residual waste from the previous shipment. Acceptable knowledge that is deemed unsatisfactory by the NMED shall be considered insufficient and non-representative; therefore, incoming tanker trucks that are not sampled and analyzed, and do not meet acceptable knowledge standards set by the Department shall require triple rinsing and the rinsate shall be disposed of in accordance with hazardous waste regulations. If a bulk shipment arrives at the Facility in a tanker truck with the same residual material from the same generator on the shipping papers (e.g., manifest), one discreet sample shall be collected and analyzed.

Sampling devices shall be appropriate for the type of waste and container being sampled. For a Miscellaneous Subpart X treatment unit, a physical pH test and Specific Gravity of the waste shall be performed routinely on wastes destined for the tanker truck if acceptable knowledge is unavailable. If there is a question concerning potential incompatibilities with the waste streams and other materials to be fuel blended, the facility shall collect a sample and send it to a certified lab for compatibility testing; compatibility must be verified prior to transferring the waste into the tanker truck.

A detailed description of the fuel blending wastes in containers and tanker trucks and the amounts allowed for treatment is presented in Permit Attachment A (Facility Description), Section A.4 (Treatment by Fuel Blending). The Permittee must transfer drums and totes, of like compatible materials, directly into a vacuum tanker trailer on a weekly basis which ensures that they are operating under permitted storage limits.

4.2 TREATMENT OF HAZARDOUS WASTE BY CONSOLIDATION

Consolidation consists of merging waste streams carrying the same waste code(s) with the intent of reducing the number of containers. Consolidation of hazardous and nonhazardous wastes is a form of treatment subject to the requirements for miscellaneous units under 40 CFR §264 Subpart X. Details about waste treatment by consolidation are presented in Permit Attachment A.

4.3 PROHIBITIONS

The Permittee is prohibited from treating the following waste codes by fuel blending:

K002-K030, K061-K062 (Hexavalent chromium, lead, cadmium), K069, K071, K073, K077, K085-K086, K088, K093-K096, K100 through K106, K112-K118, K136, U003, U047, U050, U094, U133, U141, U157, and U177.

The Permittee may also accept and treat wastes subject to the following Permit conditions:

(1) The Permittee shall not treat hazardous wastes with EPA codes F037 (Petroleum refinery primary oil/water/solids separation sludge), F038 (Petroleum refinery secondary (emulsified) oil/water/solids separation sludge), and pharmaceuticals.
(2) Wastes that are not inherently fuel-like shall not be subject to fuel blending treatment.
(3) Blending of pesticides and PCBs is prohibited.
(4) Blending inorganic and organic hazardous wastes containing metals is prohibited.
(5) The Permittee shall not comingle nonhazardous and household hazardous waste with RCRA inherently fuel-like waste during the treatment process in order to dilute the waste and bring it below any RCRA regulatory limit.
(6) Treatment of P listed wastes is prohibited. [P listed wastes are discarded commercial chemical products, off-specification species, container residues, and spill residues].
(7) No mercury or solids/debris should be included in the fuel blending, and no F006-F012 and F019.

4.4 TANKER TRUCK MAINTENANCE

(1) The Permittee shall ensure that tanker truck repairs are performed in accordance with 40 CFR §§264.196(e)(2) through (4). A tanker truck is not fixed equipment and would not be closed in accordance with 40 CFR §264.197 but shall be cleaned in accordance with RCRA regulations and then sent for scrap or disposed of accordingly.

(2) During replacement of tanker truck unit systems and ancillary equipment the Permittee shall ensure that proper handling procedures are adhered to, in order to prevent damage to the units, their components, or any ancillary equipment, in accordance with 40 CFR §264.192(b). Replacement equipment shall be made of the same or similar materials as those described in Permit Attachment A (Facility Description).

(3) The Permittee shall ensure that prior to replacing a portion of the tanker truck, a registered engineer trained and experienced in the proper installation of tank systems or components inspects the system, as required by 40 CFR §264.192(b). A record of this inspection shall be maintained in the Facility Operating Record.

(4) If the Permittee repairs the storage tank unit systems, the Permittee shall certify that the system is capable of handling hazardous wastes without release for the intended life of the system, in accordance with the requirements of 40 CFR §264.196(f). This certification must be submitted to the NMED within seven days after returning the tanker truck system to use.

(5) Replacement tanks and their ancillary equipment shall be tested for tightness prior to being placed into use, as required by 40 CFR §264.192(d). If a replacement tank, tank ancillary unit, and ancillary equipment are found not to be tight, all repairs necessary to remedy the leak(s) in the system shall be performed prior to the system being used.

(6) The Permittee shall obtain and keep in the Facility Operating Record the written statements required by 40 CFR §264.192(g).

4.5 SECONDARY CONTAINMENT FOR THE FACILITY'S TREATMENT AND STORAGE UNITS

(1) The Permittee shall ensure that the tanker trucks used for treatment of hazardous waste have associated secondary containment systems that conform to the requirements specified at 40 CFR § 264.193. Figure 7, Permit Attachment M (Figures) shows the secondary containment system at the Facility.

(2) The Permittee shall use appropriate controls and practices to prevent spills and overflows from the storage tanker trucks and their associated containment system in accordance with 40 CFR §264.194(b).

(3) The Permittee shall ensure that spilled, leaked, or otherwise accumulated liquids are removed from the secondary containment system, including but not limited to the sumps, within 24 hours of detection of the spill, leak, or accumulation. The Permittee may seek an extension of time if they can demonstrate that removal of the released waste or accumulated liquids cannot be accomplished within 24 hours (40 CFR §264.193(c)(4)). Such a determination must be made within 24 hours of detection of the spill, or leakage of the released waste. In the event of a spill or release the Permittee shall follow the procedures specified in 40 CFR §264.196 and shall notify the NMED of any accumulated liquids within the secondary containment system within 24 hours of detection of such liquids, as required by 40 CFR §264.196(d)(1).

(4) The Permittee shall ensure that the secondary containment system comprised in part by the floor, wall, or joint sealants, is installed and maintained in accordance with the sealant manufacturer's recommendations and shall maintain documentation of this fact in the Facility Operating Record. This documentation shall include a copy of the manufacturer's recommendations and a certification from a registered engineer stating that the Permittee's installation and maintenance procedures were performed in accordance with the recommendations.

(5) Secondary containment systems utilizing sealants existing at the time of the effective date of this Permit but not having associated sealant manufacturer's recommendations or an associated certification statement shall be re-sealed within 90 days of the effective date of this Permit.

(6) The Permittee shall ensure that all ancillary equipment have secondary containment in accordance with 40 CFR §264.193(f). The aboveground waste piping, including welded flanges, joints, and connections, shall be inspected for leaks on each operating day that waste is present in a tank.

(7) The Permittee shall ensure that a treatment tanker truck unit, secondary containment system, or a portion of these units or systems, from which there has been a leak or spill, or which is unfit for use, is removed from service immediately and otherwise complies with the requirements of 40 CFR §264.196.

(8) The Permittee shall ensure that any release of hazardous waste from a treatment tanker truck to the environment (*e.g.,* soil, surface water, groundwater, atmosphere) is reported to the Department by e-mail or facsimile within 24 hours of its detection (*see* 40 CFR §264.196(d)).

Within 30 days of detection of a release to the environment, the Permittee shall submit a written report to the Department containing the information required by 40 CFR §264.196(d)(3).

(9) Container specific secondary containment shall be provided in the fuel blending or consolidation area of the facility on the Loading Dock Parking east of Rooms E and F shown on Figure 7, Permit Attachment M (Figures) in accordance with the requirements contained in 40 CFR §264.175.

4.6 IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES

The Permittee shall ensure that incompatible wastes, or wastes and other materials that are incompatible, are not placed in the same tanker truck system, in accordance with 40 CFR §264.199.

The Permittee shall follow the procedures for handling ignitable, reactive, and incompatible wastes specified in Permit Attachment A (Facility Description). The Permittee shall ensure that containers holding ignitable or reactive wastes are located at least 50 feet (15 meters) from the ACT Facility boundary, as required by 40 CFR §264.176.

The Permittee shall take precautions during the treatment or storage of ignitable or reactive waste, the mixing of incompatible waste, or the mixing of incompatible wastes and other materials to prevent reactions that could lead to or cause the following:

1. Generation of extreme heat, pressure, fire, explosions, or violent reactions;
2. Production of uncontrolled toxic mist, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
3. Production of uncontrolled flammable fumes or gases in enough quantities to pose a risk of fire or explosions;
4. Damage to the structural integrity of the container, permitted unit, or other structure associated with the permitted unit;
5. A threat to human health or the environment;
6. Spontaneous combustion; or
7. Reaction of wastes with water. Water-reactive wastes shall not be stored in waste management areas equipped with automatic water sprinkler systems. When water-reactive wastes are present in such waste management areas (e.g. for treatment or temporary staging), the Permittee shall isolate the wastes with water-resistant barriers such as cabinets or overpack drums to keep water from coming in contact with the waste, as required by 40 CFR §264.17(b)).

4.6.1 Ignitable and Reactive Waste Precautions

The Permittee shall prevent accidental ignition or reaction of ignitable or reactive wastes by taking the following precautions.

1. Ensure there are no sources of open flames in, on, or around the containers.

2. Segregate and separate ignitable or reactive wastes and protect them from sources of ignition or reaction such as cutting and welding, frictional heat, sources of sparks (e.g., static, electrical, mechanical), hot surfaces, spontaneous ignition, and radiant heat (e.g., heat-generating wastes), during treatment in accordance with Permit Part 4.

3. Ensure that no forklifts or other motorized equipment are used in the vicinity of open containers of ignitable or reactive wastes unless such equipment is designed for use in flammable environments.

4. Maintain adequate clearance around fire hydrants at the permitted areas.

5. Use only non-sparking/spark-proof tools when managing open containers of hazardous waste that contain ignitable or reactive wastes, and when opening or closing such containers. When flammable or reactive liquids are transferred from one container to another (for conductive containers), grounding procedures or equivalent methods shall be used to minimize or dissipate static electric charge.

6. Ensure appropriate lightning protection is provided for all storage and treatment units.

7. Perform inspection, testing, and maintenance of fire protection equipment.

8. Confine smoking and open flames to designated areas that are a minimum of 50 feet from areas where ignitable or reactive wastes are handled; and

9. Ensure that each permitted unit's fire suppression system is compatible with the waste being stored or treated at the permitted unit.

4.6.2 Incompatible Waste Precautions

The Permittee shall ensure that any storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, or open tanks must be separated from the other waste or materials or protected from them by means of a dike, berm, wall, or other device. (*See* 40 CFR §264.177(c)).

The Permittee shall ensure that waste is not stored with incompatible waste or materials within or on the same secondary containment structure. The Permittee shall ensure that all wastes are stored in containers made of or lined with materials that are compatible with the wastes. (*See* 40 CFR §264.172).

The Permittee shall not store cyanides and cyanide mixtures or solutions with acids if a mixture of the materials could generate hydrogen cyanide. The Permittee shall not store corrosive liquids above or adjacent to flammable or oxidizing wastes except when it is known that the mixture of the wastes could not cause a fire or a dangerous evolution of heat or gases.

The Permittee shall ensure that hazardous wastes are not placed in an unwashed container (*See* 40 CFR §264.177(b)) that previously held an incompatible waste or material.

4.8. ORGANIC AIR EMISSION REQUIREMENTS

The Permittee shall control organic air emissions from each hazardous waste container in accordance with the applicable requirements in 40 CFR Part 264, Subpart CC. For wastes that are not eligible for exemption, the Permittee shall address the applicable requirements for control of air pollutant emissions as follows:

1. In lieu of determining the concentration of VOCs in a waste at the point of generation, the Permittee may declare that a container holding the waste is subject to the requirements of 40 CFR Part 264, Subpart CC.
2. To determine the VOC concentration, the Permittee shall follow the waste determination procedures specified in 40 CFR §264.1083(a). If sampling and analysis are necessary, they shall be performed in accordance with the methods specified in Permit Attachment C of this Permit (i.e., Waste Analysis Plan).
3. Whenever changes to the source generating the waste are reasonably likely to or may potentially cause the average VOC concentration of the hazardous waste to increase to a level that is equal to or greater than the applicable VOC concentration limits specified in 40 CFR §264.1082(c)(1), a new waste evaluation shall be performed by the Permittee, as specified in 40 CFR §264.1083(a)(1)(ii).
4. The Permittee shall review the characterization documentation for VOCs as part of the characterization process discussed in Permit Attachment C of this Permit.

Characterization of routinely generated hazardous wastes that are subject to 40 CFR Part 264, Subpart CC shall be reviewed and updated at least once every 12 months to determine whether Subpart CC requirements continue to apply.

PERMIT PART 5 CLOSURE REQUIREMENTS FOR THE FACILITY

5.1 INTRODUCTION

The Permittee shall close the Facility in accordance with the requirements in 40 CFR §264.110, §264.116, §264.178, and §264.601 as applicable, this Permit Part (5), and the procedures described in the closure plan in Attachment G (Closure Plan). Closure is the permanent discontinuation of treatment and storage of hazardous wastes at the Facility.

It is anticipated that the Facility will achieve the clean closure criteria described in Permit Section 5.2.1 (*i.e.,* clean closed). If the facility does not clean close it shall remain subject to the requirements for post-closure care under 40 CFR Part 264 Subpart G and Part 7 (Corrective Action) of this Permit.

The closure process for the Facility is not complete until the Department approves the Closure Report and Closure Certification required under Permit Section 5.7.

For the purpose of closure, the Facility may consist of structures, equipment, outdoor storage pads, treatment, driving surfaces, and environmental media. These components of the Facility shall undergo the decontamination and verification sampling procedures specified at Permit Sections 5.3.6 through 5.3.10.3 unless they are removed from the site at closure. Examples of structures include storage sheds; buildings; individual rooms within buildings; interior walls, floors, and ceilings; containment systems; and fixtures appurtenant thereto (*e.g.*, stairs, railings, and ancillary piping). Examples of equipment include forklifts, secondary containment pallets, treatment apparatus, and hand tools utilized in waste management. Examples of outdoor storage pads and driving surfaces include concrete or asphalt pavements. Environmental media includes soil, groundwater, sediments, surface water, air, and any anthropogenic base materials (*e.g.*, base course or gravel).

Rooms such as restrooms, offices, storage rooms, and utility rooms at which hazardous waste was not managed are exempt from closure procedures and performance standards. Office equipment, furnishings, and tools that have not contacted hazardous waste or been subject to a hazardous constituent release are also exempt from closure procedures and performance standards.

5.2 CLOSURE PERFORMANCE STANDARDS

The Permittee shall meet the following closure performance standards for all constituents of concern (see Permit Section 5.5(1)) at the Facility to be closed. The Permittee must:

1. Minimize the need for further maintenance; and

2. Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, groundwater, surface water, or atmosphere. (*See* 40 CFR §264.111).

5.2.1 Criteria for Clean Closure

Clean closure is achieved when:

1. All hazardous waste has been removed from the Facility.
2. Any release of a hazardous waste or hazardous constituent to environmental media at or from the Facility has been remediated to a concentration level that is protective of human health and the environment. Concentration levels for environmental media may consider non-residential exposure assumptions and future land use, provided that those assumptions are clearly stated and that any land use restrictions are maintained.
3. Structures and equipment associated with the Facility have been decontaminated to remove hazardous waste residues and hazardous constituents, or such structures and equipment have been removed and managed, in accordance with all applicable requirements.
4. All the closure performance standards under Permit Section 5.2 have been met.
5. The Permittee has demonstrated that there is no potential for contaminated soils associated with the Facility to contaminate groundwater.

5.2.2 Inability to Achieve Clean Closure

If the Permittee is unable to achieve clean closure of the Facility under the provisions of Permit Section 5.2.1, they must implement post-closure care pursuant to Permit Part 7 and comply with 40 CFR §§264.117-264.120, and 40 CFR §270.28. The Permittee must also prepare a post-closure care plan and submit the plan to the Department within 90 days from the date that the Permittee or the Department determines that clean closure will not be or has not been achieved at the Facility. Additionally, pursuant to Permit Section 5.6 and prior to the commencement of the post closure period, the Closure Plan shall be amended to implement the procedures that are necessary to meet all the closure performance standards under Permit Section 5.2.

5.3 CLOSURE PROCESS

5.3.1 Notification of Closure

The Permittee shall initiate closure by notifying the Department in writing that the Facility will undergo closure.

5.3.2 Time Allowed for Closure

The Permittee shall complete all closure activities required by this Permit Part and the closure plan in Attachment G (*Closure Plan*) no later than 180 days after initiating closure. The time allowed for closure may be extended if an extension is approved by the Department (*see* 40 CFR §264.113(b)(1) and (2)) or it is necessary to amend the closure plan in accordance with Permit Section 5.6. If the closure plan must be amended, the Permittee shall complete all closure activities in accordance with the schedule in the Department-approved closure plan, including all amendments.

5.3.3 Closure Schedule

Closure of the Facility shall comply with the schedule presented below in Table 5.1 (*Closure Schedule*) and the additional requirements contained in the closure plan in Attachment G.

TABLE 5.1
Closure Schedule

Closure Activity	**Schedule**
Notify the Department of the initiation of closure.	Day 0
Remove all hazardous wastes. Remove any solid waste that adversely interferes with closure activities.	No later than 90 days
Conduct records review	After initiating closure and before Structural Assessment
Conduct structural assessment	After removal of all wastes and before decontamination
Submit the records review and structural assessment report to the Department, and if necessary, as a result of the records review and structural assessment, submit a request to modify the Closure Plan	After conducting the records review and structural assessment and before decontamination
Complete all closure activities	No later than 180 days after closure is initiated or no later than specified in the Department-approved Closure Plan (including any Department –approved amendments), whichever is later.
Submit final Closure Report and Certification to the Department.	No later than 60 days after completing closure activities
Completion of closure	After Department approval of the Closure Report and Certification.

Note: The schedule above indicates calendar days in which the listed activities shall be completed from the day closure activities are initiated. Some activities may be conducted simultaneously.

5.3.4 Removal of Waste

The Permittee shall remove all hazardous waste from the Facility within 90 days of initiating closure and shall also remove any solid waste that adversely interferes with closure activities (*see* 40 CFR §264.113(a)(1) and (2)).

5.3.5 Records Review and Structural Assessment

During closure the Permittee shall conduct a records review and structural assessment of the Facility and shall submit the review and assessment in the form of a written report to the Department for approval according to the schedule in Table 5-1. If the records review and structural assessment report is disapproved by the Department, the Permittee shall correct the deficiencies identified by the Department, and if required by the Department, amend the Closure Plan for the Facility that is to be closed.

5.3.5.1 Records Review

The Permittee shall review the Operating Record for the Facility to perform two functions: 1) the identification of all hazardous wastes and hazardous constituents of concern managed at the Facility [as defined in Permit Section 5.5(1)], and 2) the identification of all potential releases at the Unit.

The Permittee shall prepare a written report that describes the record review process and the results of that review so that the Department may be assured of the thoroughness of the review. The Permittee shall, as a result of the records review, update the list of constituents of concern. The Permittee shall revise the Sampling and Analysis Plan (SAP) to accurately and completely reflect all constituents of concern managed at the Facility during the operating life of the Facility. If the list of constituents of concern would be updated only by adding new constituents, then the Permittee shall inform the Department of this fact in writing in the report for the records review. If the list of constituents of concern would be updated to eliminate one or more constituents, then the Permittee must update the list of constituents of concern in the SAP via an amendment of the closure plan in accordance with Permit Section 5.6.

The review of inspection logs and records associated with the implementation of the contingency plan shall be used to determine whether any spills, releases, defects, deterioration, or damage (*e.g.,* cracks in the flooring) has occurred at the Facility during the time hazardous waste was managed at the Facility that may have resulted in contamination of structures, equipment, or the environment. If the Operating Record indicates any such incident(s), the Permittee shall include in the written report a description of the location, dates, the nature of the release, and the types and volumes of waste or materials involved in the incident(s) and shall revise the SAP in accordance with Permit Section 5.6 to include the location of the incident and applicable sampling procedures. The records review shall be completed before initiation of the structural assessment.

5.3.5.2 Structural Assessment

The structural assessment is a visual inspection and evaluation of the Facility's physical condition, with the intent of identifying areas of contamination or potential contamination. The Permittee shall conduct a structural assessment by evaluating the Facility for evidence of a release (*e.g.,* stains) or damage (*e.g.,* cracks, gaps) to the flooring, containment structures, building materials, fixtures appurtenant thereto, or outdoor storage pads and driving surfaces. If the structural assessment reveals any evidence of a release or damage the Permittee shall, in accordance with Permit Section 5.6, amend the SAP to incorporate these locations for sampling and to include appropriate sampling procedures.

The Permittee shall notify the Department at least 30 days prior to conducting the assessment to provide the Department the opportunity to participate in the assessment. The structural assessment shall be conducted after wastes have been removed from the Facility, such that structural surfaces are visible, and before beginning any closure decontamination procedures. The Permittee shall prepare a written report that describes the assessment conducted and the results of the assessment so that the Department may be assured of the thoroughness of the assessment.

5.3.6 Decontamination and Removal of Structures and Equipment

During closure of the Facility the Permittee shall decontaminate or remove all contaminated structures and equipment in accordance with this Permit Part and the unit-specific closure plan in Attachment G (*Closure Plan)*.

5.3.6.1 Decontamination

Pressure-washing or steam-cleaning shall be the sole methods used by the Permittee to decontaminate the exposed interior surfaces of structures, including but not limited to floors, walls up to 11 feet from the floor, windows, doors, and ceilings lower than 11 feet high. If a release is known to have impacted walls or ceilings higher than 11 feet from the floor, such walls or ceilings shall be decontaminated. Large pieces of equipment shall also be decontaminated via pressure-washing or steam-cleaning. Small hand tools shall be decontaminated utilizing the decontamination procedures for sampling and measuring equipment at Permit Section 7.8.2.14. Decontamination and verification sampling are not required for the internal components of equipment or structures if there is no evidence that a release has impacted such internal components.

The Permittee may propose an alternative decontamination method in an amended closure plan in accordance with 40 CFR §264.112(c).

5.3.6.2 Removal

The Permittee may remove and transport off-site any structure or piece of equipment associated with the Facility instead of decontaminating the surfaces of these components and conducting decontamination verification.

Components proposed to be decontaminated in the closure plan, but which cannot be sufficiently decontaminated may be removed during closure. This removal shall not require a modification to the closure plan but instead shall be described in the closure report identified at Permit Section 5.10.

Removed materials deemed waste shall be managed in accordance with Permit Section 5.9.

5.3.7 Verification Sampling of Structures and Equipment

The Permittee shall, after decontamination, collect samples to verify that the surfaces of structures and equipment that will remain in place at the Facility have been decontaminated to meet the clean closure criteria specified at Permit Section 5.2.1. The Permittee shall at closure collect the type and quantity of samples at the locations required by this Permit Part and as specified in the closure plan sampling and analysis plan (SAP) at Attachment G. Closure sample locations are shown on Figure 8, Permit Attachment M (Figures).

Wet-wipe sampling shall be used to verify surface decontamination of structures and equipment and shall be conducted in accordance with Permit Section 5.3.10.1 and Permit Attachment G. For all constituents of concern, the clean closure criteria will be considered achieved when wet-wipe sample analyses demonstrate constituent concentrations do not exceed background levels or are shown by risk assessment under a variance (see Permit Section 5.7) that the level of decontamination accomplished is protective of human health and the environment. In areas where wet-wipe sampling is to be conducted, background levels for the Facility shall be established through wet-wipe sampling of an area in the Facility that was not used for the management of hazardous wastes. Method detection limits must be the lowest practicable levels that can be achieved by a typical laboratory conducting analysis under EPA SW-846 methods.

If the first-time decontamination verification analysis associated with structures and equipment reveals concentrations that fail to meet the criteria for organic and inorganic constituents of concern, the Permittee shall again decontaminate the associated component and again verify that decontamination. If after two attempts to decontaminate a component, verification analysis still fails to meet the criteria for constituents of concern the Permittee may petition the Department for a variance under Permit Section 5.7, remove the component from the Facility, or comply with Permit Section 5.2.2.

Decontamination verification of structural surfaces shall be accomplished via the sampling and analysis of discrete samples. The Permittee shall collect at least one wet-wipe sample for each large piece of equipment or fixture at the Facility.

Wipe samples for equipment or fixtures with surface areas of no greater than 10 ft^2 may be composited for the purpose of laboratory analysis on a batch basis not to exceed 10 pieces of equipment or fixtures per batch. If a composite sample fails to meet the criteria for one or more constituents of concern, all equipment or fixtures in the batch represented by the composite sample shall be decontaminated again and decontamination verification repeated for the constituent(s) of concern that did not meet the criteria. If after two attempts to decontaminate a particular batch of equipment or fixtures, verification analysis still fails to meet the criteria for one or more constituents of concern, the Permittee may petition the Department for a variance under Permit Section 5.7, remove the items in the batch from the Facility and manage them in accordance with Permit Section.9, or comply with Permit Section 5.2.2.

Except as provided below for volatile organic compounds (VOCs), decontamination verification samples shall be collected and analyzed for all the constituents of concern listed in the SAP. Structure surface wipe sampling frequencies shall be one sample:

1. Every 400 ft^2;
2. On structure surfaces with an area less than 400 ft^2 (*e.g.*, the floor, ceiling lower than 11 feet and each wall up to 11 feet in a small room);
3. In each designated indoor loading and unloading zone as the sample for the applicable 400 ft^2 area;
4. At the lowest level of each sump or secondary containment in the interior of a structure; and
5. At other locations as required by the Department.

To verify decontamination for VOCs, the Permittee may decontaminate the surfaces of structures and equipment a minimum of two times in lieu of conducting sampling and analysis for VOCs.

5.3.8 Sampling of Soil and Base Material

At closure the Permittee shall sample native soils associated with the Facility to determine the presence and concentrations of constituents of concern. This soil sampling shall in many cases require drilling through the outdoor storage pads and driving surfaces to access the soil. Base materials associated with (*i.e.*, above) a soil sample found to be contaminated shall be considered contaminated, except as provided below regarding asphalt pavement.

Soils shall undergo laboratory analysis to determine concentrations of constituents of concern relative to the clean closure criteria of Permit Section 5.2.1 for environmental media. Soil sampling locations shall be as shown on Figure 8, Permit Attachment M (Figures), and also:

A single native soil sample at a depth of 0 to 6 inches at the following locations:

1. Every 2,500 ft^2 below outdoor pads and driving surfaces;
2. Below designated outdoor loading and unloading zones as the sample for the applicable 2,500 ft^2 area;
3. Below all buried pipe joints of piping carrying waste or waste residuals;

4. Below every 30 linear feet along the axis of any in-ground open or covered drainage system carrying waste or waste residuals; and
5. At other locations as required by the Department.

Two native soil samples, one at a depth of 0 to 6 inches and another at 12 inches:

1. At each location where storm water discharges directly off an outdoor paved surface that was used for waste handling, storage, treatment, loading and unloading;
2. At the lowest level of each outdoor sump or catchment basin;
3. At the lowest level of each outdoor fixed secondary containment area;
4. At the location of any spill or release of hazardous waste or hazardous constituents if not previously sampled when the spill or release was remediated, and if another release has not occurred or was unlikely to occur at the same location, and the supporting analytical data are provided to the Department in the records review and structural assessment report; and
5. At other locations as required by the Department.

Base materials found to be contaminated with constituents of concern are subject to the cleanup levels and risk assessment procedures for soil specified at Permit Sections 7.4.3, 7.4.4, and 7.4.5 to determine if they should be removed or otherwise remediated to protect human health and the environment. Base material samples shall be discrete, and representative of the materials being sampled. The fraction of base materials that must be analyzed shall be that portion that passes a # 4 screen.

Soil and base materials samples must include a fraction to be analyzed for VOCs unless the Permittee can demonstrate that VOCs were never a hazardous waste managed at any time at the Facility or a hazardous constituent of such waste.

Soil and base materials under asphalt pavement shall not be considered contaminated if:

1. The only constituents of concern present are those that occur naturally or are constituent(s) of asphalt;
2. The records review and structural assessment did not indicate any potential releases that contaminated or could have contaminated the soil or base material; and,
3. The constituents of concern in soil and base materials do not exceed naturally occurring background concentrations or concentrations within the asphalt, whichever is greater.

If a release of hazardous waste or a hazardous constituent is discovered in soil or base materials, the Permittee shall abide by the release notification requirements at Permit Section 7.3.3 and the closure plan amendment requirements of Permit Section 5.6.

5.3.9 Removal of Contaminated Soil or Base Materials

For inorganic constituents of concern, soil sampling results shall be compared to the approved background levels for surface soil at the Facility to determine whether contamination is present.

The Permittee shall ensure that soils and base materials (*e.g.*, gravel) at the Facility that are contaminated with constituents of concern that pose an unacceptable risk to human health or the environment based on the closure performance standards in Permit Section 5.2 are removed from the Facility. The complete removal of such soil and base materials shall be verified by the Permittee through sampling and analysis to demonstrate that the vertical and horizontal extent of all such soil and base materials have been removed.

If the contaminated soil or other environmental media that pose an unacceptable risk to human health or the environment (i.e., soil or other media that do not meet the clean closure criteria in Permit Section 5.2.1) cannot be removed because it would be impracticable, the soil or other environmental media shall be subject to corrective action of Permit Section 5.8 and Permit Part 7.

Removed soils or materials deemed waste shall be managed in accordance with Permit Section 5.9.

5.3.10 Other Methods and Procedures

The Permittee shall document closure activities as specified at Permit Section 5.10. The Permittee shall manage wet-wipe and soil samples as specified at Permit Section 5.3.10.1. The Permittee shall at closure abide by the requirements for analyses at laboratories as specified at Permit Section 7.10.3 and Permit Attachment G (Closure Plan).

5.3.10.1 Wet-Wipe Samples

Wet-wipe sampling shall be accomplished using a wipe material saturated with an appropriate solvent rubbed with consistent pressure over a consistent surface area. The wipe material must be a glass fiber cloth. The appropriate solvent is constituent or compound specific and must conform to Table 5-2. The appropriate amount of solvent shall be provided by the contract laboratory and shall conform to ASTM Standard E1792. The surface area of the wipe sample must be 100 cm^2 and must be an area not previously used for the collection of a wipe sample.

To ensure a consistent sampling surface area the Permittee shall utilize a template or chalk that will not contaminate the sample. The wet-wipe sample shall be collected within the entire sample area by rubbing that area first in one direction using firm equal pressure. One side of the full wipe shall be used for the first pass. A second pass perpendicular to the first shall be made over the sample area using the wipe cloth folded in half with the side of the cloth used for the first pass inside the fold. A third pass shall be made following the procedures for the first two passes. Upon completion of wipe sampling the sample shall be sealed in an appropriate container.

Table 5.2 Appropriate Solvents for Wet-Wipe Sampling		
Analytical Parameter	**Required Solvent(s)[b]**	**Required Analytical Method(s)[a]**
Metals	De-ionized water	6010/6020
Mercury	De-ionized water	7470/7471
SVOCs	Acetone/Hexane	8270
VOCs	Acetone/Hexane	8260
PCBs	Isooctane	8080/8082
Dioxin/Furan Congeners	Hexane	8280/8290
Herbicides	Isooctane	8150/8151
Cyanide	De-ionized water	9010/9012

a = Methods from EPA SW-846 as revised and updated
b = Required solvent to be determined at the time of closure according to the current analytical method from SW-846.

5.3.10.2 Soil Samples

The Permittee shall collect soil samples using the most effective, proven, and practicable method for recovery of samples and potential contaminants. The discrete soil samples collected from the locations shown on Figure 8 Attachment M (Figures) shall be representative of the media being investigated.

Hollow-stem auger or direct push technology methods are the preferred methods for collecting soil samples. Trenching or hand augering are also appropriate sampling methods. If hollow-stem augers are used, a decontaminated split-barrel sampler lined with brass sleeves shall be used to obtain samples. Relatively undisturbed discrete base material and soil samples shall be obtained during the advancement of each boring for the purpose of determining the base material/soil interface. The drilling and sampling equipment shall be properly decontaminated before collecting each sample.

Cuttings, cores, or other samples obtained from borings shall be screened in the field for evidence of potential contamination. Screening shall consist of visual examination and headspace vapor screening for VOCs. Headspace vapor screening for VOCs shall be conducted in accordance with Permit Section 5.3.10. Field screening results shall be recorded on the boring logs. Soil samples shall be collected at the location specified in the unit-specific closure plans and at the locations and depths specified at Permit Section 5.3.8. The sample locations shall be measured to the nearest foot and be recorded on a scaled site map upon completion of each boring. Both sample information (*e.g.,* depth) and visual observations of the cuttings and core samples shall be recorded on the boring log. Site attributes (*e.g.*, soil sample locations, outfalls, pertinent structures) shall be located to the nearest foot on the site map.

5.3.10.3 Quality Assurance

Both soil and wipe samples shall be evaluated for associated data quality assurance. Field duplicates will be collected at a rate of ten percent of the number of environmental samples. The Permittee shall collect and analyze equipment blanks from all sampling apparatus at a frequency of ten percent of the number of environmental samples if disposable sampling equipment is not used. The Permittee shall collect field blanks at a frequency of one per day. Reagent blanks shall be used if analytical procedures requiring reagents are employed in the field as part of the investigation or monitoring program. Blanks and duplicates shall be submitted for laboratory analyses associated with the project-specific media being sampled. Data shall be validated and evaluated for quality in accordance with Permit Section 7.8.3.2.

5.4 CLOSURE PLAN

The closure plan for the Facility must include the steps necessary for it to be closed in accordance with this Permit Part and 40 CFR §§ 264.112(b)(4), 264.114, and 264.178 as applicable, and §264.601 through §264.603 as applicable. The closure plan is in Permit Attachment G (*Closure Plan*).

5.5 SAMPLING AND ANALYSIS PLAN (SAP)

The SAP shall include provisions to verify decontamination of the surfaces of structures and equipment; and to determine whether or not, a release of hazardous wastes or hazardous constituents to any environmental media has occurred.

The SAP shall, at a minimum, include:

1. *The list of Constituents of Concern.* A list of hazardous waste or hazardous constituents to be sampled and analyzed for shall be included in the SAP of this closure plan. The list shall include all hazardous wastes and hazardous constituents known or likely to have been managed at the Facility, including those associated with the EPA waste codes identified in the Permittee's Part A Application contained in Permit Attachment B).

2. *Site Plan for Decontamination Verification and Soil Samples.* The site plan shall include a figure or figures depicting the boundaries of the Facility and sampling locations as required at Permit Sections 5.3.7 and 5.3.8.

3. *Type of Samples.* The type of samples to be collected (*e.g.*, wipe, soil) at each sampling location.

4. *Sampling Methods.* A description of the approved *EPA SW-846,* ASTM, or other sampling methods and procedures that will be used to collect each type of sample.

5. *Analytical Methods.* A description of the approved *EPA SW-846* laboratory analytical methods and associated method detection limits. Method detection limits shall be commensurate with the clean closure criteria at Permit Section 5.2.1.

6. *Quality Assurance and Quality Control Procedures*. The SAP must include a description of the quality assurance and quality control (QA/QC) procedures to be used, including but are not limited to:

    a. Field and laboratory quality control samples (*e.g.*, duplicates, trip blanks, equipment blanks); and

    b. A description of all sample preservation, handling, labeling, and chain-of-custody procedures.

7. A description of methods for decontamination of re-usable sampling equipment; and

8. A description of the management of waste derived from the sampling activities.

5.6 AMENDMENT TO THE CLOSURE PLAN

The Permittee shall amend the Facility's closure plan whenever:

1. New environmental media sampling locations are determined or if one or more constituents of concern (Permit Section 5.5(1)) are eliminated from the SAP as a result of the Records Review and Structural Assessment.

2. Conditions in 40 CFR §264.112(c)(2) exist; or

3. The Permittee is unable to achieve clean closure.

If necessary, the Permittee shall amend the Facility's closure plan at closure to identify all constituents of concern correctly and completely, as specified in Permit Section 5.5(1).

Amendment of the Closure Plan shall be performed in accordance with 40 CFR §264.112(c).

If the closure plan must be amended, the Permittee shall submit a permit modification request to seek authorization of a change in an approved closure plan in accordance with 40 CFR §270.42. The request must include a copy of the amended closure plan and all proposed modifications to the plan.

5.7 PETITION FOR A VARIANCE TO CLEAN CLOSURE CRITERIA

The Permittee may seek the Department's approval of a variance from the decontamination verification requirements for organic and inorganic constituents of concern in Permit Section 5.3.7 by submitting to the Department a written request for a determination that the attainment of the requirement is impracticable because of the inherent properties of the materials undergoing wipe sampling. The Department would consider a risk-based demonstration of attainment if the level of risk for organic and inorganic constituents of concern is based on an unrestricted human exposure scenario.

The request shall include, but not be limited to, the following:

1. A statement of the proposed variance;

2. A discussion of decontamination and sampling activities conducted in accordance with the closure plan and the associated analytical results;

3. The analytical or other data demonstrating the effectiveness of the decontamination;

4. The analytical or other data demonstrating the Permittee's inability to attain the requirements under Permit Section 5.3.7;

5. A discussion of the properties of the equipment or surface pertinent to the requested variance and all analytical or other data demonstrating the chemical or physical properties of the equipment or surface that inhibit attainment of the requirements;

6. A justification for why further decontamination beyond the requirements in the closure plan would not be effective;

7. All other supporting documentation and analyses; and

8. Other information requested by the Department.

5.8 CORRECTIVE ACTION

If after removal of contaminated soil or base materials in accordance with Permit Section 5.3.8 the Permittee finds that the soil or other materials (*e.g.*, base materials) continue to pose an unacceptable risk to human health and the environment, the Permittee shall initiate and conduct corrective action in accordance with Permit Section 7.3 and shall amend the closure plan in accordance with Permit Section 5.6 to describe the proposed corrective action. The proposed amended closure plan shall identify and describe the actions necessary to determine both the lateral and vertical extent of contamination of any release and obtain any other information necessary to determine the nature and risk of the contamination to human health and the environment and to choose an appropriate remedial action.

5.9 WASTE GENERATED DURING CLOSURE

By removing or decontaminating any structures, equipment, soil, or base materials during closure the Permittee may become a generator of hazardous waste. The Permittee shall manage those wastes in compliance with all applicable state, federal, and local requirements (*see* 40 CFR §264.114).

5.10 CLOSURE REPORT AND CERTIFICATION

No later than 60 days after completing closure activities at the Facility, the Permittee shall submit a closure report (Report) for the Facility to the New Mexico Environment Department for review

and approval. The Report shall document that the Facility has been closed in compliance with this Permit Part and the approved closure plan. A certification that is signed by the Permittee and by an independent New Mexico licensed professional engineer that the Facility was closed in accordance with the specifications in the approved closure plan must be included with the Report (*see* 40 CFR §264.115).

The Report shall also contain:

1. A summary of all closure activities conducted, including at a minimum:

    a. the results of all investigations.
    b. remediation waste management.
    c. decontamination and removal activities; and
    d. sampling activities.

2. A discussion of any variance from the activities previously approved in a closure plan and the reason for the variance.

3. A detailed presentation of sampling results, including:

    a. sample identification.
    b. sampling location.
    c. laboratory analytical data, including any data qualifiers.
    d. method detection limit for each analyte.
    e. field and analytical laboratory quality control data
    f. identification of analytical procedure; and
    g. identification of analytical laboratory.

4. A discussion of data validation.

5. The location of supporting documentation, including:

    a. field logbooks.
    b. laboratory sample analysis reports.
    c. QA/QC documentation.
    d. chain-of-custody forms; and
    e. waste manifest.

    f. The location of storage or disposal of hazardous waste resulting from closure activities; and

6. A copy of the Human Health and Ecological Risk Assessment Reports, if a risk assessment was necessary.

5.11. FINANCIAL ASSURANCE FOR FACILITY CLOSURE

The Permittee shall demonstrate financial assurance through the submittal of a *Closure Cost Estimate, Performance Bond, Trust Agreement,* and *Certificate of Liability Insurance* in the amount of the most recent closure cost estimate. This information must be submitted to the NMED, in accordance with the requirements of 40 CFR Part 264 Subpart H (Financial Requirements), and 40 CFR §270.14(b)(17).

The Permittee shall maintain financial assurance to cover the cost of Facility closure conducted by a third party during the active life of the Facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator.

The cost of closure shall be calculated based on the activities described in the Closure Plan in Permit Attachment G, and in accordance with the requirements of 40 CFR §264.142.

5.11.1 Closure Cost Estimates

The Permittee shall implement a financial instrument in the amount of the most recent closure cost estimate prepared by the Permittee as set forth in Permit Attachment L (Financial Assurance). The closure cost estimate shall provide detailed and accurate costs for closure and post-closure care as required by 40 CFR § 264.142(a). The cost estimate must be based on the cost, to the owner or operator, of hiring a third party to ensure proper closure of the Facility. The details of the closure activities described in Permit Attachment G shall be used to derive the closure cost estimate presented in Table L-1 (Closure Cost Estimate (updated)), Permit Attachment L.

5.11.2 Adjustment of Cost Estimates

The Permittee shall adjust the closure cost estimate for inflation within sixty (60) calendar days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 40 CFR §264.143, and Permit Section 5.11.7, or when using an approved State-required mechanism, upon such a date, as required by 40 CFR §264.142(b).

The inflation factor is derived from the most recent implicit price deflator (IPD) for gross national product (GNP) published by the U.S. Department of Commerce's *Survey of Current Business* and found online at the Bureau of Economic Analysis' (BEA) Table 1.1.9 (Implicit Price Deflators (IPD) for Gross Domestic Product). The Permittee shall report the years of the IPD values used to calculate the inflation factor.

The final amount of the closure cost estimate shall be the total amount that the Permittee reported that would be spent on closure activities multiplied by the inflation factor in order to meet the requirements of 40 CFR Part 264, Subpart H (Financial Requirements). The Permittee shall use the equations below to calculate the inflation factor in order to adjust the closure cost estimate for the subsequent cost estimate submittals every year, as required by 40 CFR § 264.142(b)(1) and (b)(2).

The Permittee shall adjust the previous cost estimate using the inflation factor as follows:

$$\left(\frac{\text{IPD}_{\text{current year (or latest published)}}}{\text{IPD}_{\text{previous year}}}\right) \times \text{Cost Estimate Total}_{\text{previous year}}$$

$$= \text{Adjusted Cost Estimate Total}_{\text{current year}}$$

Where IPD is the Implicit Price Deflator, and the following ratio:

$\frac{\text{IPD}_{\text{current year (or latest published)}}}{\text{IPD}_{\text{previous year}}}$ = the inflation factor. [Refer to 40 CFR § 264.142(b)].

The implicit price deflators for gross national product (GNP) are published on the Bureau of Economic Analysis' (BEA) Table 1.1.9 (Implicit Price Deflators for Gross Domestic Product). (https://apps.bea.gov). The Permittee shall report which years the IPD values were recorded. The Permittee shall also submit a pdf copy of BEA's Table 1.1.9 that also presents the date the table was accessed so that NMED can verify the calculations and the IPD values that the Permittee used to complete the inflation adjustment calculation.

The Permittee shall continue to report the annual values in the cover letter and Table(s), if applicable.

5.11.3 Revision of Cost Estimates

The Permittee shall revise the closure cost estimates within 30 days after NMED approves a request to modify the closure plan, if the change in the closure plan increases the cost of closure, as required by 40 CFR § 264.142(c). The revised closure cost estimated must be adjusted for inflation using the equations provided in Section 5.11.2 and Permit Attachment L, Section L.1.1, as required by 40 CFR § 264.142(b).

5.11.4 Record Keeping

The Permittee shall maintain current adjusted closure cost estimates in the Facility operating record, as required by 40 CFR §264.142(d).

5.11.5. Submittal of Financial Assurance Documentation

The signed duplicate original of the closure financial assurance instrument shall be submitted to NMED at least 60 calendar days before receiving hazardous waste for management and storage at the container storage facility, as required by 40 CFR § 264.143. The financial assurance instrument shall be derived from the annually adjusted closure cost estimate to reflect inflation, in accordance with 40 CFR § 264.142(b). The financial assurance documentation shall be submitted to NMED by March 1 of each calendar year while this Permit is in effect. Copies of the financial assurance documentation can be found in Permit Attachment L.

5.11.6 Changes to the Financial Assurance Instrument

The Permittee shall not change the financial assurance instrument without the written approval of NMED, as required by 40 CFR §264.143.

5.11.7 Liability Requirements

5.11.7.1 Liability Coverage Amounts

The Permittee shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least one million dollars ($1,000,000) per occurrence, with an annual aggregate of at least two million dollars ($2,000,000), exclusive of legal defense costs, as required by 40 CFR §264.147(a). The Permittee shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of three million dollars ($3,000,000) per occurrence, with an annual aggregate of at least six million dollars ($6,000,000), exclusive of legal defense costs, as required by 40 CFR §264.147(b). A copy of the *Certificate of Liability Insurance* can be found in Permit Attachment L (Financial Assurance).

5.11.7.2 Submittal of Liability Documentation

The Permittee shall submit a signed duplicate original of the liability policy required in compliance with 40 CFR §264.147(g). The liability policy shall be worded verbatim in accordance with 40 CFR §264.151(h)(2), with the exception that the instructions in brackets are to be replaced with the relevant information and the brackets deleted.

5.12 INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

5.12.1 Declaration of Bankruptcy by Financial Institution

The Permittee shall notify the NMED, by certified mail, of the commencement of bankruptcy, and the name of any guarantor within ten calendar days after commencement of the proceeding, as required by 40 CFR §264.148(a).

5.13 ESTABLISHMENT OF OTHER FINANCIAL ASSURANCE OR LIABILITY COVERAGE

The Permittee shall establish other financial assurance or liability coverage within 60 days from the date the Trustee or institution issuing the surety bond, letter of credit, or insurance policy declares bankruptcy; otherwise, the Permittee will be deemed to be without the required financial assurance, as specified by 40 CFR §264.148(b).

PERMIT PART 6 COMPLIANCE SCHEDULE

(RESERVED)

PERMIT PART 7 CORRECTIVE ACTION

7.0 CORRECTIVE ACTION REQUIREMENTS

The Permittee shall conduct corrective action at all Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at the Facility in compliance with the requirements of this Permit and 40 CFR §264.101.

The Permittee shall conduct corrective action under this Permit in the following circumstances:

1. New releases and newly discovered releases of hazardous waste or hazardous waste constituents from hazardous waste management units at the Facility.
2. At units undergoing closure and post closure care under 40 CFR Part 264, Subpart G (Closure and Post-Closure), as they apply to the Facility.
3. Implementation of the controls, including long-term monitoring, for any Solid Waste Management Unit (SWMU), Area of Concern (AOC), or hazardous waste management unit.

The Permittee shall conduct corrective action as necessary to protect human health and the environment from any releases of hazardous waste or hazardous waste constituents pursuant to this Permit and in accordance with §§ 74-4-4(A)(5)(h) and (i) and 74-4-4.2(B) of the HWA and Section 3004(u) and (v) of RCRA, 42 U.S.C. § 6924(u) and (v) and 40 CFR Part 264, Subparts F (Releases From Solid Waste Management Units) and G (Closure and Post-Closure) and G. Any SWMU or AOC for which corrective action is required shall be subject to corrective action under this Permit Part and 40 CFR § 264.101. The status of the SWMU or AOC will be indicated through placement in the appropriate Table in Permit Attachment K (Solid Waste Management Units) (SWMUs) and Areas of Concern (AOCs)) following the permit modification process as specified in 40 CFR §§270.41, 270.42, and 20.4.1.901NMAC and, as applicable, 40CFR § 64.101(c).

7.1 GENERAL CONDITIONS

7.1.0 Corrective Action beyond the Facility Boundary

The Permittee shall notify the Department, orally and in writing in accordance with Permit Section 1.9 (Reporting Requirements), upon discovering that a release of hazardous waste or hazardous constituents has migrated beyond the Facility boundary or has the potential to migrate beyond the Facility boundary.

Section 3004(v) of RCRA, Section 74-4-4.A.5.i of the HWA, and 40 CFR §264.101(c) requires that if hazardous waste or hazardous constituents migrate beyond the Facility boundary, the Permittee shall implement corrective action beyond the Facility boundary as necessary to protect human health and the environment, unless the Permittee demonstrates to the NMED that, despite the Permittee's best efforts, the Permittee is unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of any responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access has been denied.

7.1.1 Off-Site Access

To the extent that any corrective action requirement of this Permit requires access to property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain access from the present owners of such property to conduct the required activities. In the event that the Permittee does not obtain such access, the Permittee shall provide to NMED a summary of the efforts made to gain access to the property and the reason(s) for its failure to obtain such access.

7.1.2 Corrective Action Program

7.1.2.1 Applicability

Corrective Action at the Facility shall be conducted pursuant to the requirements specified above in Section 7.0 of this Permit Part.

In the event the Permittee decides to clean close the Facility, the Permittee shall propose an appropriate closure plan for the Facility that will achieve the cleanup levels specified in Permit Section 7.4 for the NMED's review and approval.

The NMED will review work plans, reports, schedules, and other documents (submittals), which require the NMED's approval in accordance with the conditions of this Permit. The NMED shall notify the Permittee in writing of any submittal that is disapproved, or approved with modifications, and the basis thereof in accordance with 20.4.2.201.B(4) NMAC.

7.1.2.2 Identification and Status of SWMUs, AOCs and Hazardous Waste Management Units

The Table of SWMUs and AOCs Requiring Corrective Action under this Permit will be added as appropriate to include any newly identified SWMUs or AOCs.

7.2 NEWLY DISCOVERED SWMUS OR AOCS

7.2.1 Notification of Newly Discovered SWMUs or AOCs

Within fifteen (15) days after the discovery of any newly identified potential SWMU or AOC, the Permittee shall notify the NMED in writing of such discovery in accordance with Permit Section 1.9.5 and subsequent reporting, as applicable. The notification shall include, at a minimum, the location of the SWMU or AOC and all available information pertaining to the nature of any release of contaminants from the SWMU or AOC, including the contaminants or suspected contaminants released, the magnitude of the release, and the media affected by the release.

Within ninety (90) days , or other time period established by the NMED, after submitting such notification, the Permittee shall submit to the NMED for review and written approval a SWMU Assessment Report (SAR) or a Release Assessment Report (RAR) in accordance with Permit Section 7.3.1.1 for each newly identified potential SWMU or AOC.

7.3 CORRECTIVE ACTION PROCEDURES

The Permittee shall conduct corrective action at areas of the site where releases of hazardous waste or hazardous constituents have occurred. If corrective action is necessary to protect human health or the environment, the NMED will direct the Permittee to complete one or more of the requirements included in this Permit Section (7.3). The conditions listed below apply to all corrective action conducted under this Permit unless otherwise specified in Permit Part 5 (Closure Requirements for the Facility).

7.3.1 Release Assessment

7.3.1.1 SWMU or Release Assessment Report (SAR or RAR)

If required by the NMED, the Permittee shall submit an SAR or RAR for newly discovered releases from any Permitted unit. Any revisions to the SAR or RAR required by the NMED shall be submitted within 90 calendar days of receipt of the NMED's comments on the SAR or RAR.

The SAR or RAR, at a minimum, include the following information:

1. The location of unit(s) on a topographic map of appropriate scale, as required under 40 CFR § 270.14(b)(19);
2. Designation of type and function of unit(s);
3. General dimensions, capacities and structural description of unit(s) (including any and all available plans/drawings);
4. Dates that the unit was operated;
5. All available site history information;
6. Specifications of all wastes and other materials that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous waste, hazardous constituents, or other contaminants in the wastes or other materials; and
7. All available information pertaining to any release of hazardous waste, hazardous constituents, or other contaminants from such units (e.g., ground water data vadose zone fluids, vadose zone organic vapor data, soil analyses, air sampling or monitoring data, and surface water data).

Based on the results of the SAR or RAR, the NMED will determine the need for further investigations at the SWMUs or AOCs identified in the SWMU or Release Assessment Report, including the need for submittal of an investigation work plan in accordance with Permit Section 7.3.5.1.1.

7.3.2 Interim Measures

7.3.2.1 Interim Measures Required by the NMED

Upon written notification by the NMED, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan at any release site, SWMU, or AOC where the NMED determines that interim measures are necessary to minimize or prevent the migration of hazardous waste or

hazardous constituents and limit actual or potential human and environmental exposure to hazardous waste or hazardous constituents while long term corrective action remedies are evaluated and implemented. The Permittee shall submit their IM Work Plan to the NMED within 30 calendar days of the NMED's notification, unless another time is specified by the NMED. Such interim measures may be conducted concurrently with any required corrective action.

7.3.2.2 Permittee-Initiated Interim Measures

The Permittee may initiate interim measures at a SWMU or AOC by notifying NMED, in writing, at least 60 calendar days prior to beginning the Interim Measures. NMED will approve the Permittee-initiated IM, conditionally approve the IM, or require submittal of an IM work plan for NMED review and approval prior to implementation of the Interim Measure. Upon approval, NMED will establish a schedule for the submittal of a report(s) summarizing the actions and results of the interim measure implementation and the progress in achieving cleanup.

7.3.3 Emergency Interim Measures

The Permittee may determine, during implementation of site investigation activities, that emergency interim measures are necessary to address an immediate threat of harm to human health or the environment. The Permittee shall notify the NMED within one business day of discovery of the facts giving rise to the threat and shall propose emergency interim measures to address the threat. If the NMED approves the emergency interim measures in writing, the Permittee may implement the proposed emergency interim measures without submitting an IM Work Plan. If circumstances arise resulting in an immediate threat to human health or the environment such that initiation of emergency interim measures are necessary prior to obtaining written approval from the NMED, the Permittee shall notify the NMED within one business day of taking the emergency interim measure. The notification shall contain a description of the emergency, the types and quantities of contaminants involved, the emergency interim measures taken, and contact information for the emergency coordinator handling the situation. The notification shall also include a written statement justifying the need to take the emergency action without prior written approval from the NMED. This requirement shall not be construed to conflict with 40 CFR §§ 264.1(g)(8) or 270.61.

7.3.4 Interim Measure (IM) Work Plan Requirements

The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with, and integrated into, any final corrective measures at the Facility. The IM Work Plan shall include a description of the site conditions that warrant the IM, the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

The IM Work Plan imposed under Permit Condition 7.3.2.1 or initiated by the Permittee under Permit Condition 7.3.2.2 must be approved by the NMED in writing prior to implementation. The NMED will specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan. The NMED will approve, approve with modifications, or disapprove the IM Work Plan in accordance with Permit Condition 7.7.

7.3.4.1 Interim Measures Implementation

7.3.4.1.1 Implementation and Completion of Approved IM Work Plan

The Permittee shall implement interim measures required under Permit Section 7.3.2 in accordance with the NMED-approved IM Work Plan. The Permittee shall complete interim measures within 180 calendar days of the start of implementation of the interim measure. The Permittee may submit a written request to the NMED to extend the period for implementation of the interim measure. The request must provide justification for the extension and a proposed schedule for completion of the interim measure. The NMED will notify the Permittee, in writing, of the approval or disapproval of the extension request.

7.3.4.1.2 Notification of Changes to Interim Measures

The Permittee shall give notice to the NMED as soon as possible of any planned changes, reductions or additions to the IM Work Plan required by the NMED under Permit Section 7.3.2.1 or initiated by the Permittee in accordance with Permit Section 7.3.2.2.

7.3.4.1.3 Progress Reports

If the time required for the completion of IM is greater than 180 days, the Permittee shall provide the NMED with Progress Reports at intervals specified in the approved IM Work Plan. The progress report shall generally comply with the requirements of Permit Section 7.4.1.4 below.

7.3.4.1.4 Interim Measures Report

The Permittee shall submit an IM Report to the NMED for review and approval, within 90 calendar days of completion of interim measures, an IM Report summarizing the results of interim measure implementation. The IM Report shall contain, at a minimum, the following information:

1. A description of interim measures implemented, including all methods and procedures employed to construct, operate, and assess the progress of the IM;
2. Summaries of results;
3. Summaries of all problems encountered during IM investigations;
4. Summaries of accomplishments and/or effectiveness of interim measures; and,
5. Copies of all relevant laboratory/monitoring data, maps, logs, and other related information.

7.3.5 Corrective Action Investigations

7.3.5.1 Investigation Work Plan

If the NMED determines that an Investigation Work Plan is necessary to investigate releases to the environment, the Permittee shall prepare and submit to the NMED, within 90 days or other

time period established by the NMED, an Investigation Work Plan in accordance with Permit Section 10.2.

7.3.5.1.2 Investigation Work Plan Requirements

Investigation Work Plans shall meet the requirements specified in Permit Section 10.2 (Reporting Requirements). Investigation Work Plans shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of contamination and the potential pathways of contaminant releases to the air, soil, surface water, and ground water. The Permittee shall provide sufficient justification and associated documentation that a release is not probable or has already been characterized if a unit or a media/pathway associated with a unit (ground water, surface water, soil, subsurface gas, or air) is not included in an Investigation Work Plan. Such deletions of a unit, medium, or pathway from the work plan(s) are subject to the approval of the NMED. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements specified in Permit Section 10.2 (Reporting Requirements). Such omissions or deviations are subject to the approval of the NMED. In addition, Investigation Work Plans shall include all investigations necessary to ensure compliance with 40 CFR § 264.101. The Permittee shall submit Investigation Work Plans by the date specified by the NMED. All monitoring, sampling, and analysis shall be conducted in accordance with the investigation methods and procedures set forth in Permit Part 5 (Closure Requirements for the Facility).

7.3.5.1.2 Work Plan Implementation Notification

The Permittee shall implement Work Plans as approved by the NMED. The Permittee shall notify the NMED at least 20 days prior to any permit or corrective action-related field activity (e.g., drilling, sampling).

7.3.5.2 Historical Documents

The Permittee shall submit to the NMED a summary of the historical information regarding site use, waste management, and assessment of known or potential releases of hazardous waste or hazardous constituents relating to each SWMU or AOC in conjunction with the unit-specific Investigation Work Plan, as appropriate. The summary shall include complete, legible copies (or best available) of all relevant photographic imprints, maps, figures, drawings, tables, attachments, enclosures, appendices, and other relevant supporting documentation.

7.3.5.3 Investigation Reports

The Permittee shall prepare and submit to the NMED Investigation Reports for the investigations conducted in accordance with Investigation Work Plans submitted under Permit Section 7.3.5.1. The Permittee shall submit the Investigation Reports to the NMED for review and approval in accordance with the schedules included in its approved Investigation Work Plans.

The Investigation Reports shall include an analysis and summary of all required investigations conducted under this Permit. The summary shall describe the type and extent of contamination at each unit investigated including sources and migration pathways, identify all hazardous waste or

constituents present in all media, and describe actual and/or potential receptors. The Investigation Report shall also describe the extent of contamination (qualitative and quantitative) in relation to background levels for the area. If the Investigation Report concludes that further work is necessary, the report shall include a proposed schedule for submission of a work plan for the next phase of investigation.

7.3.5.3.1 Cleanup Levels

The Investigation Reports shall identify the applicable cleanup levels in accordance with Permit Section 7.4 and 7.5 for each hazardous waste or hazardous constituent found at each unit where corrective action is required. The Permittee shall propose in the Investigation Report or in a subsequent Risk Assessment or Corrective Measures Evaluation appropriate cleanup levels for those hazardous wastes or hazardous constituents without established cleanup levels based upon human and ecological risk.

7.3.5.3.2 Requirement to Proceed

Based upon the NMED's review of the Investigation Report, the NMED will notify the Permittee of the need for further investigative action, if necessary, and inform the Permittee, if not already notified, of the need for a Corrective Measures Evaluation. The NMED will notify the Permittee if corrective action is complete. If the NMED determines that further investigation is necessary, the NMED will require the Permittee to submit a work plan for approval that includes a proposed schedule for additional investigation(s).

7.3.5.3 Risk Assessment

The Permittee shall attain the cleanup goals outlined in Permit Sections 7.4 and 7.5 at each unit for which the NMED determines that corrective measures are necessary. If the NMED determines that the cleanup levels included in Permit Sections 7.4 and 7.5 cannot be achieved at a site, the NMED will require performance of risk analyses to establish alternative cleanup levels. Such risk analyses shall be prepared in the format included in the Permit Section 10.5 (Reporting Requirements). The Permittee shall submit to the NMED for approval a Risk Assessment Report in accordance with Permit Section 10.5 according to the schedule set forth by the NMED for sites where risk analyses are conducted.

7.3.6 Corrective Measures Evaluation

7.3.6.1 General

The NMED will require corrective measures implementation at a unit if the NMED determines, based on the Investigation Report and other relevant information available to the NMED, that there has been a release of contaminants into the environment at the site and that corrective action is necessary to protect human health or the environment from such a release. Upon making such a determination, the NMED will notify the Permittee in writing. The NMED will specify a date for the submittal of the necessary reports and evaluations in the written notification.

7.3.6.2 Corrective Measures Evaluation Report

Following written notification from the NMED that a corrective measures evaluation is required, the Permittee shall prepare and submit to the NMED for approval a Corrective Measures Evaluation Report. The Permittee shall follow the Corrective Measures Evaluation Report format outlined in Permit Section 10.6 (Reporting Requirements). The corrective measures evaluation shall evaluate potential remedial alternatives and shall recommend a preferred remedy that will be protective of human health and the environment and that will attain the appropriate cleanup goals. The Corrective Measures Evaluation Report shall, at a minimum, comply with Permit Section 10.6 (Reporting Requirements) and include the following:

1. A description of the location, status, and current use of the site;
2. A description of the history of site operations and the history of releases of contaminants;
3. A description of site surface conditions;
4. A description of site subsurface conditions;
5. A description of on- and off-site contamination in all affected media;
6. An identification and description of all sources of contaminants;
7. An identification and description of contaminant migration pathways;
8. An identification and description of potential receptors;
9. A description of cleanup standards or other applicable regulatory criteria;
10. An identification and description of a range of remedy alternatives;
11. Remedial alternative pilot or bench scale testing results;
12. A detailed evaluation and rating of each of the remedy alternatives, applying the criteria set forth in Permit Section.7.3.6.4 including costs for long-term monitoring and maintenance (Reporting Requirements);
13. An identification of a proposed preferred remedy or remedies;
14. Design criteria of the selected remedy or remedies; and
15. A proposed schedule for implementation of the preferred remedy.

7.3.6.3 Cleanup Standards

The Permittee shall select corrective measures that are capable of achieving the cleanup standards and goals outlined in Permit Sections 7.4 and 7.5 including, as applicable, approved alternate cleanup goals established by a risk assessment.

7.3.6.4 Remedy Evaluation Criteria

7.3.6.4.1 Threshold Criteria

The Permittee shall evaluate each of the remedy alternatives for the following threshold criteria. To be selected, the remedy alternative must:

1. Be protective of human health and the environment;
2. Attain media cleanup standards;
3. Control the source or sources of releases to reduce or eliminate, to the extent practicable, further releases of contaminants that may pose a threat to human health and the environment; and
4. Comply with applicable standards for management of wastes.

7.3.6.4.2 Remedial Alternative Evaluation Criteria

The Permittee shall evaluate each of the remedy alternatives for the factors described in this Permit Section (7.3.6.4). These factors shall be balanced in proposing a preferred alternative.

7.3.6.4.3 Long-term Reliability and Effectiveness

The remedy shall be evaluated for long-term reliability and effectiveness. This factor includes consideration of the magnitude of risks that will remain after implementation of the remedy; the extent of long-term monitoring, or other management or maintenance that will be required after implementation of the remedy; the uncertainties associated with leaving contaminants in place; and the potential for failure of the remedy. The Permittee shall give preference to a remedy that reduces risks with little long-term management, and that has proven effective under similar conditions.

7.3.6.4.4 Reduction of Toxicity, Mobility, or Volume

The remedy shall be evaluated for its reduction in the toxicity, mobility, and volume of contaminants. The Permittee shall give preference to a remedy that will more completely and permanently reduce the toxicity, mobility, and volume of contaminants.

7.3.6.4.5 Short-Term Effectiveness

The remedy shall be evaluated for its short-term effectiveness. This factor includes consideration of the short-term reduction in existing risks that the remedy would achieve; the time needed to achieve that reduction; and the short-term risks that might be posed to the community, workers, and the environment during implementation of the remedy. The Permittee shall give preference to a remedy that more rapidly reduces short-term risks, without creating significant additional risks.

7.3.6.4.6 Implementability

The remedy shall be evaluated for its implementability or the difficulty of implementing the remedy. This factor includes consideration of installation and construction difficulties; operation and maintenance difficulties; difficulties with cleanup technology; permitting and approvals; and the availability of necessary equipment, services, expertise, and storage and disposal capacity. The Permittee shall give preference to a remedy that can be implemented quickly and more easily, and poses fewer and reduced difficulties.

7.3.6.4.7 Cost

The remedy shall be evaluated for its cost. This factor includes a consideration of both capital costs, and operation and maintenance costs. Capital costs shall include, without limitation, construction and installation costs; equipment costs; land development costs; and indirect costs including engineering costs, legal fees, permitting fees, startup and shake-down costs, and contingency allowances. Operation and maintenance costs shall include, without limitation,

operating labor and materials costs; maintenance labor and materials costs; replacement costs; utilities; monitoring and reporting costs; administrative costs; indirect costs; and contingency allowances for the entire anticipated post-closure care or long-term monitoring period. All costs shall be calculated based on their net present value. A remedy that is less costly but does not sacrifice protection of health and the environment, shall be preferred.

7.3.6.5 Corrective Measures Evaluation Report Approval

The NMED will review the Corrective Measures Evaluation (CME) Report and notify the Permittee in writing of approval, approval with modifications, or disapproval of the report in accordance with Permit Section 7.7. The NMED's approval of the CME Report shall not be construed to mean that the NMED agrees with the recommended preferred remedy. Based on preliminary results and the CME Final Report, the NMED may require the Permittee to evaluate additional remedies or elements of one or more proposed remedies.

7.3.6.6 Relationship to Corrective Action Requirements

The Corrective Measures Evaluation shall serve as a Corrective Measures Study for the purposes of RCRA compliance. (*See* 55 Fed. Reg. 30875-77 (July 27, 1990) (proposed 40 CFR §§ 264.520 through 264.524)).

7.3.6.7 Remedy Selection

Upon approval of the Corrective Measures Evaluation Report, NMED will select a remedy or remedies for the site. NMED may choose a different remedy from that recommended by the Permittee. NMED will issue a Statement of Basis for selection of the remedy and will issue a draft of the decision for public comment in accordance with the public participation requirements applicable to permit modification 40 CFR 270.41, §270.42(c), and 20.4.1.901 NMAC. The NMED will issue a response to public comments at the time of NMED's final decision.

7.3.6.8 Financial Assurance for Corrective Action

The Permittee shall submit to the NMED evidence of financial responsibility for completing the corrective actions identified in the approved CME Final Report, as required by 40 CFR § 264.101(b) and (c). Proof of Financial Assurance to implement the selected remedy shall be submitted to the NMED within 120 days, or other time approved by the NMED, of completion of the Permit modification incorporating the approved remedy.

7.3.6.9 Permit Modification for Remedy Identification

As required by 40 CFR § 270.41, a Permit modification will be initiated by the NMED after recommendation of a remedy under Permit Condition 7.3.6.7. This modification will serve to incorporate a final remedy into this Permit and to establish the financial cost of the remedy.

7.3.7 Corrective Measures Implementation

7.3.7.1 General

The Permittee shall implement the final remedy selected by the NMED.

7.3.7.2 Corrective Measures Implementation Plan

Within 90 days after the NMED's selection of a final remedy, or as otherwise specified by the schedule contained in the approved Corrective Measure Evaluation Report or as specified by a schedule required by the NMED in the written approval notification, the Permittee shall submit to the NMED for approval a Corrective Measures Implementation Plan outlining the design, construction, operation, maintenance, and performance monitoring for the selected remedy, and a schedule for its implementation. The Corrective Measures Implementation Plan shall, at a minimum, include the following elements:

1. A description of the selected final remedy;
2. A description of the cleanup goals and remediation system objectives;
3. An identification and description of the qualifications of all persons, consultants, and contractors that will be implementing the remedy;
4. Detailed engineering design drawings and systems specifications for all elements of the remedy;
5. A construction work plan;
6. An operation and maintenance plan;
7. The results of any remedy pilot test;
8. A plan for monitoring the performance of the remedy, including sampling and laboratory analysis of all affected media;
9. A waste management plan;
10. A proposed schedule for submission to the NMED of periodic progress reports; and
11. A proposed schedule for implementation of the remedy.

The NMED will review the Corrective Measures Implementation Plan and notify the Permittee in writing of approval, approval with modifications, or disapproval of the plan in accordance with Permit Part 7.7.

7.3.7.3 Health and Safety Plan

The Permittee shall conduct all activities in accordance with a site-specific or facility-wide Health and Safety Plan during all construction, operation, maintenance, and monitoring activities conducted during corrective measures implementation.

7.3.7.4 Progress Reports

The Permittee shall submit to the NMED progress reports in accordance with the schedule approved in the Corrective Measures Implementation Plan. The progress reports shall, at a minimum, include the following information:

1. A description of the remedy work completed during the reporting period;
2. A summary of problems, potential problems, or delays encountered during the reporting period;
3. A description of actions taken to eliminate or mitigate the problems, potential problems, or delays;
4. A discussion of the remedy work projected for the next reporting period, including all sampling events;
5. Copies of the results of all monitoring, including sampling and analysis, and other data generated during the reporting period; and
6. Copies of all waste disposal records generated during the reporting period.

7.3.8 Remedy Completion

7.3.8.1 Remedy Completion Report

Within 90 days, or other time approved by the NMED, the Permittee shall submit to the NMED a Remedy Completion Report following completion of the remedy. The report shall, at a minimum, include the following items:

1. A summary of the work completed;
2. A statement, signed by a New Mexico registered Professional Engineer, or subject to approval by the NMED, another competent person with appropriate expertise or professional certification, that the remedy has been completed in accordance with the NMED approved work plan for the remedy;
3. As-built drawings and specifications signed and stamped by a registered professional engineer if applicable;
4. Copies of the results of all monitoring, including sampling and analysis, and other data generated during the remedy implementation, if not already submitted in a progress report;
5. Copies of all waste disposal records, if not already submitted in a progress report; and
6. A certification prepared in accordance with 40 CFR §270.11(d)(1), signed by a responsible official of the Permittee (owner/operator), stating:

"*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations*."

7.3.9 Accelerated Cleanup Process

If the Permittee identifies a corrective action or measure that, if implemented voluntarily, will reduce risks to human health and the environment to levels acceptable to the NMED, will reduce cost and/or will achieve cleanup of a SWMU, AOC or other contaminated location, ahead of schedule, the Permittee may implement the corrective measure as provided in this Permit Section

(7.3.9), in lieu of the process established in Permit Section 7.3.6. The accelerated cleanup process shall be used at sites to implement presumptive remedies (*see* 61 Fed. Reg. 19432, 19439-40) (May 1, 1996) at small-scale and relatively simple sites where groundwater contamination is not a component of the accelerated cleanup, where the remedy is considered to be the final remedy for the site, and where the field work will be accomplished within 180 days of the commencement of field activities. The proposed accelerated cleanup will be documented in an Accelerated Corrective Measure Work Plan, which shall include:

1. A description of the proposed remedial action, including details of the unit or activity that is subject to the requirements of this Permit;
2. An explanation of how the proposed cleanup action is consistent with the overall corrective action objectives and requirements of this Permit;
3. The methods and procedures for characterization and remediation sample collection and analyses; and
4. A schedule for implementation and reporting on the proposed cleanup action.

The Permittee shall notify the NMED of implementation of the planned accelerated corrective measure a minimum of 180 days prior to the commencement of any accelerated field activity. The notification shall include the submittal of the Plan if not already submitted to the NMED.

7.3.9.1 Accelerated Corrective Measures Work Plan

The Permittee shall obtain approval of an Accelerated Corrective Measures Work Plan prior to implementation. The Permittee shall prepare the Work Plan in general accordance with the requirements of Permit Section 1.10 (Reporting Requirements). The Work Plan shall be submitted to the NMED for review in accordance with the procedures in Permit Section 1.12. The NMED will approve, approve with modifications, or disapprove the Accelerated Corrective Measures Work Plan in writing. If the NMED disapproves the Accelerated Corrective Measures Work Plan, the NMED will notify the Permittee in writing of the Plan's deficiencies and specify a due date for submission of a revised Accelerated Corrective Measures Work Plan. The Permittee shall include an implementation schedule in the revised Accelerated Corrective Measures Work Plan.

7.3.9.2 Accelerated Corrective Measures Implementation

The Permittee shall implement the accelerated corrective measures in accordance with the approved Accelerated Corrective Measures Work Plan. Within 90 days of completion of the accelerated corrective measures, the Permittee shall submit to the NMED for approval a Remedy Completion Report in a format approved by the NMED in general accordance with this Permit Section 7.3.8.1 (Reporting Requirements). If upon review, the NMED identifies any deficiencies in the Remedy Completion Report, the NMED will notify the Permittee in writing.

7.3.10 Recordkeeping

For each unit undergoing corrective action under this Permit, the Permittee shall retain, until completion of the post-closure care, all records of monitoring information and other pertinent data and information used to prepare the applicable documents required by this Section (7).

7.4 CLEANUP LEVELS

The NMED's cleanup levels for protection of human health are based on excess lifetime cancer risk levels and hazard index levels that are consistent with the EPA's National Oil and Hazardous Substance Pollution Contingency Plan, 40 CFR § 300.430(e)(2)(i)(A)(2). The EPA recommends a range of 10^{-4} to 10^{-6} lifetime excess cancer risk as acceptable. In general, the NMED has selected a target risk level of 10^{-5} for establishing cleanup levels for carcinogenic substances. The NMED has generally selected a target hazard quotient (HQ) of one for individual non-carcinogenic regulated compounds. For contamination involving two or more non-carcinogenic regulated substances, the NMED has generally selected a target hazard index (HI) of one.

Unless otherwise specifically provided in this Permit, the Permittee shall follow the cleanup and screening levels described in this Permit in implementing the corrective action requirements of this Permit. The Permittee shall comply with the adopted and established cleanup and reporting requirements described in this Permit. In addition, cleanup levels for the protection of the environment shall address ecological risk consistent with the NMED's guidance for assessing ecological risk as specified in Permit Section 7.5. In accordance with 40 CFR § 270.32(b)(2) this Permit part contains terms and conditions to protect human health and the environment as determined by the NMED.

7.4.1 Groundwater Cleanup Levels

The cleanup levels for all contaminants in groundwater shall be the New Mexico Water Quality Control Commission (WQCC) groundwater quality standards, 20.6.2.3103 NMAC, the cleanup levels calculated for toxic pollutants listed in 20.6.2.7.T(2) NMAC, and the drinking water maximum contaminant levels (MCLs) adopted by EPA under the Federal Safe Drinking Water Act (42 U.S.C. 300f to 300j-26) or the New Mexico Environmental Improvement Board (EIB), 20.7.10 NMAC. If both a WQCC groundwater quality standard and an MCL have been established for an individual substance, then the lower of the levels shall be the cleanup level for that substance.

The most recent version of the 2022 NMED's Risk Assessment Guidance for Site Investigation and Remediation Soil Screen Guidance (SSG), Volume I (, Table A-1 (SSG), as it may be updated) shall be used to establish the cleanup level if neither a WQCC standard nor an MCL has been established for a specific substance. In the absence of an NMED tap water screening level or other cleanup level listed in the SSG, the EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (RSLs, as updated) for tap water shall be used. If no WQCC groundwater standard, MCL, NMED tap water or other screening level or EPA RSL has been established for a contaminant for which toxicological information is published, the Permittee shall use a target excess cancer risk level of 10^{-5} for carcinogenic substances and a HI of 1.0 for non-carcinogenic substances as the basis for proposing a groundwater cleanup level for the contaminant. If the background concentration of an inorganic constituent exceeds the standard, then the cleanup level is the background concentration for that specific substance. Any cleanup level based on a risk assessment must be submitted to the NMED for review and approval.

7.4.2 Soil and Sediment

The cleanup levels for soil and sediments shall be the cleanup levels for soil set forth in this Permit Part. If the Permittee is unable to achieve the Soil Cleanup Levels established under Permit Section 7.4.2.1, the Permittee may request a variance in accordance with Permit Section 7.6. Any cleanup level established based on a risk assessment must be submitted to the NMED for its review and approval.

7.4.2.1 Soil Cleanup Levels

The NMED has specified soil-screening levels that are based on a target total excess cancer risk of 10^{-5} for carcinogenic substances and, for non-carcinogenic substances, a target HI of 1.0 for the residential land use, industrial land use, and construction worker scenarios. If the potential for migration to groundwater is applicable for a site, the NMED may determine that a dilution attenuation factor (DAF), as calculated using the NMED-approved methods described in the SSG (as updated) for contaminated soils, is appropriate to achieve clean closure. This approach may apply at sites where the migration of contaminants through the soil column to groundwater has occurred or when the NMED determines that the potential exists for migration of contaminants through the soil column to groundwater. Soil cleanup levels shall be the target soil screening levels listed in the SSG. If a NMED soil screening level has not been established for a substance for which toxicological information is published, the soil cleanup level shall be established using the most recent version of the EPA RSL for residential and industrial soil for compounds designated as "n" (non-carcinogen effects) or ten times the EPA RSL for compounds designated "c" (carcinogen effects). The cumulative risk shall not exceed a total excess cancer risk of 10^{-5} for carcinogenic substances and, for non-carcinogenic substances, a target HI of 1.0 at sites where multiple contaminants are present.

If the current and reasonably foreseeable future land use is one for which the NMED has not established soil screening levels, the Permittee may propose cleanup levels to the NMED based on a risk assessment and a target excess cancer risk level of 10^{-5} for carcinogenic substances or an HI of 1.0 for NMED review and approval.

Petroleum hydrocarbons or per- and polyfluorinated alkyl substances (PFAS) may be detected in environmental media as the result of contaminant releases where individual hazardous constituents are not present at significant concentrations. In these cases, the Permittee shall use the most recent version of the SSG for cleanup of petroleum hydrocarbons or per- and polyfluorinated alkyl substances in soil.

7.4.3 Surface Water Cleanup Levels

The Permittee shall comply with the surface water quality standards outlined in the Clean Water Act (33 U.S.C. §§ 1251 to 1387), the New Mexico WQCC Regulations (20.6.2 NMAC), and the New Mexico Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC).

7.4.4 Vapor Intrusion Cleanup Levels

The NMED has specified vapor intrusion screening levels for volatile organic compounds that are based on a target total excess cancer risk of 10^{-5} and, for noncarcinogenic contaminants, a target HI of one (1.0) for residential and industrial land use scenarios. The target residential and industrial vapor intrusion screening levels for selected substances are listed in NMED's SSG (as updated). Vapor intrusion shall be evaluated for sites that meet the criteria specified in the SSG. If a contaminant is not listed in NMED's SSG, the Permittee shall calculate the vapor intrusion screening level following the methodology specified in the SSG.

7.5 ECOLOGICAL RISK EVALUATION

The Permittee shall derive cleanup levels for each hazardous waste and for hazardous constituents for each ecological zone at the Facility using the methods specified in the most recent version of the NMED's SSG, Volume II (as it may be updated). If the ecological risk evaluation indicates that a lower cleanup level for a hazardous waste or hazardous constituent in groundwater, soil, or surface water is necessary to protect environmental receptors, the NMED may establish cleanup levels based on ecological risk for hazardous waste or hazardous constituents in a selected environmental media that are lower than levels that are solely protective of human health.

7.6 VARIANCE FROM CLEANUP LEVELS

If attainment of the established cleanup level is demonstrated to be technically infeasible, the Permittee may perform a risk-based evaluation to establish alternative cleanup levels for specific media at individual corrective action units. The risk-based evaluation should be conducted in accordance with the most recent version of NMED's SSG. For groundwater, if the Permittee proposes to demonstrate the technical infeasibility of achievement of a specific groundwater cleanup level that is a WQCC standard, the applicable requirements of the WQCC Regulations, 20.6.2.4103.E NMAC, shall be followed.

For all other instances in which the Permittee seeks a variance from a cleanup level, the Permittee shall submit a demonstration to the NMED that achievement of the cleanup level is impracticable. In making such demonstration, the Permittee may consider such things as technical or physical impracticability of the project, the effectiveness of proposed solutions, the cost of the project, hazards to workers or to the public, and any other basis that may support a finding of impracticability at a particular SWMU or AOC. The Permittee may also refer to all applicable guidance concerning impracticability. In addition to demonstrating the basis for the impracticability request, the Permittee's written submission shall propose the action to be taken by the Permittee, if the NMED approves the impracticability demonstration. Such action shall include, but is not limited to, completion of a site-specific risk assessment and identification of alternate cleanup levels.

The NMED will review the Permittee's written submission concerning impracticability and determine whether achievement of the cleanup level is impracticable. The NMED may consider such things as technical or physical feasibility of the project, the effectiveness of proposed solutions, the cost of the project, hazards to workers or to the public, and any other basis that may

support or refute a finding of impracticability at a particular SWMU or AOC. If the NMED approves or disapproves the Permittee's impracticability demonstration, it will notify the Permittee in writing, and such notice will describe the specific actions to be taken by the Permittee.

7.7 APPROVAL OF SUBMITTALS AND OTHER DOCUMENTS

All documents requiring NMED approval, including, but not limited to, monitoring plans, work plans, Investigation Work Plans, Interim Measures Work Plans, Accelerated Corrective Measures Work Plans, Corrective Measures Implementation Plan, Corrective Measures Evaluation Reports, and all associated schedules that the Permittee prepares under the terms of this Permit must be approved by the NMED prior to their implementation. Upon receiving a work plan or other document for approval, the NMED will review the document and either approve the document, approve it with modifications, disapprove, deny, or reject the document in accordance with 20.4.2.201.B(4). The NMED may require resubmittal of the document and specify a due date for such submittal. Each work plan shall meet or address the requirements of this Permit in one or more of the following ways:

1. the work plan shall provide for performance of the work in full compliance with the requirements of this Permit;

2. the work plan shall state that work meeting the requirements of this Permit has been completed; the background section of the work plan shall summarize the data or other information used to satisfy the investigation requirements of this Permit; the summaries shall cite supporting documents with corresponding page numbers; and

3. the work plan shall propose to the NMED alternate requirements that differ from those in this Permit; any such proposal shall be in writing, shall specifically identify each proposed alternate requirement and how it differs from the requirement in the Permit, and shall be accompanied by a detailed written justification; alternate requirements may be satisfied by previous NMED-approved work that is documented in the work plan as described in Paragraph 2 above; if the NMED approves in writing a work plan with alternate requirements, the alternate requirements of the work plan, rather than the requirements of the Permit, shall be applicable and enforceable.

Upon NMED approval, all plans, reports, and associated schedules are incorporated herein by reference, including any approved extensions and required modifications, and become an enforceable part of this Permit. Work plans and reports subject to this Permit Part (7) shall not be considered modifications of this Permit. Any noncompliance with approved plans and schedules shall be noncompliance with this Permit.

Failure to submit any of the required items in plans or reports or in response to related NMED direction, the submission of inadequate or insufficient information, or failure to comply with the approved work plans or schedules are subject to enforcement action.

7.8 METHODS AND PROCEDURES

7.8.1 Highlights

The Permittee must submit to the NMED, for review and written approval, site-specific work plans for sites where a release(s) of contaminants has occurred prior to the commencement of field activities where environmental investigation, corrective action, sampling, or monitoring is required. The site-specific work plans shall include a detailed description of all methods to be used to conduct all activities at each site or unit and shall be prepared in accordance with the format described in this Permit Section 8. The Permittee shall provide notification to the NMED of corrective action field activities a minimum of 20 days prior to commencing the activity.

The methods used to conduct investigation, remediation, and monitoring activities shall be sufficient to fulfill the requirements of this Permit and provide accurate data for the evaluation of site conditions, to determine the nature and extent of contamination and contaminant migration, and for remedy selection and implementation, where necessary. The methods presented in this Permit Part 5 (Closure Requirements) are minimum requirements for environmental investigation and sampling and are not intended to include all methods that may be necessary to fulfill the requirements of this Permit. The methods for conducting investigations, corrective actions, and monitoring at the Facility must be determined based on the conditions and contaminants that exist at each site.

The Permittee may propose alternate methods for data collection from those included in this Permit Section (7.8) for NMED approval. To use such alternative analytical methods, the Permittee must submit to NMED a petition for approval in accordance with 40 CFR §260.21. Such alternate methods must be approved by the NMED prior to implementation and, if approved, supersede the corresponding requirements described in this Permit Part (7).

7.8.1.1 Standard Operating Procedures

The Permittee shall provide brief descriptions of investigation, sampling, or analytical methods and procedures in documents submitted to the NMED that include sufficient detail to evaluate the adequacy of the method and the quality of the acquired data. The Permittee may not rely on references to Standard Operating Procedures (SOPs).

7.8.2 INVESTIGATION, SAMPLING, AND ANALYSES METHODS

This Section (7.8.2) of the Permit provides minimum requirements for field investigations, sample collection, handling, and screening procedures, field and laboratory sample analysis, and quality assurance/quality control (QA/QC) procedures for samples of the medium being investigated or tested at the Facility. The requirements addressed in this Section (7.8.2) include: 1) minimum requirements for drilling and sample collection in exploratory borings and other excavations; 2) minimum requirements for sampling of the target media; 3) minimum requirements for monitoring of groundwater and vadose zone conditions; and 4) minimum required screening, analytical, and QA procedures that shall be implemented during field sampling activities and laboratory analyses.

The quality assurance procedures referenced in the previous paragraph include: 1) the Facility investigation data quality objectives; 2) the requirements for QA/QC to be followed during field investigations and by the analytical laboratories; and 3) the methods for the review and evaluation of the field and laboratory QA/QC results and documentation.

7.8.2.1 Field Exploration Activities

The NMED may require subsurface explorations to fulfill the requirements of this Permit. Any boring locations, if required, will be determined or approved by the NMED. The depths and locations of all exploratory and monitoring well borings shall be specified in the unit-specific work plans submitted to the NMED for approval prior to the start of the respective field activities.

7.8.2.2 Subsurface Features/Utility Geophysical Surveys

The Permittee shall conduct surveys, where appropriate, to locate underground utilities, pipelines, structures, drums, debris, and other buried features in the shallow subsurface prior to the start of field exploration activities. The methods used to conduct the surveys, such as magnetometer, ground penetrating radar, resistivity, or other methods, shall be selected based on the unique characteristics of the site and the possible or suspected underground structures. The results of the surveys shall be included in the investigation reports submitted to the NMED. The Permittee is responsible for locating and clearing all aboveground and underground utilities or other hazards at any site prior to conducting field work.

7.8.2.3 Drilling and Soil Sampling

7.8.2.3.1 Drilling

Exploratory and monitoring well borings shall be drilled using the most effective, proven, and practicable method for recovery of relatively undisturbed samples and potential contaminants. The drilling methods selected for advancement of each boring must be approved by the NMED prior to the start of field activities. Based on the drilling conditions, the borings shall be advanced using one of the following methods:

1. hollow-stem auger;

2. air rotary/air down-the-hole hammer/ODEX;

3. direct push technology (DPT);

4. resonant sonic; or

5. other methods approved by the NMED.

All drilling equipment shall be in good working condition and capable of performing the assigned task. Drilling rigs and equipment shall be operated by properly trained, experienced, and responsible crews. The Permittee is responsible for ensuring that contaminants from another site

or facility are not introduced into the site under investigation due to malfunctioning equipment or poor site maintenance. The drilling equipment shall be properly decontaminated before drilling each boring.

Exploratory borings shall be advanced to unit- and location-specific depths specified or approved by the NMED. The Permittee shall propose drilling depths in the site-specific work plans submitted for each subject area. Unless otherwise specified in this Permit or an approved work plan, the borings shall be advanced to the following minimum depths:

1. five feet below the deepest detected contamination;

2. five feet below the base of structures such as piping, building sumps, footings or other building structures;

3. at least ten feet below the water table; and

4. depths specified by the NMED based on specific data needs.

The Permittee shall notify the NMED as early as practicable if conditions arise or are encountered that do not allow the advancement of borings to the depths specified by the NMED or sampling at locations specified in approved work plans so that alternative actions may be discussed. Precautions shall be taken to prevent the migration of contaminants between geologic, hydrologic, or other identifiable zones during drilling and well installation activities. Contaminant zones shall be isolated from other zones encountered in the borings.

The drilling and sampling shall be accomplished under the direction of a qualified geologist or engineer who shall maintain a detailed log of the materials and conditions encountered in each boring. Both sample information and visual observations of the cuttings and core samples shall be recorded on the boring log. Known site features and/or site survey grid markers shall be used as references to locate each boring prior to surveying the location as described in Permit Section 7.8.2.7. The boring locations shall be measured to the nearest foot, and locations shall be recorded on a scaled site map upon completion of each boring.

7.8.2.3.2 Exploratory Excavations

Trenching and other exploratory excavation methods shall follow the applicable general procedures outlined in this Permit. The specific methods proposed by the Permittee for subsurface explorations and sampling shall be included in the unit-specific investigation work plan submitted to the NMED. The NMED will include any changes or additional requirements for conducting exploratory excavation and sampling activities at the subject unit in its response to the Permittee after review of the investigation work plan.

7.8.2.3.3 Soil Sampling

Relatively undisturbed discrete soil samples shall be obtained during the advancement of each boring for the purpose of logging, field screening, and analytical testing. Generally, the samples shall be collected at the following intervals and depths:

1. continuously, at 2.5- or 5-foot intervals, at 5- or 10-foot intervals, or as approved by the NMED;

2. at the depth immediately below the base of the unit structures and at the fill-native soil interface;

3. at the maximum depth of each boring;

4. at the depth of encounters, during drilling, with perched saturated zones;

5. at the water table;

6. from soil types relatively more likely to sorb or retain contaminants than the surrounding lithologies;

7. at intervals suspected of being source or contaminated zones; and

8. at other intervals approved or required by the NMED.

The sampling interval for the borings may be modified, or samples may be obtained from a specific depth, based on field observations. A decontaminated split-barrel sampler, a coring device, or other method approved by the NMED shall be used to obtain samples during the drilling of each boring.

A split barrel sampler or coring device which produces a continuous relatively undisturbed sample is the preferred sampling method for borehole soil, rock, and sediment sampling. The recovered sample shall be directly placed in pre-cleaned, laboratory-prepared sample containers for laboratory chemical analysis. The use of an Encore® Sampler or other similar device is required during collection of soil samples for VOC analysis. The remaining portions of the sample shall be used for logging and field screening, as described in Permit Sections 7.8.2.4 and 7.8.2.5, respectively.

Discrete samples shall be collected for field screening and laboratory analyses. Homogenization of discrete samples collected for analyses other than for VOC and SVOC analyses shall be performed by the analytical laboratory, if homogenization is necessary. The Permittee may submit site-specific alternative methods for homogenization of samples in the field to the NMED for approval.

Samples to be submitted for laboratory analyses shall be selected based on 1) the results of the field screening or mobile laboratory analyses; 2) the position of the sample relative to groundwater,

suspected releases, or site structures; 3) the sample location relative to former or altered site features or structures; 4) the stratigraphy encountered in the boring; and 5) the specific objectives and requirements of this Permit. The proposed number of samples and analytical parameters shall be included as part of the unit-specific work plan submitted to the NMED for approval prior to the start of field investigation activities at each unit. The work plans shall allow for flexibility in modifying the project-specific tasks based on information obtained during the course of the investigation. Modifications to site-specific work plan tasks must be approved by the NMED prior to implementation, if data quality or investigation objectives will be affected.

7.8.2.3.4 Surface Sampling

Surface samples shall be collected using decontaminated, hand-held stainless-steel coring device, Shelby tube, thin-wall sampler or other method approved by the NMED, where surface or sediment sampling is conducted without the use of the drilling methods described in Permit Section 7.8.2.3.1 above. The samples shall be directly transferred to pre-cleaned laboratory prepared containers for submittal to the laboratory. Samples obtained for volatiles analysis shall be collected using Encore® or equivalent samplers, Shelby tubes, thin-wall samplers, or other method approved by the NMED.

The physical characteristics of the material (such as mineralogy, ASTM [American Society of Testing and Materials] soil classification, AGI [American Geological Institute]) rock classification, moisture content, texture, color, presence of stains or odors, and/or field screening results), depth where each sample was obtained, method of sample collection, and other observations shall be recorded in the field log.

7.8.2.3.5 Drill Cuttings (Investigation Derived Waste)

Drill cuttings, excess sample material and decontamination fluids, and all other investigation derived waste (IDW) shall be contained and characterized using methods based on the boring location, boring depth, drilling method, and type of contaminants suspected or encountered. An IDW management plan shall be included with the unit-specific investigation work plan submitted to the NMED for approval prior to the start of field investigations. The method of containment for drill cuttings must be approved by the NMED prior to the start of drilling activities. Borings not completed as groundwater or vadose zone monitoring wells shall be properly abandoned in accordance with the methods listed in this Permit Part 7, Section 7.9.2.7. Borings completed as groundwater monitoring wells shall be constructed in accordance with the requirements described in Permit Section 7.9.2.6.

7.8.2.4 Logging of Soil, Rock and Sediment Samples

Samples obtained from all exploratory borings and excavations shall be visually inspected and the soil or rock type classified in general accordance with American Society for Testing and Materials (ASTM International) D2487 (Unified Soil Classification System) and D2488 and/or American Geosciences Institute (AGI) Methods for soil and rock classification. Detailed logs of each boring shall be completed in the field by a qualified geologist or engineer. Additional information, such as the presence of water-bearing zones and any unusual or noticeable conditions encountered

during drilling shall be recorded on the logs. Field boring logs, test pit logs, and field well construction diagrams shall be converted to the format acceptable for use in final reports submitted to the NMED.

7.8.2.5 Soil Sample Field Screening

Samples obtained from the borings shall be screened in the field for evidence of the presence of contaminants. Field screening results shall be recorded on the exploratory boring and excavation logs. Field screening results are used as a general guideline to determine the nature and extent of possible contamination. In addition, screening results shall be used to aid in the selection of soil samples for laboratory analysis. Field screening alone cannot be used to demonstrate compliance and will not detect the possible presence or full nature and extent of all contaminants that may be encountered at the site.

The primary screening methods to be used shall include one or more of the following: (1) visual examination; (2) headspace vapor screening for volatile organic compounds; and (3) metals screening using X-ray fluorescence. Additional screening for site- or release-specific characteristics such as pH or for specific compounds using field test kits shall be conducted where appropriate.

Visual screening includes examination of soil samples for evidence of staining caused by petroleum-related compounds or other substances that may cause staining of natural soils such as elemental sulfur or cyanide compounds.

Headspace vapor screening targets volatile organic compounds and involves placing a soil sample in a plastic sample bag or a foil sealed container allowing space for ambient air. The container shall be sealed and then shaken gently to expose the soil to the air trapped in the container. The sealed container shall be allowed to rest for a minimum of five minutes while vapors equilibrate. Vapors present within the sample bag's headspace shall then be measured by inserting the probe of the instrument in a small opening in the bag or through the foil. The maximum value and the ambient air temperature shall be recorded on the field boring or test pit log for each sample. The monitoring instruments shall be calibrated each day to the manufacturer’s standard for instrument operation. A photo-ionization detector (PID) equipped with a 9.5 or higher electron volt (eV) lamp, flame ionization detector, combustible gas indicator, or other instrument approved by the NMED shall be used for VOC field screening. The lamp strength of the PID used for field screening shall be recorded in the field logs. The limitations, precision, and calibration of the instrument to be used for VOC field screening shall be included in the site-specific investigation work plan prepared for each unit.

X-ray fluorescence (XRF) may be used to screen soil samples for the presence of metals. XRF screening requires proper sample preparation and proper instrument calibration. Sample preparation and instrument calibration procedures shall be documented in the field logs. The methods and procedures for sample preparation and calibration shall be approved by the NMED prior to the start of field activities. Field XRF screening results for selected metals may be used in lieu of laboratory analyses upon approval by the NMED; however, the results shall, at a

minimum, be confirmed by laboratory analyses at a frequency of 20 percent (1 sample per every five analyzed by field XRF analysis).

Field screening results are site- and boring-specific and the results vary with instrument type, the media screened, weather conditions, moisture content, soil type, and type of contaminant; therefore, all conditions capable of influencing the results of field screening shall be recorded on the field logs. The conditions potentially influencing field screening results shall be submitted to the NMED as part of the site-specific investigation, remediation, and/or monitoring reports.

At a minimum, samples with the greatest apparent degree of contamination, based on field observations and field screening, shall be submitted for laboratory analysis. The location of the sample relative to groundwater, stratigraphic units, and/or contacts and the proximity to significant site or subsurface features or structures also shall be used as a guideline for sample selection. In addition, samples with no or low apparent contamination, based on field screening, shall be submitted for laboratory analysis, if the intention is to confirm that the base (or other depth interval) of a boring or other sample location is not contaminated.

7.8.2.6 Soil Sample Types

The Permittee shall collect soil samples at the frequencies stated in the approved site-specific investigation work plans for each unit. The samples collected shall be representative of the media and site conditions being investigated or monitored. QA/QC samples shall be collected to monitor the validity of the soil sample collection procedures and shall follow the following sampling protocols:

1. field duplicates shall be collected at a rate of 10 percent with a minimum of one per day;

2. equipment blanks shall be collected from all sampling apparatus at a frequency of 10 percent for chemical analysis;

3. equipment blanks shall be collected at a frequency of one per day if disposable sampling equipment is used;

4. field blanks shall be collected at a frequency of one per day for each media (with the exception of air samples) at each unit; and

5. reagent blanks shall be used, if chemical analytical procedures requiring reagents are employed in the field as part of the investigation or monitoring program.

The blanks and duplicates shall be submitted for laboratory analyses associated with the project-specific contaminants, data quality concerns, and media being sampled. The resulting data shall provide information on the variability associated with sample collection, sample handling, and laboratory analysis operations.

7.8.2.7 Sample Point and Structure Location Surveying

The horizontal coordinates and elevation of each surface sampling location, the surface coordinates and elevation of each boring or test pit, the top of each monitoring well casing, the ground surface at each monitoring well location, and the locations of all other pertinent structures shall be determined by a registered New Mexico professional land surveyor in accordance with the State Plane Coordinate System (NMSA 1978, 47-1-49 through 56 (Repl. Pamp. 1993)).

Alternate survey methods may be proposed by the Permittee in site specific work plans. Any proposed survey method must be approved by the NMED prior to implementation. The surveys shall be conducted in accordance with Sections 500.1 through 500.12 of the Regulations and Rules of the Board of Registration for Professional Engineers and Surveyors Minimum Standards for Surveying in New Mexico. Horizontal positions shall be measured to the nearest 0.1-ft, and vertical elevations shall be measured to the nearest 0.01-ft. The Permittee shall prepare site map(s), certified by a registered New Mexico professional land surveyor, presenting all surveyed locations and elevations including relevant site features and structures for submittal with all associated reports to the NMED.

7.8.2.8 Subsurface Vapor-phase Monitoring and Sampling

Samples of subsurface vapors shall be collected from vapor monitoring points from discrete zones, selected based on investigation and field screening results, and as total well subsurface vapor samples as required by the NMED.

The Permittee shall, at a minimum, collect field measurements of the following:
1. organic vapors (using a photo-ionization detector with a 10.6 or higher eV (electron volt) lamp as appropriate for the contaminants of concern, a flame ionization detector, a combustible gas indicator, or other method approved by the NMED) and, if applicable;
2. percent oxygen;
3. percent carbon dioxide;
4. static subsurface pressure; and
5. other parameters (e.g., carbon monoxide, hydrogen sulfide) as required by the NMED.

The Permittee shall also collect vapor samples for laboratory analysis of the following as required:
1. percent moisture;
2. VOCs; and
3. other analytes required by the NMED.

Vapor samples analyzed by the laboratory for percent moisture and VOCs shall be collected using SUMMA canisters or other sample collection method approved by the NMED. The samples shall be analyzed for VOC concentrations by EPA Method TO-15, as updated, or equivalent VOC analytical method.

Field vapor measurements, the date and time of each measurement, and the instrument used, shall be recorded on a vapor monitoring data sheet. The instruments used for field measurements shall be calibrated daily in accordance with the manufacturer's specifications. The methods used to

obtain vapor-phase field measurements and samples must be approved by the NMED in writing prior to the start of air monitoring at each Facility site where vapor-phase monitoring is conducted.

Total well vapor sampling and vapor monitoring shall be conducted by sealing the top of the well with a cap containing a sample port. Polyethylene, Teflon or other nonreactive tubing shall be used to connect the sample port to a low-velocity pump not associated with a field instrument. The well shall be purged of a minimum of three well volumes prior to collection of samples or field measurements. If a sample is not being obtained for laboratory analysis, the well may be purged using the field instrument pump. SUMMA canisters, Tedlar bags, or field instruments shall draw sample from the pump discharge either directly or through polyethylene, Teflon, or other nonreactive tubing. All connections between the wellhead, the instruments, and sample containers must be airtight.

7. 8.2.9 Groundwater and Monitoring

7.8.2.9.1 Groundwater Levels

Groundwater level measurements shall be obtained at intervals required by the NMED. Groundwater levels also shall be obtained prior to purging in preparation for a sampling event. Measurement data and the date and time of each measurement shall be recorded on a site monitoring data sheet. The depth to groundwater levels shall be measured to the nearest 0.01 ft. The depth to groundwater shall be recorded relative to the surveyed well casing rim or other surveyed datum. The method of water level measurements shall be approved by the NMED. Groundwater levels shall be measured in all wells within 48 hours of the start of obtaining water level measurements.

7.8.2.9.2 Groundwater Sampling

Groundwater samples shall initially be obtained from newly constructed monitoring wells no later than five days after the completion of well development. All monitoring wells scheduled for sampling during a groundwater sampling event shall be sampled within 15 days of the start of the monitoring and sampling event. The Permittee shall sample all saturated zones screened to allow entry of groundwater into each monitoring well during each sampling event. All requests for variances from the groundwater sampling schedule shall be submitted to the NMED, in writing, at least 30 days prior to the start of scheduled monitoring and sampling events. Groundwater samples shall be collected from all exploratory borings not intended to be completed as monitoring wells prior to abandonment of the borings, where practicable, unless otherwise specified in a NMED-approved work plan.

Water samples shall be analyzed for one or more of the following general chemistry parameters as required by the NMED:

nitrate/nitrite	sulfate	chloride	dissolved CO2
alkalinity	carbonate/ bicarbonate	fluoride	manganese
calcium	biological activity testing	ferric/ferrous iron	ammonia
potassium	magnesium	phosphate	sodium
methane	pH	total organic carbon (TOC)	total Kjeldahl nitrogen (TKN)
dissolved oxygen (DO)	Oxidation-reduction potential (ORP)	total suspended solids (TSS)	electrical conductivity (EC)
temperature	total dissolved solids (TDS)	stable isotopes	Any additional analytes required by the NMED

7.8.2.10 Well Purging

All zones in each monitoring well shall be purged by removing groundwater prior to sampling in order to ensure that formation water is being sampled. Purge volumes shall be determined by monitoring, at a minimum, groundwater pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature during purging of volumes and at measurement intervals approved by the NMED.

The groundwater quality parameters shall be measured using instruments approved by the NMED. The volume of groundwater purged, the instruments used, and the readings obtained at each interval shall be recorded on the field-monitoring log. Water samples may be obtained from the well after the measured parameters of the purge water have stabilized to within ten percent (0.1 for pH) for three consecutive measurements. Field water quality parameters shall be compared to historical data to ensure that the measurements are indicative of formation water.

The Permittee may submit to the NMED for approval a written request for a variance from the described methods of well purging for individual wells no later than 90 days prior to scheduled sampling activities.

7.8.2.10.1 Groundwater Sample Collection

Groundwater samples shall be obtained from each well after enough water has been removed from the well casing to ensure that the sample is representative of formation water. Groundwater samples shall be obtained using methods approved by the NMED within 24 hours of the completion of well purging. Sample collection methods shall be documented in the field monitoring reports. The samples shall be transferred to the appropriate, clean, laboratory-prepared containers provided by the analytical laboratory. Sample handling and chain-of-custody

procedures are described in Permit Section 7.8.2.12. Decontamination procedures shall be established for reusable water sampling equipment as described in Permit Section 7.8.2.14.

All purged groundwater and decontamination water shall be characterized prior to disposal. The methods for disposal of purge/decontamination water must be approved by the NMED prior to disposal. Disposable materials shall be handled as described in Permit Section 7.8.2.16.

Groundwater samples intended for metals analysis shall be submitted to the laboratory as total metals samples. If required by the NMED, the Permittee shall obtain groundwater samples for dissolved metals analysis to be filtered using disposable in-line filters with a 0.10 micron, 0.45 micron, or other mesh size approved by the NMED.

7.8.2.10.2 Per- and Polyfluoroalkyl Substances (PFAS) sample collection

PFAS sampling and analytical methods are evolving, and more effective and precise field and laboratory analytical methods will likely be developed in the future. As improved methods become accepted, the NMED will require use of such methods as applicable. At a minimum, the following practices, as they may be updated, shall be followed until improved methods become available:

EPA ran time-based studies on degradation or loss of target analytes during sample storage (45 days) and assessed the effects of different sample vessel materials (e.g., plastic, glass) on analyte recovery. Based on these studies, the SW-846 methods under development will utilize PFAS-free, high-density polyethylene containers; whole sample preparation; and sample holding times of 28 days. EPA also developed guidelines for field sampling, which are critical for minimizing sample contamination and optimizing data quality for site characterization and remediation. (USEPA, September 2018, Technical Brief, Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), EPA/600/F-17/022d)

Due to the widespread use of PFAS, many materials normally used in field and laboratory operations contain PFAS. For example, polytetrafluoroethylene products (tubing, sample containers, and sampling tools) are often used in sampling; however, because these products can contain PFAS, they cannot be used in sampling for PFAS. In addition, many consumer goods, such as water-resistant jackets or fast-food wrappers, brought to a sampling site may contain PFAS that can contaminate samples. Proper field sampling and laboratory hygiene protocols are critical to ensuring that testing results reflect actual PFAS levels in the analyzed media. (USEPA, September 2018, Technical Brief, Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), EPA/600/F-17/022d).

EPA developed Analytical Methods 537 and 533 for the determination of selected per- and polyfluorinated alkyl acids in drinking water by solid phase extraction isotope dilution, and liquid chromatography/tandem mass spectroscopy (LC/MS/MS). Section 8, Sample Collection, Preservation, and Storage, of Method 537 details the field sample collection procedure as follows (USEPA, September 2009, Method 537. Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), EPA/600/R-08/092):

Samples must be collected in a 250-mL polypropylene bottle fitted with a polypropylene screw-cap. Five (5) grams/ liter of the preservation reagent Trizma must be added to each sample bottle, for water sample that contain residual chlorine, as a solid prior to shipment to the field. The sample handler must wash their hands before sampling and wear nitrile gloves while filling and sealing the sample bottles. PFAS contamination during sampling can occur from several common sources, such as food packaging and certain foods and beverages. Proper hand washing and wearing nitrile gloves will aid in minimizing this type of accidental contamination of the samples. Fill sample bottles, taking care not to flush out the sample preservation reagent. Samples do not need to be collected headspace free.

After collecting the sample, cap the bottle and agitate by hand until Trizma preservative is dissolved. Keep the sample sealed from time of collection until extraction. A laboratory-supplied field reagent blank and an empty sample bottle must accompany the sample containers. At the sampling site, the sampler must transfer the preserved reagent water into the empty shipped sample bottle, seal and label this bottle as the field reagent blank (FRB). The FRB must be shipped to the laboratory along with the samples and analyzed to ensure that PFAS were not introduced into the sample during sample collection or handling. Samples must be chilled during shipment and must not exceed 10 °C during the first 48 hours after collection. Sample temperature must be confirmed to be at or below 10 °C when the samples are received at the laboratory.

Since PFAS sampling and analysis techniques are evolving, the Permittee must use the most updated methods when proposing and implementing PFAS sampling.

7.8.2.11 Groundwater Sample Types

Groundwater samples shall be collected from each monitoring well, and remediation system samples shall be collected as required by the NMED. Field duplicates, field blanks, equipment rinsate blanks, reagent blanks, if necessary, and trip blanks shall be obtained for quality assurance during groundwater and other water sampling activities. The samples shall be handled as described in Permit Section 7.8.2.12.

Field duplicate water samples shall be obtained at a minimum frequency of ten percent. At a minimum, one duplicate sample per sampling event shall always be obtained.

Field blanks shall be obtained at a minimum frequency of one per day per site or unit. Field blanks shall be generated by filling sample containers in the field with deionized water and submitting the samples, along with the groundwater or surface water samples, to the analytical laboratory for the appropriate analyses.

Equipment rinsate blanks shall be obtained for chemical analysis at the rate of ten percent or a minimum of one rinsate blank per sampling day. Equipment rinsate blanks shall be collected at a rate of one per sampling day if disposable sampling apparatus is used. Rinsate samples shall be generated by rinsing deionized water through unused or decontaminated sampling equipment. The rinsate sample shall then be placed in the appropriate sample container and submitted with the groundwater or surface water samples to the analytical laboratory for the appropriate analyses.

Reagent blanks shall be obtained at a frequency of 20 percent or a minimum of one per day per unit if chemical analyses requiring the use of chemical reagents are conducted in the field during water sampling activities.

Trip blanks shall accompany laboratory sample bottles and shipping and storage containers intended for VOC analyses. Trip blanks shall consist of a sample of analyte-free deionized water prepared by the laboratory and placed in an appropriate sample container. The trip blank shall be prepared by the analytical laboratory prior to the sampling event and shall be kept with the shipping containers and placed with other water samples obtained from the site each day. Trip blanks shall be analyzed at a frequency of one for each shipping container of samples.

7.8.2.12 Sample Handling

At a minimum, the following procedures shall be used at all times when collecting samples during investigation, corrective action, and monitoring activities:

1. neoprene, nitrile, or other protective gloves shall be worn when collecting samples. New disposable gloves shall be used to collect each sample;

2. all samples collected from each medium for chemical analysis shall be transferred into clean sample containers supplied by the project analytical laboratory with the exception of soil, rock, and sediment samples obtained in brass sleeves or in Encore® or equivalent samplers. Upon recovery of the sample collected using split barrel samplers with brass sleeves, the brass sleeves shall be removed from the split barrel sampler and the open ends of the sleeves shall be lined with Teflon tape or foil and sealed with plastic caps. The caps shall be fastened to the sleeve with tape for storage and shipment to the analytical laboratory. The sample depth and the top of the sample shall be clearly marked. Sample container volumes and preservation methods shall be in accordance with the most recent standard EPA SW 846 and established industry practices for use by accredited analytical laboratories. Sufficient sample volume shall be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis; and

3. sample labels and documentation shall be completed for each sample following procedures approved by the NMED. Immediately after the samples are collected, they shall be stored in a cooler with ice or other appropriate storage method until they are delivered to the analytical laboratory. Standard chain-of-custody procedures, as described in Permit Section 7.8.2.18, shall be followed for all samples collected. All samples shall be submitted to the laboratory soon enough to allow the laboratory to conduct the analyses within the method holding times. At a minimum, all samples shall be submitted to the laboratory within 48 hours after their collection.

Shipment procedures shall include the following:

1. Individual sample containers shall be packed to prevent breakage and transported in a sealed cooler with ice or other suitable coolant or other EPA or industry-wide accepted method. The drain hole at the bottom of the cooler shall be sealed and secured in case of sample container leakage. Temperature blanks shall be included with each shipping container.

2. Each cooler or other container shall be delivered directly to the analytical laboratory.

3. Glass bottles shall be separated in the shipping container by cushioning material to prevent breakage.

4. Plastic containers shall be protected from possible puncture during shipping using cushioning material.

5. The chain-of-custody form and sample request form shall be shipped inside the sealed storage container to be delivered to the laboratory.

6. Chain-of-custody seals shall be used to seal the sample-shipping container in conformance with EPA protocol; and

7. Signed and dated chain-of-custody seals shall be applied to each cooler prior to transport of samples from the site.

All sample collection procedures shall follow the EPA and industry-accepted methods appropriate for the intended analyses.

7.8.2.13 In-situ Testing

In-situ permeability tests, remediation system pilot tests, stream flow tests, and other tests conducted to evaluate site and subsurface conditions shall be designed to accommodate specific site conditions and to achieve the test objectives. The testing methods must be approved by the NMED prior to implementation. The tests shall be conducted in order to appropriately represent site conditions and in accordance with EPA, USGS, ASTM, or other methods generally accepted by the industry. Detailed logs of all relevant site conditions and measurements shall be maintained during the testing events. If required by the NMED, a summary of the general test results, including unexpected or unusual test results and equipment failures or testing limitations, shall be reported to the NMED within 30 days of completion of the test. The summary shall be presented in a format acceptable to the NMED and in general accordance with the report formats outlined in Permit Section 10. A formal report summarizing the results of each test shall be submitted to the NMED within 120 days of completion of each test or other time frame approved by the NMED.

7.8.2.14 Decontamination Procedures

The objective of the decontamination procedures is to minimize the potential for cross-contamination. A designated decontamination area shall be established for decontamination of drilling equipment, reusable sampling equipment, and well materials. The drilling rig shall be decontaminated prior to entering the site or unit. Drilling equipment or other exploration equipment that may come in contact with the borehole shall be decontaminated by steam cleaning, hot-water pressure washing, or other methods approved by the NMED prior to drilling each new boring.

Sampling or measurement equipment, including but not limited to, stainless steel sampling tools, split-barrel or core samplers, well developing or purging equipment, groundwater quality measurement instruments, and water level measurement instruments, shall be decontaminated in accordance with the following procedures or other methods approved by the NMED before each sampling attempt or measurement:

1. brush equipment with a wire or other suitable brush, if necessary or practicable, to remove large particulate matter;
2. rinse with potable tap water;
3. wash with nonphosphate detergent or other detergent approved by the NMED (e.g., Fantastick™ , Liqui-Nox®) followed by a tap water rinse;
4. rinse with 0.1 M nitric acid (to remove trace metals, if necessary) followed by a tap water
5. rinse with methanol (to remove organic compounds, if necessary) followed by a tap water rinse;
6. rinse with potable tap water; and
7. double rinse with deionized water.

All decontamination solutions shall be collected and stored temporarily as described in Permit Section 7.8.2.14. Decontamination procedures and the cleaning agents used shall be documented in the daily field log.

7.8.2.15 Field Equipment Calibration Procedures

Field equipment requiring calibration shall be calibrated to known standards, in accordance with the manufacturers' recommended schedules and procedures. At a minimum, calibration checks shall be conducted daily, or at other intervals approved by the NMED, and the instruments shall be recalibrated, if necessary. Calibration measurements shall be recorded in the daily field logs. If field equipment becomes inoperable, its use shall be discontinued until the necessary repairs are made. In the interim, a properly calibrated replacement instrument shall be used.

7.8.2.16 Collection and Management of Investigation Derived Waste

Investigation-derived waste (IDW) includes general refuse, drill cuttings, excess sample material, water (decontamination, development, and purge), and disposable equipment generated during the course of investigation, corrective action, or monitoring activities. All IDW shall be properly characterized and disposed of in accordance with all federal, State, and local rules and regulations for storage, labeling, handling, transport, and disposal of waste. The Permittee shall submit an IDW management and disposal plan as part of all work plans submitted to the NMED for approval prior to disposal of any IDW produced during investigation, corrective action, or monitoring activities.

All water generated during sampling and decontamination activities shall either be temporarily stored at satellite accumulation areas or transfer stations in labeled 55-gallon drums or other containers approved by the NMED until proper characterization and disposal can be arranged. The IDW may be characterized for disposal based on the known or suspected contaminants

potentially present in the waste. The methods for waste characterization and disposal of IDW must be approved by the NMED prior to disposal.

7.8.2.17 Documentation of Field Activities

Daily field activities, including observations and field procedures, shall be recorded on appropriate forms. The original field forms shall be maintained at the Facility. Copies of the completed forms shall be maintained in a bound and sequentially numbered field file for reference during field activities. Indelible ink shall be used to record all field activities. Photographic documentation of field activities shall be performed, as appropriate. The daily record of field activities shall include the following:

1. site or unit designation;
2. date;
3. time of arrival and departure;
4. field investigation team members including subcontractors and visitors;
5. weather conditions;
6. daily activities and times conducted;
7. observations;
8. record of samples collected with sample designations and locations specified;
9. photographic log;
10. field monitoring data, including health and safety monitoring;
11. equipment used and calibration records, if applicable;
12. list of additional data sheets and maps completed;
13. an inventory of the waste generated and the method of storage or disposal; and
14. signature of personnel completing the field record.

7.8.2.18 Sample Custody

All samples collected for analysis shall be recorded in the field report or data sheets. Chain-of-custody forms shall be completed at the end of each sampling day, prior to the transfer of samples off site, and shall accompany the samples during shipment to the laboratory. A signed and dated custody seal shall be affixed to the lid of the shipping container. Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form shall be signed as received by the laboratory, and the conditions of the samples shall be recorded on the form. The original chain-of-custody form shall remain with the laboratory and copies shall be returned to the relinquishing party. The Permittee shall maintain copies of all chain-of-custody forms generated as part of sampling activities. Copies of the chain-of-custody records shall be included with all draft and final laboratory reports submitted to the NMED.

7.8.3 CHEMICAL ANALYSES

The Permittee shall submit all samples for laboratory analysis to accredited contract laboratories. The laboratories shall use the most recent standard EPA and industry-accepted analytical methods for target analytes as the testing methods for each medium sampled. Chemical analyses shall be performed in accordance with the most recent EPA standard analytical methodologies and extraction methods.

The Permittee shall submit a list of analytes and analytical methods to the NMED for approval as part of each site-specific investigation, corrective measures, or monitoring work plan. The detection and reporting limits for each method shall be less than applicable background, screening, and regulatory cleanup levels. The preferred method reporting (practical quantitation) limits are a maximum of 20 percent of the cleanup, screening, or background levels. Analyses conducted with detection limits and reporting limits that are greater than applicable background, screening, and regulatory cleanup levels shall be considered data quality exceptions and the reasons for the elevated detection limits shall be reported to the NMED. Sample analyses with detection limits greater than applicable background, screening, and regulatory cleanup levels shall not be used for risk assessment or compliance purposes.

7.8.3.1 Laboratory QA/QC Requirements

The following requirements for laboratory QA/QC procedures shall be considered the minimum QA/QC standards for the laboratories employed by the Permittee that provide analytical services for environmental investigation, corrective action, and monitoring activities conducted at the Facility. The Permittee shall provide the names of the contract analytical laboratories and copies of the laboratory quality assurance manuals to the NMED, if requested, within 180 days of awarding a contract for analytical services to any contract laboratory.

7.8.3.2 Quality Assurance Procedures

Contract analytical laboratories shall maintain internal quality assurance programs in accordance with EPA and industry accepted practices and procedures. At a minimum, the laboratories shall use a combination of standards, blanks, surrogates, duplicates, matrix spike/matrix spike duplicates (MS/MSD), blank spike/blank spike duplicates (BS/BSD), and laboratory control samples to demonstrate analytical QA/QC. The laboratories shall establish control limits for individual chemicals or groups of chemicals based on the long-term performance of the test methods. In addition, the laboratories shall establish internal QA/QC that meets EPA's laboratory certification requirements. The specific procedures to be completed are identified in the following sections.

7.8.3.3 Equipment Calibration Procedures and Frequency

The laboratory's equipment calibration procedures, calibration frequency, and calibration standards shall be in accordance with the EPA test method requirements and documented in the laboratory’s quality assurance and SOP manuals. All instruments and equipment used by the laboratory shall be operated, calibrated, and maintained according to manufacturers' guidelines and recommendations. Operation, calibration, and maintenance shall be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance shall be kept on file at the laboratory.

7.8.3.4 Laboratory QA/QC Samples

Analytical procedures shall be evaluated by analyzing reagent or method blanks, surrogates, MS/MSDs, BS/BSDs, and laboratory duplicates, as appropriate for each method. The laboratory QA/QC samples and frequency of analysis to be completed shall be documented in the cited EPA,

ASTM or other test methods. At a minimum, the laboratory shall analyze laboratory blanks, MS/MSDs, BS/BSDs, and laboratory duplicates at a frequency of one in twenty for all batch runs requiring EPA test methods and at a frequency of one in ten for non-EPA test methods. Laboratory batch QA/QC samples shall be specific to the project.

7.8.3.5 Laboratory Deliverables

The analytical data package submitted to the NMED shall be prepared in accordance with EPA-established Level II analytical support protocol. The laboratory analytical data package shall be prepared in accordance with EPA-established Level III or IV analytical support protocol, which must be kept on file by the contract laboratory and submitted to the Permittee upon request. Any or all of the following items also shall be made available to the NMED upon request:

1. transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any data quality exceptions, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report;

2. sample analytical results, including sampling date; date of sample extraction or preparation; date of sample analysis; dilution factors and test method identification; soil, rock, or sediment sample results in consistent units (mg/kg) or micrograms per kilogram (µg/kg) in dry-weight basis; water sample results in consistent units (milligrams per liter (mg/L) or micrograms per liter (µg/L)); vapor sample results in consistent units (ppmv or µg/m3); and detection limits for undetected analytes; results shall be reported for all field samples, including field duplicates and blanks, submitted for analysis;

3. method blank results, including detection limits for undetected analytes;

4. surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only);

5. MS/MSD and/or BS/BSD spike concentrations, percent recoveries, relative percent differences (RPDs), and corresponding control limits;

6. laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits;

7. sample chain-of-custody documentation;

8. holding times and conditions;

9. conformance with required analytical protocol(s);

10. instrument calibration;

11. blanks;

12. detection/quantitation limits;

13. recoveries of surrogates;

14. variability for duplicate analyses;

15. completeness;

16. data report formats;

17. the following data deliverables for organic compounds shall be required from the laboratory:

a. a cover letter referencing the procedure used and discussing any analytical problems, deviations, and/or modifications, including a signature from authority representative certifying to the quality and authenticity of data as reported;

b. report of sample collection, extraction, and analysis dates, including sample holding conditions;

c. tabulated results for samples in units as specified, including data qualification in conformance with EPA protocol, and definition of data descriptor codes;

d. reconstructed ion chromatograms for gas chromatograph/mass spectrometry (GC/MS) analyses for each sample and standard calibration;

e. selected ion chromatograms and mass spectra of detected target analytes (GC/MS) for each sample and calibration with associated library/reference spectra;

f. gas chromatograph/electron capture device (GC/ECD) and/or gas chromatograph/flame ionization detector (GC/FID) chromatograms for each sample and standard calibration;

g. raw data quantification reports for each sample and calibrations, including areas and retention times for analytes, surrogates, and internal standards;

h. a calibration data summary reporting calibration range used and a measure of linearity (include decafluorotriphenylphosphine (DFTPP) and p-bromofluorobenzene (BFB) spectra and compliance with tuning criteria for GC/MS);

i. final extract volumes (and dilutions required), sample size, wet-to-dry weight ratios, and instrument practical detection/quantitation limit for each analyte;

j. analyte concentrations with reporting units identified, including data qualification in conformance with the CLP Statement of Work (SOW) (include definition of data descriptor codes);

k. quantification of analytes in all blank analyses, as well as identification of method blank associated with each sample;

l. recovery assessments and a replicate sample summary, including all surrogate spike recovery data with spike levels/concentrations for each sample and all MS/MSD results (recoveries and spike amounts); and

m. report of tentatively identified compounds with comparison of mass spectra to library/reference spectra; and

18. the following data deliverables for inorganic compounds shall be required from the laboratory:
a. a cover letter referencing the procedure used and discussing any analytical problems, deviations, and modifications, including signature from authority representative certifying to the quality and authenticity of data as reported;

b. report of sample collection, digestion, and analysis dates, with sample holding conditions;

c. tabulated results for samples in units as specified, including data qualification in conformance with the CLP SOW (including definition of data descriptor codes);

d. results of all method QA/QC checks, including inductively coupled plasma (ICP) Interference Check Sample and ICP serial dilution results;

e. tabulation of instrument and method practical detection/quantitation limits;

f. raw data quantification report for each sample;

g. a calibration data summary reporting calibration range used and a measure of linearity, where appropriate;

h. final digestate volumes (and dilutions required), sample size, and wet-to-dry weight ratios;

i. quantification of analytes in all blank analyses, as well as identification of method blank associated with each sample; and

j. recovery assessments and a replicate sample summary, including post-digestate spike analysis; all MS data (including spike concentrations) for each sample, if accomplished; all MS results (recoveries and spike amounts); and laboratory control sample analytical results).

The Permittee shall present summary tables of these data in the general formats described in Permit Part 7. The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets, and other laboratory support data for samples from this project, shall be compiled and kept on file at either the contract laboratory or the Facility for reference. The Permittee shall make the data available to the NMED upon request. The Permittee shall maintain an electronic laboratory analytical database that contains all historical laboratory data and is

updated as new data is acquired. The updated database shall be provided to NMED as an electronic file in each report and upon request.

7.8.3.6 Review of Field and Laboratory QA/QC Data

The Permittee shall evaluate the sample data, field, and laboratory QA/QC results for acceptability with respect to the data quality objectives (DQOs). Each group of samples shall be compared with the DQOs and evaluated using data validation guidelines contained in EPA guidance documents and the most recent version of SW-846, and industry-accepted QA/QC methods and procedures.
The Permittee shall require the laboratory to notify the Facility project manager of data quality exceptions within one business day to allow for sample re-analysis, if possible. The Facility project manager shall contact the NMED within one business day of receipt of laboratory notification of data quality exceptions to discuss the implications and determine whether the data will still be considered acceptable or if sample re-analysis or resampling is necessary. The Facility project manager shall summarize the results of the discussion with the NMED project leader regarding the data quality exceptions in a memorandum. The Permittee shall submit the memorandum to the NMED by fax or electronic mail within two business days of the conclusion of the data quality discussion.

7.8.3.7 Blanks, Field Duplicates, Reporting Limits and Holding Times

7.8.3.7.1 Blanks

The analytical results of field blanks and field rinsate blanks shall be reviewed to evaluate the adequacy of the equipment decontamination procedures and the possibility of cross-contamination caused by decontamination of sampling equipment. The analytical results of trip blanks shall be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. The analytical results of laboratory blanks shall be reviewed to evaluate the possibility of contamination caused by the analytical procedures. If contaminants are detected in field or laboratory blanks, the sample data shall be qualified as appropriate.

7.8.3.7.2 Field Duplicates

Field duplicates shall consist of two samples either split from the same sample device or collected sequentially. Field duplicate samples shall be collected at a minimum frequency of 10 percent of the total number of samples submitted for analysis and one per day. Relative percent differences for field duplicates shall be calculated. A precision of no more than 20 percent for duplicates shall generally be considered acceptable for soil sampling conducted at the Facility. The analytical data quality objectives (DQO) for precision shall be used for water and soil vapor duplicates.
Failure of a relative percent difference (RPD) implies failure to achieve the DQO for the batch of samples represented by the duplicate pair. These data must be qualified as failing DQOs. For reporting purposes, the highest concentration value of any data results from replicate, duplicate, or triplicate sample set must be presented in tables, figures, and must be presented and discussed in the report.
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7.8.3.7.3 Method Reporting Limits

Method reporting limits for sample analyses for each medium shall be established at the lowest level practicable for the method and analyte concentrations and shall not exceed soil, groundwater, surface water, or vapor emissions background levels, cleanup standards, or screening levels. The preferred method detection limits are a maximum of 20 percent of the background, screening, or cleanup levels. Detection limits that exceed established soil, groundwater, surface water, or air emissions cleanup standards, screening levels, or background levels and are reported as "not detected" or "estimated" shall be considered data quality exceptions and an explanation for the exceedance and its acceptability for use shall be provided. This data cannot demonstrate compliance and must not be used for decision making purposes and must be qualified as exceptions. Sample analyses with method detection limits greater than applicable background, screening, and regulatory cleanup levels shall not be used for risk assessment or compliance purposes.

7.8.3.7.4 Holding Times

The Permittee shall review the sampling, extraction, and analysis dates to confirm that extraction and analyses were completed within the recommended holding times as specified by EPA protocol. Appropriate data qualifiers shall be noted if holding times were exceeded.

7.8.3.8 Representativeness and Comparability

7.8.3.8.1 Representativeness

Representativeness is a qualitative parameter related to the degree to which the sample data represent the relevant specific characteristics of the media sampled. The Permittee shall implement procedures to assure representative samples are collected and analyzed, such as repeated measurements of the same parameter at the same location over several distinct sampling events. The Permittee shall note any procedures or variations that may affect the collection or analysis of representative samples and shall qualify the data.

7.8.3.8.2 Comparability

Comparability is a qualitative parameter related to whether similar sample data can be compared. To assure comparability, the Permittee shall report analytical results in appropriate units for comparison with other data (past studies, comparable sites, screening levels, and cleanup standards) and shall implement standard collection and analytical procedures. Any procedure or variation that may affect comparability shall be noted and the data shall be qualified.

7.8.3.9 Laboratory Reporting, Documentation, Data Reduction, and Corrective Action

Upon receipt of each laboratory data package, data shall be evaluated against the criteria outlined in the sections above. Any deviation from the established criteria shall be noted and the data will be qualified. A full review and discussion of analytical data QA/QC and all data qualifiers shall

be submitted as appendices or attachments to investigation and monitoring reports prepared in accordance with Permit Part 7. Data validation procedures for all samples shall include checking the following, when appropriate:

1. holding times;
2. detection limits;
3. field equipment rinsate blanks;
4. field blanks;
5. field duplicates;
6. trip blanks;
7. reagent blanks;
8. laboratory duplicates;
9. laboratory blanks;
10. laboratory matrix spikes;
11. laboratory matrix spike duplicates;
12. laboratory blank spikes;
13. laboratory blank spike duplicates; and
14. surrogate recoveries.

If significant quality assurance problems are encountered, appropriate corrective action shall be implemented. All corrective action shall be defensible, and the corrected data shall be qualified.

7.9 MONITORING WELL CONSTRUCTION REQUIREMENTS

Vadose zone or groundwater monitoring wells required to be constructed at the Facility must be installed in accordance with this Permit Section (9). General drilling procedures are presented in Permit Section 7.9.1 and monitoring well construction requirements are presented in Permit Section 7.9.2.

7.9.1 DRILLING METHODS

Vadose zone and groundwater monitoring wells and piezometers must be designed and constructed in a manner that will yield high quality samples, ensure the well will last the duration of the project, and ensure the well will not serve as a conduit for contaminants to migrate between different

stratigraphic units or aquifers. The design and construction of monitoring wells shall comply with the guidelines established in various EPA RCRA guidance, including, but not limited to:

1. U.S. EPA, RCRA Groundwater Monitoring: Draft Technical Guidance, EPA/530-R-93-001, November 1992;

2. U.S. EPA, RCRA Groundwater Monitoring Technical Enforcement Guidance Document, OSWER-9950.1, September 1986; and

3. Aller, L., Bennett, T.W., Hackett, G., Petty, R.J., Lehr, J.H., Sedoris, H., Nielsen, D.M., and Denne, J.E., Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells, EPA 600/4-89/034, 1989.

A variety of methods are available for drilling monitoring wells. While the selection of the drilling procedure is usually based on the site-specific geologic conditions, the following issues shall also be considered:

1. drilling shall be performed in a manner that minimizes impacts to the natural properties of the subsurface materials;

2. contamination and cross-contamination of groundwater and aquifer materials during drilling shall be avoided;

3. the drilling method shall allow for the collection of representative samples of rock, unconsolidated materials, and soil;

4. the drilling method shall allow the Permittee to determine when the appropriate location for the screened interval(s) has been encountered; and

5. the drilling method shall allow for the proper placement of the filter pack and annular sealants. The borehole diameter shall be at least four inches larger in diameter than the nominal diameter of the well casing and screen to allow adequate space for placement of the filter pack and annular sealants.

6. The drilling method shall allow for the collection of representative vadose zone and groundwater samples. Drilling fluids (including air) shall be used only when minimal impact to the surrounding formation and groundwater can be ensured.

A brief description of the different drilling methods that may be appropriate for the construction of monitoring wells at the Facility follows. Many of these methods may be used alone, or in combination, to install monitoring wells at the Facility. While the selection of the specific drilling procedure will usually depend on the site-specific geologic conditions, justification for the method selected must be provided to the NMED.

7.9.1.1 Hollow-Stem Auger

The hollow-stem continuous flight auger consists of a hollow, steel shaft with a continuous, spiraled steel flight welded onto the exterior side of the stem. The stem is connected to an auger bit and, when rotated, transports cuttings to the surface. The hollow stem of the auger allows drill rods, split-spoon core barrels, Shelby tubes, and other samplers to be inserted through the center of the auger so that samples may be retrieved during the drilling operations. The hollow stem also acts to temporarily case the borehole, so that the well screen and casing (riser) may be inserted down through the center of the augers once the desired depth is reached, minimizing the risk of possible collapse of the borehole.

A bottom plug or pilot bit can be fastened onto the bottom of the augers to keep out most of the soils and/or water that have a tendency to clog the bottom of the augers during drilling. Drilling without a center plug is acceptable provided that the soil plug, formed in the bottom of the auger, is removed before sampling or installing well casings. The soil plug can be removed by washing out the plug using a side discharge rotary bit or auger advancement through the plug with a solid-stem auger bit sized to fit inside the hollow-stem auger. In situations where heaving sands are a problem; potable water may be poured into the augers to equalize the pressure so that the inflow of formation materials and water shall be held to a minimum when the bottom plug is removed. The hollow-stem auger method is best suited for drilling in relatively shallow soils and unconsolidated sediments.

7.9.1.2 Air Rotary/Air Down-The Hole Hammer/ODEX

The air rotary method consists of a drill pipe or drill stem coupled to a drill bit that rotates and cuts through soils and rock. The cuttings produced from the rotation of the drilling bit are transported to the surface by compressed air, which is forced down the borehole through the drill pipe and returns to the surface through the annular space (between the drill pipe and the borehole wall). The circulation of the compressed air not only removes the cuttings from the borehole but also helps to cool the drill bit. The use of air rotary drilling is best suited for hard-rock formations. In soft unconsolidated formations, casing is driven to keep the formation from caving.

When using air rotary, the air compressor shall have an in-line filter system to filter the air coming from the compressor. The filter system shall be inspected regularly to ensure that the system is functioning properly. In addition, a cyclone velocity dissipater or similar air containment/dust-suppression system shall be used to funnel the cuttings to one location instead of allowing the cuttings to discharge uncontrolled from the borehole. Air rotary that employs the dual-tube (reverse circulation) drilling system is acceptable because the cuttings are contained within the drill stem and are discharged through a cyclone velocity dissipater to the ground surface.

The injection of air into the borehole during air rotary drilling has the potential to alter the natural properties of the subsurface. This can occur through air-stripping of the VOCs in both soil and groundwater in the vicinity of the borehole, altering the groundwater geochemical parameters (e.g., pH and redox potential), and potentially increasing biodegradation of organic compounds in the aquifer near the borehole. These factors may prevent the well from yielding vadose zone or groundwater samples that are representative of in-situ conditions.

In hard, abrasive, consolidated rock, a down-the-hole hammer may be more appropriate than the air rotary method. In this method, compressed air is used to actuate and operate a pneumatic hammer as well as lift the cuttings to the surface and cool the hammer bit. One drawback of the down-the-hole hammer is that oil is required in the air stream to lubricate the hammer-actuating device, and this oil could potentially contaminate the soil in the vicinity of the borehole and the aquifer.

The ODEX method is a variation of the air rotary method in which a casing-driving technique is used in combination with air rotary drilling. With the ODEX system, the drill bit extends outward and reams a pilot hole large enough for a casing assembly to slide down behind the drill bit assembly. As a result, casing is advanced simultaneously while drilling the hole.

7.9.1.3 Resonant Sonic

Resonant Sonic drilling is a method that uses a sonic drill head to produce high frequency, high-force vibrations in a steel drill pipe. The vibrations in the pipe create a cutting action at the bit face, which allows a continuous core of the formation to move into the core barrel. The method requires no drilling fluid, advances relatively quickly (up to one ft/sec in certain formations), drills at any angle through all formations (rock, clay, sand, boulders, permafrost, glacial till), and yields virtually no cuttings in the drilling process. While there are numerous advantages to this process, the primary disadvantages are the generation of heat and the cost of the method. This drilling method has been used and proven at various facilities.

7.9.2 WELL CONSTRUCTION/COMPLETION METHODS

7.9.2.1 Well Construction Materials

Well construction materials shall be selected based on the goals and objectives of the proposed monitoring program and the geologic conditions at the site. When selecting well construction materials, the primary concern shall be selecting materials that will not contribute foreign constituents or remove contaminants from the vadose zone or groundwater. Other factors to be considered include the tensile strength, compressive strength, and collapse strength of the materials, length of time the monitoring well will be in service, and the material's resistance to chemical and microbiological corrosion. Generally, if the monitoring program requires the analysis of organic constituents, stainless steel materials should be used. However, if the monitoring program requires only inorganic constituent analyses, PVC materials may be used. PVC is less desirable for monitoring wells where organic constituents will be analyzed due to its potential for sorption and leaching of contaminants. If stainless steel is used for groundwater monitoring wells where low levels of metals may be present, the steel must be passivated to minimize sorption and leaching of metals.

Well screen and casing materials acceptable for the construction of RCRA monitoring wells include stainless steel (304 or 316) or rigid PVC (meeting American National Standards Institute/National Sanitation Foundation Standard 14). In addition, there are other materials available for the construction of monitoring wells including acrylonitrile butadiene styrene (ABS), fiberglass-reinforced plastic (FRP), black iron, carbon steel, and galvanized steel, but these

materials are not recommended for use in long term monitoring wells due to their low resistance to chemical attack and potential contribution of contamination to the groundwater. However, these materials may be used in the construction of monitoring wells where they will not be in contact with the groundwater or vadose zone interval that will be sampled (e.g., carbon steel pipe used as surface casing).

7.9.2.2 Well Construction Techniques

7.9.2.2.1 Single-Cased Wells

The borehole shall be bored, drilled, or augered as close to vertical as possible, and checked with a plumb bob, level, or appropriate downhole logging tool. Angled boreholes shall not be acceptable unless specified in the design. The borehole shall be of sufficient diameter so that well construction can proceed without major difficulties. To assure an adequate size, a minimum of two-inch annular space is required between the casing and the borehole wall (or the hollow-stem auger wall). The two-inch annular space around the casing will allow the filter pack, bentonite seal, and annular grout to be placed at an acceptable thickness. Also, the two-inch annular space will allow up to a 1.5-inch outer diameter tremie pipe to be used for placing the filter pack, bentonite seal, and grout at the specified intervals.

It may be necessary to over drill the borehole so that any soils that have not been removed (or that have fallen into the borehole during augering or drill stem retrieval) will fall to the bottom of the borehole below the depth where the filter pack and well screen are to be placed. Normally, three to five feet is sufficient for over drilling shallow wells. Deep wells may require deeper over drilling. The borehole can also be over drilled to allow for an extra space for a well sump to be installed. If the borehole is over drilled deeper than desired, it can be backfilled to the designated depth with bentonite pellets or the filter pack.

Well casings (riser assembly) should be secured to the well screen by flush-jointed threads or other appropriate connections, placed into the borehole, and plumbed using centralizers, a plumb bob, or a level. Petroleum-based lubricating oils or grease shall not be used on casing threads. Teflon tape can be used to wrap the threads to ensure a tight fit and minimize leakage, if per-and poly-fluorinated alkyl substances are not a contaminant of concern. No glue of any type shall be used to secure casing joints. Teflon “O” rings can also be used to ensure a tight fit and minimize leakage. “O” rings made of materials other than Teflon are not acceptable if the well will be sampled for organic compound or per-and poly-fluorinated alkyl substances analyses. Before the well screen and casings are placed at the bottom of the borehole, at least six inches of filter material shall be placed at the bottom to serve as a firm footing. The string of well screen and casing should then be placed into the borehole and plumbed. If centralizers are used, they shall be placed below the well screens and above the bentonite annular seals so that the placement of the filter pack, overlying bentonite seal, and annular grout will not be hindered. Centralizers placed in the wrong locations can cause bridging during material placement.

If installing the well screen and casings through hollow-stem augers, the augers shall be slowly extracted as the filter pack, bentonite seal, and grout are tremied or poured into place. The gradual

extraction of the augers will allow the materials being placed in the augers to flow out of the bottom of the augers into the borehole. If the augers are not gradually extracted, the materials will accumulate at the bottom of the augers causing potential bridging problems. After the string of well screen and casing is plumb, the filter material shall be placed around the well screen (preferably by the tremie pipe method) up to the designated depth.

After the filter pack has been installed, the bentonite seal shall be placed directly on top of the filter pack up to the designated depth or a minimum of two feet above the filter pack, whichever is greater. After the bentonite seal has hydrated for the specified time, the annular grout shall be pumped by the tremie method into the annular space around the casings (riser assembly) up to within two feet of the ground surface or below the frost line, whichever is greater. The grout shall be allowed to cure for a minimum of 24 hours before the surface pad and protective casing are installed. After the surface pad and protective casing are installed, bumper guards (guideposts) shall be installed (if necessary).

7.9.2.2.2 Double-Cased Wells

Double-cased wells should be constructed when there is reason to believe that interconnection of two aquifers by well construction may cause cross contamination, or when flowing sands make it impossible to install a monitoring well using conventional methods. A pilot borehole should be advanced through the overburden and the contaminated zone into a clay, confining layer, or bedrock. An outer casing (surface or pilot casing) shall be placed into the borehole and sealed with grout. The borehole and outer casing should extend into tight clay a minimum of two feet or into competent bedrock a minimum of one foot. The total depth into the clay or bedrock will vary depending upon the plasticity of the clay and the extent of weathering and fracturing of the bedrock. The size of the outer casing shall be of sufficient inside diameter to contain the inner casing and the two-inch annular space. In addition, the borehole shall be of sufficient size to contain the outer casing and the two-inch minimum outer annular space, if applicable.

The outer casing shall be grouted by the tremie method from the bottom of the borehole to within two feet of the ground surface. The grout shall be pumped into the annular space between the outer casing and the borehole wall. This can be accomplished by either placing the tremie pipe in the annular space and pumping the grout from the bottom of the borehole to the surface or placing a grout shoe or plug inside the casing at the bottom of the borehole and pumping the grout through the bottom grout plug and up the annular space on the outside of the casing. The grout shall consist of a Type I Portland cement and bentonite or other approved grout to provide a rigid seal. A minimum of 24 hours shall be allowed for the grout plug (seal) to cure before attempting to drill through it. When drilling through the seal, care shall be taken to avoid cracking, shattering, and washing out of the seal. If caving conditions exist so that the outer casing cannot be sufficiently sealed by grouting, the outer casing shall be driven into place and a grout seal placed in the bottom of the casing.

7.9.2.2.3 Bedrock Wells

The installation of monitoring wells into bedrock can be accomplished in two ways. The first method is to drill or bore a pilot borehole through the soil overburden into the bedrock. An outer

casing is installed into the borehole by setting it into the bedrock and grouting it into place. After the grout has set, the borehole can be advanced through the grout seal into the bedrock. The preferred method of advancing the borehole into the bedrock is rock coring. Rock coring makes a smooth, round hole through the seal and into the bedrock without cracking or shattering the seal. Roller cone bits are used in soft bedrock, but extreme caution should be taken when using a roller cone bit to advance through the grout seal in the bottom of the borehole because excessive water and bit pressure can cause cracking, eroding (washing), and/or shattering of the seal. Low volume air hammers may be used to advance the borehole, but they have a tendency to shatter the seal because of the hammering action. If the structural integrity of the grout seal is in question, a pressure test can be utilized to check for leaks. If the seal leaks, the seal is not acceptable. When the drilling is complete, the finished well will consist of an open borehole from the ground surface to the bottom of the well. The major limitation of open borehole bedrock wells is that the entire bedrock interval serves as the monitoring zone.

The second method is to install the outer surface casing and drill the borehole into bedrock and then install an inner casing and well screen with the filter pack, bentonite seal, and annular grout. The well is completed with a surface protective monument and concrete pad. This well installation method gives the flexibility of isolating the monitoring zone(s) and minimizing inter-aquifer flow. In addition, it provides structural integrity, especially in unstable areas (e.g., steeply dipping shales) where the bedrock may shift or move when disturbed.

7.9.2.3 Well Screen and Filter Pack Design

Well screens and filter packs shall be designed to accurately sample the vadose zone interval or aquifer zone that the well is intended to target, minimize the passage of formation materials (turbidity) into the well, and ensure sufficient structural integrity to prevent the collapse of the intake structure. The selection of the well screen length depends upon the objective of the well. Piezometers and wells where only a discrete flow path is monitored are generally completed with short screens (two feet or less). While monitoring wells are usually constructed with longer screens (usually five to twenty feet), they shall be kept to the minimum length appropriate for intercepting a contaminant plume. The screen slot size shall be selected to retain from 90 to 100 percent of the filter pack material in artificially filter packed wells, and from 50 to 100 percent of the formation material in naturally packed wells. All well screens shall be factory wire-wrapped or machine slotted.

A filter pack shall be used when: 1) the natural formation is poorly sorted; 2) a long screen interval is required or the screen spans highly stratified geologic materials of widely varying grain sizes; 3) the natural formation is uniform fine sand, silt, or clay; 4) the natural formation is thin-bedded; 5) the natural formation is poorly cemented sandstone; 6) the natural formation is highly fractured or characterized by relatively large solution channels; 7) the natural formation is shale or coal that will act as a constant source of turbidity to groundwater samples; or 8) the diameter of the borehole is significantly greater than the diameter of the screen. The use of natural formation material as a filter pack is only recommended when the natural formation materials are relatively coarse-grained, permeable, and uniform in grain size.

Filter pack materials shall consist of clean, rounded to well-rounded, hard, insoluble particles of siliceous composition (industrial grade quartz sand or glass beads). The required grain-size distribution or particle sizes of the filter pack materials shall be selected based upon a sieve analysis of the aquifer materials or the formation to be monitored, or the characteristics of the aquifer materials using information acquired during previous investigations.

Where sieve analyses are used to select the appropriate filter pack particle size, the results of a sieve analysis of the formation materials are plotted on a grain-size distribution graph, and a grain-size distribution curve is generated. The 70 percent retained grain size value should be multiplied by a factor between four and six (four for fine, uniform formations and six for coarse, non-uniform formations). A second grain-size distribution curve is then drawn on the graph for this new value, ensuring that the uniformity coefficient does not exceed 2.5. The filter pack that shall be used must fall within the area defined by these two curves.

Once the filter pack size is determined, the screen slot size shall be selected to retain at least 90 percent of the filter pack material. The Permittee may propose the use of a pre-determined well screen slot size and filter pack for monitoring wells in the site-specific work plans submitted to the NMED.

The filter pack shall be installed in a manner that prevents bridging and particle-size segregation. Filter packs placed below the water table shall be installed by the tremie pipe method. Filter pack materials shall not be poured into the annular space unless the well is shallow (e.g., less than 30 feet deep) and the filter pack material can be poured continuously into the well without stopping. At least two inches of filter pack material shall be installed between the well screen and the borehole wall, and two feet of material shall extend above the top of the well screen. A minimum of six inches of filter pack material shall also be placed under the bottom of the well screen to provide a firm footing and an unrestricted flow under the screened area.

In deep wells (e.g., greater than 200 feet deep), the filter pack may not compress when initially installed. As a result, filter packs may need to be installed as high as five feet above the screened interval in these situations. The precise volume of filter pack material required shall be calculated and recorded before placement, and the actual volume used shall be determined and recorded during well construction. Any significant discrepancy between the calculated and actual volume shall be explained. Prior to installing the filter pack annular seal, a one to two-foot layer of chemically inert fine sand shall be placed over the filter pack to prevent the intrusion of annular sealants into the filter pack.

7.9.2.4 Annular Sealant

The annular space between the well casing and the borehole must be properly sealed to prevent cross-contamination of samples and the groundwater. The materials used for annular sealants shall be chemically inert with respect to the highest concentration of chemical constituents expected in the groundwater or vadose zone at the Facility. In general, the permeability of the sealing material shall be one to two orders of magnitude lower than the least permeable parts of the formation in contact with the well. The precise volume of annular sealants required shall be calculated and recorded before placement, and the actual volume shall be determined and recorded during well

construction. Any significant discrepancy between the calculated volume and the actual volume shall be explained.

During well construction, an annular seal shall be placed on top of the filter pack. This seal shall consist of a high solids (10-30 percent) bentonite material in the form of bentonite pellets, granular bentonite, or bentonite chips. The bentonite seal shall be placed in the annulus through a tremie pipe if the well is deep (greater than 30 feet), or by pouring directly down the annulus in shallow wells (less than 30 feet). If the bentonite materials are poured directly down the annulus (which is an acceptable method only in wells less than 30 feet deep), a tamping device shall be used to ensure that the seal is emplaced at the proper depth and the bentonite has not bridged higher in the well casing. The bentonite seal shall be placed above the filter pack a minimum of two feet vertical thickness. The bentonite seal shall be allowed to completely hydrate in conformance with the manufacturer's specifications prior to installing the overlying annular grout seal. The time required for the bentonite seal to completely hydrate will differ with the materials used and the specific conditions encountered but is generally a minimum of four to twenty-four hours.

A grout seal shall be installed on top of the filter pack annular seal. The grout seal may consist of a high solids (30 percent) bentonite grout, a neat cement grout, or a cement/bentonite grout. The grout shall be pumped under pressure (not gravity fed) into the annular space by the tremie pipe method, from the top of the filter pack annular seal to within a few feet of the ground surface. The tremie pipe shall be equipped with a side discharge port (or bottom discharge for grouting at depths greater than 100 feet) to minimize damage to the filter pack or filter pack annular bentonite seal during grout placement. The grout seal shall be allowed to cure for a minimum of 24 hours before the concrete surface pad is installed. All grouts shall be prepared in accordance with the manufacturer's specifications. High solids (30 percent) bentonite grouts shall have a minimum density of ten pounds per gallon (as measured by a mud balance) to ensure proper setup. Cement grouts shall be mixed using six and one-half to seven gallons of water per 94-pound bag of Type I Portland cement. Bentonite (five to ten percent) may be added to delay the setting time and reduce the shrinkage of the grout.

7.9.2.5 Groundwater Well Development

All groundwater monitoring wells shall be developed to create an effective filter pack around the well screen, correct damage to the formation caused by drilling, remove fine particles from the formation near the borehole, and assist in restoring the natural water quality of the aquifer in the vicinity of the well. Development stresses the formation around the screen, as well as the filter pack, so that mobile fines, silts, and clays are pulled into the well and removed. Development is also used to remove any foreign materials (e.g., water, drilling mud) that may have been introduced into the borehole during the drilling and well installation activities, and to aid in the equilibration that will occur between the filter pack, well casing, and the formation water. The development of a well is extremely important to ensuring the collection of representative groundwater samples.

Newly installed groundwater monitoring wells shall not be developed for at least 48 hours after the surface pad and outer protective casing are installed. This will allow sufficient time for the well materials to cure before the development procedures are initiated. Newly installed groundwater monitoring wells shall be developed no later than 30 calendar days after installation

is complete. A new monitoring well shall be developed until the column of water in the well is free of visible sediment, and the pH, temperature, turbidity, and specific conductivity have stabilized. In most cases, the above requirements can be satisfied. However, in some cases, the pH, temperature, and specific conductivity may stabilize but the water remains turbid. In this case, the well may still contain well construction materials, such as drilling mud in the form of a mud cake or formation soils that have not been washed out of the borehole. Thick drilling mud cannot be flushed out of a borehole with one or two well volumes of flushing. Instead, continuous flushing over a period of several days may be necessary to complete the well development. If the well is pumped dry, the water level shall be allowed to sufficiently recover before the next development period is initiated. The common methods used for developing wells include:

1. pumping and over pumping;
2. backwashing;
3. surging (with a surge block);
4. bailing;
5. jetting; and
6. airlift pumping.

These development procedures can be used, either individually or in combination, to achieve the most effective well development. However, the most favorable well development methods include pumping, over pumping, bailing, surging, or a combination of these methods. Well development methods and equipment that alter the chemical composition of the groundwater shall not be used. Development methods that involve adding water or other fluids to the well or borehole, or that use air to accomplish well development, should be avoided if possible. Approval shall be obtained from the NMED prior to introducing air, water, or other fluids into the well for the purpose of well development. If water is introduced to a borehole during well drilling and completion, the same or greater volume of water shall be removed from the well during development. In addition, the volume of water withdrawn from a well during development shall be recorded.

7.9.2.6 Surface Completion

Monitoring wells may be completed either as flush-mounted wells, or as above-ground completions. A surface seal shall be installed over the grout seal and extended vertically up the well annulus to the land surface. The lower end of the surface seal shall extend a minimum of one foot below the frost line to prevent damage from frost heaving. The composition of the surface seal shall be neat cement or concrete. In above-ground completions, a minimum of three-feet wide, four-inch-thick concrete surface pad shall be installed around the well at the same time the protective monument is installed. The surface pad shall be sloped so that drainage will flow away from the protective monument and off the pad. In addition, a minimum of one inch of the finished pad shall be below grade or ground elevation to prevent washing and undermining by soil erosion.

A locking protective monument shall be installed around the well casing (riser) to prevent damage or unauthorized entry. The protective monument shall be anchored in the concrete surface pad below the frost line and extend several inches above the well riser stickup. A weep hole shall be drilled into the protective monument just above the top of the concrete surface pad to prevent water from accumulating and freezing inside the protective monument around the well riser. A cap shall

be placed on the well riser to prevent tampering or the entry of foreign materials, and a lock shall be installed on the protective monument to provide security. If the wells are located in an area that receives traffic, a minimum of three bumper guards consisting of steel pipes three to four inches in diameter and a minimum of five-feet length should be installed.

The bumper guards should be installed to a minimum depth of two feet below the ground surface in a concrete footing and extend a minimum of three feet above ground surface. The pipes should be filled with concrete to provide additional strength. The pipes should be painted a bright color to reduce the possibility of vehicular damage.

If flush-mounted completions are required (e.g., in active roadway areas), a protective structure such as a utility vault or meter box should be installed around the well casing. In addition, measures should be taken to prevent the accumulation of surface water in the protective structure and around the well intake. These measures should include outfitting the protective structure with a steel lid or manhole cover that has a rubber seal or gasket and ensuring that the bond between the cement surface seal and the protective structure is watertight.

7.9.2.7 Well Abandonment

Wells deleted from the facility monitoring program or that have been damaged beyond repair shall be plugged and abandoned. Well plugging and abandonment methods and certification shall be conducted in accordance with Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells (19.27.4 NMAC). The Permittee shall notify the NMED and submit a well abandonment plan to the New Mexico State Engineers Office and to the NMED no less than 30 days prior to the date the wells are removed from the monitoring program.

The goal of well abandonment is to seal the borehole in such a manner that the well cannot act as a conduit for migration of contaminants from the ground surface to the aquifer or between aquifers. To properly abandon a well, the preferred method is to completely remove the well casing and screen from the borehole, clean out the borehole, and backfill with a cement or bentonite grout, neat cement, or concrete.

For wells with small diameter casing, abandonment shall be accomplished by over drilling the well with a large diameter hollow-stem auger. After the well has been over drilled, the well casing and grout can be lifted out of the ground with a drill rig, and the remaining filter pack can be drilled out. The open borehole can then be pressure grouted (via the tremie pipe method) from the bottom of the borehole to the ground surface. After the grout has cured, the top two feet of the borehole shall be filled with concrete to ensure a secure surface seal.

Several other well abandonment procedures are available for wells with larger diameter screens and casings. One method is to force a drill stem with a tapered wedge assembly or a solid-stem auger into the well casing and pull the casing out of the ground. However, if the casing breaks or the well cannot be pulled from the ground, the well will have to be grouted in place. To abandon a well in place, a tremie pipe shall be placed at the lowest point in the well (at the bottom of the screen or in the well sump). The entire well is then pressure grouted from the bottom of the well upward. The pressurized grout will be forced out through the well screen into the filter pack and

up the inside of the well casing sealing off all breaks and holes in the casing. Once the well is grouted, the casing is cut off even with the ground surface and covered with concrete.

If a PVC well cannot be abandoned due to internal casing damage (e.g., the tremie pipe cannot be extended to the bottom of the screen), it may be necessary to drill out the casing with a roller cone or drag bit using the wet rotary drilling method or grind out the casing using a solid-stem auger equipped with a carbide tooth bit. Once the casing is removed, the open borehole can be cleaned out and pressure grouted from the bottom of the borehole upward.

7.9.3 DOCUMENTATION

All information on the design, construction, and development of each monitoring well shall be recorded and presented on a boring log, a well construction log, and well construction diagram. The well construction log and well construction diagram shall include the following information:

1. well name/number;
2. date/time of well construction;
3. borehole diameter and well casing diameter;
4. well depth;
5. casing length;
6. casing materials;
7. casing and screen joint type;
8. screened interval(s);
9. screen materials;
10. screen slot size and design;
11. filter pack material and size;
12. filter pack volume (calculated and actual);
13. filter pack placement method;
14. filter pack interval(s);
15. annular sealant composition;
16. annular sealant placement method;
17. annular sealant volume (calculated and actual);
18. annular sealant interval(s);
19. surface (grout) sealant composition;
20. surface (grout) seal placement method;
21. surface (grout) sealant volume (calculated and actual);
22. surface(grout) sealant interval;
23. surface completion and well apron design and construction;
24. well development procedure and turbidity measurements;
25. well development purge volume(s) and stabilization parameter measurements;
26. type and design and construction of protective casing;
27. well cap and lock;
28. ground surface elevation;
29. survey reference point elevation on well casing;
30. top of monitoring well casing elevation; and
31. top of protective steel casing elevation.

7.10 REPORTING REQUIREMENTS

7.10.1 Highlights

The purpose of this Permit Part is to provide the general reporting requirements and report formats for corrective action activities required under this Permit. This Permit Part is not intended to provide reporting requirements for every potential corrective action conducted at the Facility. Therefore, the formats for all types of reports are not presented below. The formats described in this Permit Section 7.10. include the general reporting requirements and formats for site-specific investigation work plans, investigation reports, monitoring reports, risk assessment reports, and corrective measures evaluations. The Permittee shall generally consider the work plans and reports to be the equivalents of RFI work plans, RFI reports, periodic monitoring reports, risk assessments, and CMS reports, respectively, for the purposes of RCRA compliance.

The Permittee shall include detailed, site-specific requirements in all interim status unit, SWMU, and AOC investigation work plans, investigation reports, monitoring reports, and corrective measures evaluations. All plans and reports shall be prepared with technical and regulatory input from the NMED. All work plans and reports shall be submitted to the NMED in the form of two paper copies and two electronic copies. The Permittee shall maintain an electronic laboratory analytical database that contains all historical laboratory data and is updated as new data are acquired. The most updated database shall be provided to NMED as an electronic file in each report and upon request. In addition, geospatial data shall be provided to NMED upon request.

The reporting requirements listed in this Part do not include all sections that may be necessary to complete each type of report listed. The Permittee or the NMED may determine that additional sections are required to address additional site-specific issues or information collected during corrective action or monitoring activities not listed below. However, The Permittee must submit variations of the general report format and the formats for reports not listed in this Permit Part in outline form to the NMED for approval prior to submittal of the reports. The NMED will approve or disapprove, in writing, the proposed outline after receipt of the outline. If the NMED disapproves the report outline, the NMED will notify the Permittee, in writing, of the outline's deficiencies and will specify a date for submittal of a revised report outline. All reports submitted by the Permittee shall follow the general approach and limitations for data presentation described in this Permit Part (7).

Every page of every section, table, figure, appendix, or attachment of every document submitted to NMED must be numbered in a logical, sequential fashion.

References to information in other documents cited in work plans and reports shall include specific page, table and figure numbers for the information referenced in the cited documents.

All documents required by this Permit shall include a statement on the signature page that meets the requirements of 40 CFR §270.11(d)(1).

7.10.2 Investigation Work Plan

The Permittee shall fulfill the requirements acceptable to the NMED for preparation of work plan for unit-specific or corrective action activities at the Facility using the general outline below.

The minimum requirements for describing proposed activities within each section are included. All research, locations, depths and methods of exploration, field procedures, analytical methods, data collection methods, and schedules shall be included in each work plan. In general, interpretation of data acquired during previous investigations shall be presented only in the background sections of the work plans. New data which has not been previously reviewed and approved by NMED shall not be included in any Work Plan. The other text sections of the work plans shall be reserved for presentation of anticipated site-specific activities and procedures relevant to the project. The general work plan outline is provided below.

7.10.2.1 Title Page

The title page shall include the type of document, Facility name and the unit, SWMU, or AOC name(s) and the submittal date. A signature block providing spaces for the name, title, and organization of the preparer and the responsible representative of the Facility shall be provided on the title page in accordance with the signature requirements in 40 CFR 270.11(b).

7.10.2.2 Executive Summary (Abstract)

The executive summary (or abstract) shall provide a brief summary of the purpose and scope of the investigation to be conducted at the subject site. The Facility, unit, SWMU, or AOC name, revision number, if applicable, and location shall be included in the executive summary. The executive summary shall be limited to one page with a font size consistent with the rest of the document.

7.10.2.3 Table of Contents

The table of contents shall list all text sections and subsections, tables, figures, and appendices or attachments included in the work plan. The corresponding page numbers for the titles of each section and subsection of the work plan shall be included in the table of contents.

7.10.2.4 Introduction

The introduction shall include the Facility name, unit name and location, and unit status (e.g., active operations, closed, corrective action). General information on the current site usage and status shall be included in this section. A brief description of the purpose of the investigation and the type of site investigation to be conducted shall be provided in this section.

7.10.2.5 Background

The background section shall describe relevant background information. This section shall briefly summarize historical site uses including the locations of current and former site structures and

features. A labeled figure shall be included in the document showing the locations of current and former site structures and features. The locations of pertinent subsurface features such as pipelines, underground tanks, utility lines, and other subsurface structures shall be included in the background summary and labeled on the site plan.

This section shall identify potential receptors, including groundwater, and include a brief summary of the type and characteristics of all waste and all contaminants, the known and possible sources of contamination, the history of releases or discharges of contamination, and the known extent of contamination. This section shall include brief summaries of results of previous investigations, including references to pertinent figures, data summary tables, and text in previous reports. At a minimum, detections of contaminants encountered during previous investigations shall be presented in table format, with an accompanying figure showing sample locations. References to previous reports shall include page, table, and figure numbers for referenced information. Summary data tables and site plans showing relevant investigation locations shall be included in the Tables and Figures sections of the document, respectively.

7.10.2.6 Site Conditions

7.10.2.6.1 Surface Conditions

A section on surface conditions shall provide a detailed description of current site topography, features, and structures including a description of drainages, vegetation, erosional features, and a detailed description of current site uses and operations at the site. In addition, descriptions of features located in surrounding sites that may have an impact on the subject site regarding sediment transport, surface water runoff, or contaminant fate and transport shall be included in this section.

7.10.2.6.2 Subsurface Conditions

A section on subsurface conditions shall provide a brief, detailed description of the site conditions observed during previous subsurface investigations, including relevant soil horizons, stratigraphy, presence of vadose zone fluids and groundwater, and other relevant information. A site plan showing the locations of all borings and excavations advanced during previous investigations shall be included in the Figures section of the work plan. A brief description of the anticipated stratigraphic units that may be encountered during the investigation may be included in this section if no previous investigations have been conducted at the site.

7.10.2.7 Scope of Activities

A section on the scope of activities shall briefly describe a list of all anticipated activities to be performed during the investigation, including, but not limited to, background information research, health and safety requirements that may affect or limit the completion of tasks, drilling, test pit or other excavations, well construction, field data collection, survey data collection, chemical analytical testing, aquifer testing, and IDW storage, disposal, and reporting.

7.10.2.8 Investigation Methods

A section on investigation methods shall provide a description of all anticipated locations and methods for conducting the activities to be performed during the investigation. This section shall include, but is not limited to, research methods, health and safety practices that may affect the completion of tasks, drilling methods, test pit or other excavation methods, sampling intervals and methods, well construction methods, field data collection methods, geophysical and land survey methods, field screening methods, chemical analytical testing, materials testing, aquifer testing, pilot testing, and other proposed investigation and testing methods. This information may also be summarized in table format, if appropriate. References to quality assurance project plan (QAPP) or standard operating procedures (SOP) are not acceptable in lieu of the required information.

7.10.2.9 Monitoring and Sampling Program

A section on monitoring and sampling shall describe the anticipated monitoring and sampling program to be implemented after the initial investigation activities are completed. This section shall provide a description of the anticipated vadose zone fluids, groundwater, vadose zone vapor, vadose zone moisture, and other monitoring and sampling programs to be implemented at the unit.

7.10.2.10 Schedule

A section shall provide the anticipated schedule for completion of field investigation, pilot testing, and monitoring and sampling activities. In addition, this section shall provide a schedule for submittal of reports and data to the NMED including a schedule for submitting status reports, preliminary data, and the final investigation report.

7.10.2.11 Tables

The following summary tables may be included in the investigation work plans if previous investigations have been conducted at the unit. Data presented in the tables shall include information on dates of data collection, analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions. All data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. Data quality exceptions must be clearly flagged or otherwise indicated in all tables. The following tables shall be included in investigation work plans, as applicable:

1. summaries of regulatory criteria, background, and applicable cleanup levels (may be included in the analytical data tables instead of as separate tables);

2. summaries of historical field survey location data;

3. summaries of historical field screening and field parameter measurements of soil, rock, sediments, soil vapor, groundwater, surface water, and air quality;

4. summaries of historical soil, rock, or sediment laboratory analytical data shall include the analytical methods, detection limits, reporting limits (or limits of quantitation) and significant data quality exceptions that could influence interpretation of the data;

5. summaries of historical soil vapor laboratory analytical data shall include the analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions that could influence interpretation of the data;

6. summaries of historical groundwater elevation and depth to groundwater table. The table shall include the monitoring well depths, the screened intervals in each well, and the dates and times measurements were taken;

7. summaries of historical groundwater laboratory analytical data. The analytical data tables shall include the analytical methods, detection limits, and significant data quality exceptions that could influence interpretation of the data;

8. summary of historical surface water laboratory analytical data. The analytical data tables shall include the analytical methods, detection limits, reporting limit (or limits of quantitation), and significant data quality exceptions that could influence interpretation of the data;

9. summary of historical air sample screening and chemical analytical data. The data tables shall include the screening instruments used, laboratory analytical methods, detection limits, reporting limit (or limits of quantitation), and significant data quality exceptions that could influence interpretation of the data; and

10. summary of historical pilot test or other test data, if applicable, including units of measurement and types of instruments used to obtain measurements.

7.10.2.12 Figures

The following figures shall be included with each investigation work plan for each site, including presentation of data where previous investigations have been conducted. All figures must include an accurate bar scale and a north arrow. An explanation shall be included on each figure for all abbreviations, symbols, acronyms, and qualifiers. All data quality exceptions must be flagged or otherwise clearly indicated as such on all figures. Geographic information system (GIS) data must be provided to NMED upon request. The following figures shall be included in investigation work plans, as applicable:

1. a vicinity map showing topography and the general location of the site relative to surrounding features and properties;

2. a unit site plan that presents pertinent site features and structures, underground utilities, well locations, and remediation system locations and details; off-site well locations and other relevant features shall be included on the site plan, if appropriate; additional site plans may be required to present the locations of relevant off-site well locations, structures, and features;

3. figures showing historical and proposed soil boring locations, excavation locations, and sampling locations;

4. figures presenting historical soil sample field screening and laboratory analytical data;
5. figures presenting the locations of all existing and proposed borings and vapor monitoring point locations;

6. figures presenting historical vadose zone soil vapor data;

7. figures showing all existing and proposed monitoring wells and piezometers;

8. figures presenting historical groundwater and vadose zone fluid elevation data, and indicating groundwater and vadose zone fluid flow directions;

9. figures presenting historical groundwater and vadose zone fluid laboratory analytical data, if applicable; the chemical analytical data corresponding to each sampling location can be presented in tabular form on the figure or as an isoconcentration map;

10. figures presenting historical and proposed vadose zone fluid neutron probe access tube locations and field measurement data for soil moisture, if applicable;

11. figures presenting historical surface water laboratory analytical data, if applicable;

12. figures showing historical and proposed air sampling locations and presenting historical air quality data, if applicable;

13. figures presenting historical pilot testing locations and data, where applicable, including site plans and graphic data presentation; and

14. figures presenting geologic cross-sections based on outcrop and borehole data acquired during previous investigations, if applicable.

7.10.2.13 Appendices

An IDW management plan shall be included as an appendix to the investigation work plan. Additional appendices may be necessary to present additional data or documentation not listed above.

7.10.3 INVESTIGATION REPORT

The Permittee shall prepare investigation reports at the Facility using the general outline below. The Investigation Report shall be the reporting mechanism for presenting the results of completed Investigation Work Plans. This Section (7.10.3) describes the minimum requirements for reporting on site investigations. All data collected during each site investigation event in the reporting period shall be included in the reports. In general, interpretation of data shall be presented only in the background, conclusions, and recommendations sections of the reports. The other text sections of

the reports shall be reserved for presentation of facts and data without interpretation or qualifications. The general report outline is provided below.

7.10.3.1 Title Page

The title page shall include the type of document and version number, Facility name, the unit, SWMU, or AOC, and the submittal date. A signature block providing spaces for the name, title, and organization of the preparer and the responsible Facility representative shall be provided on the title page in accordance with the signature requirements in 40 CFR 270.11(b).

7.10.3.2 Executive Summary

The executive summary shall provide a brief summary of the purpose, scope, and results of the investigation conducted at the subject site during the reporting period. In addition, this section shall include a brief summary of conclusions based on the investigation data collected and recommendations for future investigation, monitoring, remedial action, or site closure. The executive summary shall be limited to one page with a font size consistent with the rest of the document.

7.10.3.3 Table of Contents

The table of contents shall list all text sections, subsections, tables, figures, and appendices or attachments included in the report. The corresponding page numbers for the titles of each section of the report shall be included in the table of contents.

7.10.3.4 Introduction

The introduction section shall include the Facility name, unit name and location, and unit status (e.g., active operations, closed, corrective action). General information on the site usage and status shall be included in this section. A brief description of the purpose of the investigation, the type of site investigation conducted, and the type of results presented in the report also shall be provided in this section.

7.10.3.5 Background

The background section shall describe relevant background information. This section shall briefly summarize historical site uses including the locations of current and former site structures and features. A labeled figure shall be included in the document showing the locations of current and former site structures and features. The locations of subsurface features such as pipelines, underground tanks, utility lines, and other subsurface structures shall be included in the background summary and labeled on the figure. In addition, this section shall include a brief summary of the possible sources of contamination, the history of releases or discharges of contamination, the known extent of contamination, and the results of previous investigations including references to previous reports. The references to previous reports shall include page, table, and figure numbers for referenced information. A site plan showing relevant investigation

locations and summary data tables shall be included in the Figures and Tables sections of the document, respectively.

7.10.3.6 Scope of Activities

This section on the scope of activities shall briefly describe all activities performed during the investigation event including background information research, implemented health and safety measures that affected or limited the completion of tasks, drilling, test pit or other excavation methods, well construction methods, field data collection, survey data collection, chemical analytical testing, aquifer testing, remediation system pilot testing, and IDW storage or disposal. References to the work plan, a QAPP, or SOPs are not acceptable in lieu of descriptions of site-specific activities.

7.10.3.7 Field Investigation Results

A section shall provide a summary of the procedures used and the results of all field investigation activities conducted at the site including, but not limited to, the dates that investigation activities were conducted, the type and purpose of field investigation activities performed, field screening measurements, logging and sampling results, pilot test results, construction details, and conditions observed. Field observations or conditions that altered the planned work or may have influenced the results of sampling, testing, and logging shall be reported in this section. At a minimum, the following subsections shall be included, where appropriate.

7.10.3.8 Surface Conditions

A section on surface conditions shall describe current site topography, features, and structures including topographic drainages, man-made drainages, vegetation, and erosional features. It shall also include a description of current site uses and any operations at the site. In addition, descriptions of features located in surrounding sites that may have an impact on the subject site regarding sediment transport, surface water runoff, or contaminant transport shall be included in this section.

7.10.3.9 Exploratory Drilling or Excavation Investigations

A section shall describe the locations, methods, and depths of subsurface explorations. The description shall include the types of equipment used, the logging procedures, exploration equipment, decontamination procedures, and conditions encountered that may have affected or limited the investigation. Samples obtained from all exploratory borings and excavations shall be visually inspected and the soil or rock type classified in general accordance with ASTM D2487 (Unified Soil Classification System) and D2488 or AGI Methods for soil and rock classification. Detailed logs of each boring shall be completed in the field by a qualified engineer or geologist.

A description of the site conditions observed during subsurface investigation activities shall be included in this section, including soil and rock descriptions and classifications, soil horizon and stratigraphic information. Site plans showing the locations of all borings and excavations shall be

included in the Figures section of the report. Boring and test pit logs for all exploratory borings and test pits shall be presented in an appendix or attachment to the report.

7.10.3.9.1 Subsurface Conditions

A section on subsurface conditions shall describe known subsurface lithology and structures based on observations made during the current and previous subsurface investigations, including interpretation of geophysical logs and as-built drawings of man-made structures. A description of the known locations of pipelines, utility lines, and observed geologic structures shall also be included in this section. A site plan showing boring and excavation locations and the locations of the site's above- and below-ground structures shall be included in the Figures section of the report. In addition, cross-sections shall be constructed, if appropriate, to provide additional visual presentation of site or regional subsurface conditions.

7.10.3.9.2 Monitoring Well Construction, Boring, or Excavation Abandonment

A section shall describe the methods and details of monitoring well construction and the methods used to abandon or backfill exploratory borings and excavations. The description shall include the dates of well construction, boring abandonment, or excavation backfilling. In addition, boring logs, test pit logs, and well construction diagrams shall be included in an attachment or appendix. Well construction diagrams shall be included with the associated boring logs for borings that are converted to monitoring wells.

7.10.3.10 Groundwater Conditions

A section shall describe the groundwater conditions observed beneath the subject site and relate local groundwater conditions to regional groundwater conditions. A description of the depths to water, aquifer thickness, and groundwater flow directions shall be included in this section for alluvial groundwater, shallow perched groundwater, intermediate perched groundwater, and regional groundwater, as appropriate to the investigation. Figures showing well locations, the surrounding area, groundwater elevations, and flow directions for each hydrologic zone shall be included in the Figures section of the report.

7.10.3.11 Surface Water Conditions

A section shall describe surface water conditions and include a description of surface water ponding, surface water runoff, surface water drainage, surface water sediment transport, and contaminant transport in surface water as suspended load and as a dissolved phase in surface water via natural and man-made drainages, if applicable. A description of contaminant fate and transport shall be included, if appropriate.

7.10.3.12 Subsurface Air and Soil Moisture Conditions

A section shall describe subsurface air monitoring and sampling methods used during the site investigation. It shall also describe observations made during the site investigation regarding subsurface flow pathways and the subsurface air-flow regime.

7.10.3.13 Materials Testing Results

A section shall discuss the materials testing results, such as core permeability testing, grain size analysis, or other materials testing results. A description of sample collection methods, locations, and depths shall also be included. Corresponding summary tables shall be included in the Tables section of the report.

7.10.3.14 Pilot Testing Results

A section shall discuss the results of any pilot testing. Pilot testing is typically conducted after initial subsurface investigations are completed and the need for additional investigation or remediation has been evaluated. Pilot testing, including aquifer testing and remediation system pilot testing, shall be addressed through separate pilot test work plans and reports. The format for pilot test work plans and reports shall be approved by the NMED prior to submittal.

7.10.3.15 Regulatory Criteria

A section shall set forth the applicable cleanup standards, screening levels, and risk-based cleanup goals for each pertinent medium at the subject site. The appropriate cleanup levels for each site shall be included if site-specific levels have been established at separate Facility sites or units. A table summarizing the applicable cleanup standards shall be included as part of the document. Alternately, the report may include applicable cleanup standards as a column in the data tables. Risk-based evaluation procedures, if used to calculate cleanup levels, shall be presented in a separate document or in an appendix to this report. If cleanup levels calculated in a risk evaluation are employed, the risk evaluation document shall be referenced and shall include pertinent page numbers for referenced information.

7.10.3.16 Site Contamination

A section shall provide a description of sampling intervals and methods for detection of surface and subsurface contamination in soils, rock, sediments, groundwater, surface water, and vapor-phase contamination. Only factual information shall be included in this section. Interpretation of the data shall be reserved for the summary and conclusions sections of the report. Tables summarizing all sampling, testing, and screening results for detected contaminants shall be prepared in a format approved by the NMED. The tables shall be presented in the Tables section of the report.

7.10.3.17 Soil, Rock, and Sediment Sampling

A section shall describe the sampling of soil, rock and sediment. It shall include the dates, locations, and methods of sample collection, sampling intervals, sample logging methods, screening sample selection methods, and laboratory sample selection methods including the collection depths for samples submitted for laboratory analyses. A site plan showing the sample locations shall be included in the Figures section of the report.

7.10.3.18 Sample Field Screening Results

A section shall describe the field screening methods used during the investigation and the field screening results. Field screening results also shall be presented in summary tables in the Tables section of the document. The limitations of field screening instrumentation and any conditions that influenced the results of field screening shall be discussed in this subsection.

7.10.3.19 Soil, Rock, and Sediment Sampling Chemical Analytical Results

A section shall briefly summarize the laboratory analyses conducted, discuss the analytical methods and results and provide a comparison of the data to cleanup standards or established cleanup levels for the site. The laboratory results also shall be presented in summary tables in the Tables section of the document. Field conditions and sample collection methods that could potentially affect the analytical results shall be described in this section. If appropriate, soil analytical data shall be presented with sample locations on a site plan and included in the Figures section of the report.

7.10.3.20 Subsurface Vapor Sampling

A section shall describe the ambient air and subsurface vapor sampling. It shall describe the dates, locations, methods of sample collection, methods for sample logging, and methods for laboratory sample selection. A site plan showing all air and subsurface vapor sampling locations shall be provided in the Figures section of the report.

7.10.3.20.1 Subsurface Vapor Field Screening Results

A section shall describe the subsurface vapor field screening results. It shall describe the field screening methods used for ambient air and subsurface vapors during the investigation and the field screening results. Field screening results shall also be presented in summary tables in the Tables section of the report. The locations of ambient air and subsurface vapor screening sample collection shall be presented on a site plan included in the Figures section of the report. The limitations of field screening instrumentation and any conditions that influenced the results of field screening shall be discussed in this section.

7.10.3.20.2 Air and Subsurface Vapor Laboratory Analytical Results

This section shall describe the results of ambient air and subsurface vapor laboratory analyses. It shall contain a description of the air sampling laboratory analytical methods and analytical results and provide a comparison of the data to applicable cleanup levels for the site. The rationale or purpose for altering or modifying the subsurface vapor sampling program outlined in the site investigation work plan also shall be provided in this section. Field conditions that may have affected the analytical results during sample collection shall be described in this section. Tables summarizing the ambient air or vapor sample laboratory, field, and analytical QA/QC data; applicable cleanup levels; and modifications to the air sampling program shall be provided in the Tables section of the report. Contaminant concentrations shall be presented as data tables or as isoconcentration contours on a map included in the Figures section of the report.

7.10.3.21 Conclusions

A conclusions section shall provide a brief summary of the investigation activities and a discussion of the conclusions of the investigation conducted at the site. In addition, this section shall provide a comparison of the results to applicable cleanup levels, and to relevant historical investigation results and analytical data. Potential receptors, including groundwater, shall be identified and discussed. An explanation shall be provided with regards to data gaps and data quality exceptions. A risk assessment may be included as an appendix to the investigation report; however, the risk analysis shall be presented in the Risk Assessment format described in Permit Section 10.5. References to the risk analysis shall be presented only in the summary and conclusions sections of the Investigation Report.

7.10.3.22 Recommendations

A section shall discuss the need for further investigation, corrective measures, risk assessment and monitoring, or recommendations for corrective action completed based on the conclusions provided in the Conclusions section. It shall include explanations regarding additional sampling, monitoring, and site closure. A corresponding schedule for further action regarding the site shall also be provided.

7.10.3.23 Tables

This section shall provide the following summary tables. Data presented in the tables shall include the current data, dates of data collection, analytical methods, detection limits, reporting limits, and significant data quality exceptions. All summary data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. All new data tables must include a column indicating the specific analytical laboratory report where the sample analysis can be found. The following tables shall be included in investigation reports, as applicable:

1. tables summarizing regulatory criteria, background levels, and applicable cleanup levels; this information may be included in the analytical data tables instead of as separate tables;

2. tables summarizing field survey location data; separate tables shall be prepared for well locations and individual medium sampling locations except where the locations are the same for more than one medium;

3. tables summarizing field screening and field parameter measurements of soil, sediment, vadose zone fluid, vadose zone vapor, vadose zone moisture, and groundwater, surface water, and air quality;

4. a table summarizing soil laboratory analytical data; it shall include the analytical methods, detection limits, reporting limits and significant data quality exceptions that would influence interpretation of the data;
5. a table summarizing the groundwater elevations and depth-to-water data; the table shall include the monitoring well depths and the screened intervals in each well;

6. a table summarizing the groundwater laboratory analytical data; the analytical data tables shall include the analytical methods, detection limits, reporting limits and significant data quality exceptions that would influence interpretation of the data;

7. a table summarizing the surface water laboratory analytical data; the analytical data tables shall include the analytical methods, detection limits, reporting limits and significant data quality exceptions that would influence interpretation of the data;

8. a table summarizing the air sample screening and laboratory analytical data; the data tables shall include the screening instruments used, laboratory analytical methods, detection limits, reporting limits and significant data quality exceptions that would influence interpretation of the data;

9. tables summarizing the pilot testing data, if applicable, including units of measurement and types of instruments used to obtain measurements; and

10. a table summarizing the materials testing data, if applicable.

7.10.3.24 Figures

All figures shall be included with each investigation report, as appropriate. All figures must include a scale and a north arrow. An explanation shall be provided on each figure for all abbreviations, symbols, acronyms, and qualifiers. All maps shall have a preparation date. All data quality exceptions must be flagged or otherwise clearly indicated as such on all figures. GIS data must be provided to NMED upon request. A section shall provide the following figures:

1. a vicinity map showing topography and the general location of the site relative to surrounding features and properties;

2. a site plan that presents pertinent site features and structures, underground utilities, well locations, and remediation system locations and details; off-site well locations and other relevant features shall be included on the site plan; additional site plans may be required to present the locations of relevant off-site well locations, structures and features;

3. figures showing boring, excavation, and sampling locations;

4. figures presenting soil sample field screening and laboratory analytical data;

5. figures displaying the locations of all newly installed and existing wells and borings;

6. figures presenting monitoring well locations, groundwater elevation data, and groundwater flow directions;

7. figures presenting groundwater laboratory analytical data, including any past data requested by the NMED; the chemical analytical data corresponding to each sampling location may be presented in table form on the figure or as an isoconcentration map;

8. figures presenting surface water sample locations and field measurement data including any past data requested by the NMED;

9. figures presenting surface water laboratory analytical data including any past data, if applicable; the laboratory analytical data corresponding to each sampling location may be presented in tabular form on the figure;

10. figures showing air and subsurface vapor sampling locations and presenting air and subsurface vapor quality data; the field screening or laboratory analytical data corresponding to each sampling location may be presented in tabular form on the figure or as an isoconcentration map;

11. figures presenting geologic cross-sections based on outcrop and borehole data; and

12. figures presenting pilot testing locations and data, where applicable, including site plans or graphic data presentation.

7.10.3.25 Appendices

Each investigation report shall include the following appendices. Additional appendices may be necessary to present data or documentation not listed below. Appendices must be logically ordered, and all pages of all appendices must be numbered.

7.10.3.25.1 Field Methods

An appendix shall provide detailed descriptions of the methods used to acquire field measurements of each medium that was surveyed or tested during the investigation. Methods shall include, but are not limited to, exploratory drilling or excavation methods, the methods and types of instruments used to obtain field screening, field analytical or field parameter measurements, instrument calibration procedures, sampling methods for each medium investigated, decontamination procedures, sample handling procedures, documentation procedures, and a description of field conditions that affected procedural or sample testing results. Methods of measuring and sampling during pilot testing shall be reported in this appendix, if applicable. References to SOPs shall not substitute for such investigation methods descriptions. Copies of investigation derived waste (IDW) disposal documentation shall be provided in a separate appendix.

7.10.3.25.2 Boring/Test Pit Logs and Well Construction Diagrams

An appendix shall provide boring logs, test pit or other excavation logs, and well construction details. In addition, a key to symbols and a soil or rock classification system shall be included in this appendix. Geophysical logs shall be provided in a separate section of this appendix.

7.10.3.25.3 Chemical Analytical Program

Chemical analytical methods, a summary of data quality objectives, and a summary of data quality review procedures shall be reported in an appendix. A summary of data quality exceptions and their effect on the acceptability of the field and laboratory analytical data with regard to the investigation and the site status shall be included in this appendix, along with references to case narratives provided in the laboratory reports.

7.10.3.25.4 Chemical Analytical Reports

A section shall include all laboratory chemical analytical data generated for the reporting period. The reports must include all chain-of-custody records and Level II QA/QC results provided by the laboratory. The laboratory reports may be provided electronically in a format approved by the NMED and shall be in the form of a final laboratory report. Laboratory report data tables may be submitted in Microsoft Excel format. Hard (paper) copies, or electronic copies in PDF format, of the chain-of-custody forms shall be submitted with the reports regardless of whether the final laboratory report is submitted electronically or in hard copy.

7.10.3.25.5 Other Appendices

Other appendices containing additional information shall be included as required by the NMED or as otherwise appropriate.

7.10.4 PERIODIC MONITORING REPORT

The Permittee shall use the following guidance for preparing periodic monitoring reports. The reports shall present the results of periodic groundwater, surface water, vapor, and remediation system monitoring at the Facility. The following sections provide a general outline for monitoring reports and the minimum requirements for reporting of periodic monitoring conducted at the Facility. All data collected during each monitoring or sampling event in the reporting period shall be included in the reports. In general, interpretation of data shall be presented only in the background, conclusions, and recommendations sections of the reports. The other text sections of the reports shall be reserved for presentation of facts and data without interpretation or qualifications.

7.10.4.1 Title Page

The title page shall include the type of document, revision number if applicable, the facility name, the unit, SWMU, or AOC name(s), and the submittal date. A signature block providing spaces for the name, title, and organization of the preparer and the responsible representative of the Facility shall be provided on the title page in accordance with the signature requirements in 40 CFR §270.11(b).

7.10.4.2 Executive Summary

The executive summary shall provide a brief summary of the purpose, scope, and results of the monitoring conducted at the subject site during the reporting period. The facility, unit, SWMU, and AOC name(s) and location(s) shall be included in the executive summary. In addition, this section shall include a brief summary of conclusions based on the monitoring data collected. The executive summary shall be limited to one page with a font size consistent with the rest of the document.

7.10.4.3 Table of Contents

The table of contents shall list all text sections, subsections, tables, figures, and appendices or attachments included in the report. The corresponding page numbers for the titles of each section of the report shall be included in the table of contents.

7.10.4.4 Introduction

The introduction section shall include the Facility name and the unit's name(s), location(s), and status (e.g., active operations, closed, corrective action). General information on the site usage and status shall be included in this section. A brief description of the purpose of the monitoring, type of monitoring conducted, and the type of results presented in the report also shall be provided in this section.

7.10.4.5 Scope of Activities

A section on the scope of activities shall briefly describe all activities performed during the monitoring event or reporting period including field data collection, analytical testing, and purge/decontamination water storage and disposal, as applicable.

7.10.4.6 Regulatory Criteria

A section on regulatory criteria shall provide information regarding applicable cleanup standards, risk-based screening levels, and risk-based cleanup goals for the site. A table summarizing the applicable cleanup standards, or inclusion of applicable cleanup standards as a column in the data tables, can be substituted for this section. The appropriate cleanup levels for each site shall be included if site-specific levels have been established at separate sites. Risk-based evaluation procedures, if used to calculate cleanup levels, must either be included as an attachment or submitted as a separate document and referenced. The specific document and page numbers must be included for all referenced materials.

7.10.4.7 Monitoring Results

A section shall provide a summary of the results of monitoring conducted at the site. This section shall include the dates and times that monitoring was conducted, the measured depths to groundwater, directions of groundwater and vadose zone fluids flow, field air and water quality measurements, static pressures, field measurements, and a comparison to previous monitoring

results. Field observations or conditions that may influence the results of monitoring shall be reported in this section. Tables summarizing leachate and vapor-monitoring parameters, groundwater and vadose zone fluid elevations, depth-to-water measurements, and other field measurements may be substituted for this section. The tables shall include all information required in Permit Section 7.10.4.11.

7.10.4.8 Chemical Analytical Data Results

A section shall discuss the results of the chemical analyses. It shall provide the dates of sampling and the analytical results. It shall also provide a comparison of the data to previous results and to any cleanup standards or established cleanup levels for the site. The rationale or purpose for altering or modifying the sampling program shall be provided in this section. A table summarizing the laboratory analytical data, QA/QC data, applicable cleanup levels, and modifications to the sampling program may be substituted for this section. The tables shall include all information required in Permit Section 7.10.4.11.

7.10.4.9 Remediation System Monitoring

A section shall discuss remediation system monitoring. It shall summarize the remediation system's capabilities and performance. It shall also provide monitoring data, treatment system discharge sampling requirements, and system influent and effluent sample analytical results. The dates of operation, system failures, and modifications made to the remediation system during the reporting period shall also be included in this section. A summary table may be substituted for this section. The tables shall include all information required in Permit Section 7.10.4.11.

7.10.4.10 Summary

A summary section shall provide a discussion, and conclusions of the monitoring conducted at the site. In addition, this section shall provide a comparison of the results to applicable cleanup levels and to relevant historical monitoring and chemical analytical data. An explanation shall be provided with regards to data gaps. A discussion of remediation system performance, monitoring results, modifications if applicable, and compliance with discharge requirements shall be provided in this section. Recommendations and explanations regarding future monitoring, remedial actions, or site closure shall also be included in this section.

7.10.4.11 Tables

A section shall provide the following summary tables for the media sampled. With prior approval from the NMED, the Permittee may combine one or more of the tables. Data presented in the tables shall include the current sampling and monitoring data, as well as data from the three previous monitoring events or, if data from less than three monitoring events is available, data acquired during previous investigations. Remediation system monitoring data also shall be presented. The dates of data collection shall be included in the tables. Summary tables may be substituted for portions of the text. The analytical data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. All new data tables must include a column indicating the specific analytical laboratory report where the sample analysis can

be found. A separate table providing tis information can also satisfy this requirement. The following tables shall be included, as applicable:

1. a table summarizing the regulatory criteria (a regulatory criteria text section may be substituted for this table or the applicable cleanup levels may be included in the analytical data tables);

2. a table summarizing groundwater and vadose zone fluid elevations, and depths to water data; the table shall include the monitoring well depths, casing elevations, the screened intervals in each well, and the dates and times of measurements;

3. a table summarizing field measurements of surface water quality data, if applicable;

4. a table summarizing field measurements of subsurface vapor monitoring and soil moisture data (including historical vapor monitoring data as described above);

5. a table summarizing field measurements of groundwater and vadose zone fluid quality data (including historical water quality data as described above);

6. a table summarizing subsurface vapors chemical analytical data, if applicable (including historical analytical data as described above);

7. a table summarizing surface water chemical analytical data, if applicable (including historical surface water analytical data as described above);

8. a table summarizing groundwater and vadose zone fluid chemical analytical data (including historical groundwater analytical data as described above); and

9. a table summarizing remediation system monitoring data, if applicable (including historical remediation system monitoring data as described above).

7.10.4.12 Figures

A section shall include the following figures. All figures shall include a scale and north arrow. An explanation shall be provided on each figure for all abbreviations, symbols, acronyms, and qualifiers. All figures shall have a preparation date. All data quality exceptions must be flagged or otherwise clearly indicated as such on all figures. GIS data must be provided to NMED upon request. The following figures must be included, as applicable:

1. a vicinity map showing topography and the general location of the site relative to surrounding features or properties;

2. a facility site plan that presents pertinent site features and structures, well and piezometer locations and remediation system location(s) and features; off-site well locations and pertinent

features shall be included on the site plan, if practical; additional site plans may be required to present the locations of relevant off-site well locations, structures, and features;

3. figures presenting the locations of monitoring and other well locations, groundwater and vadose zone fluid elevation data, and groundwater and vadose zone fluid flow directions;

4. figures presenting groundwater and vadose zone fluid analytical data for the current monitoring event; the analytical data corresponding to each sampling location may be presented in tabular form on the figure or as an isoconcentration map;

5. figures presenting surface water sampling locations and analytical data for the current monitoring period;

6. figures presenting subsurface vapor sampling locations and analytical data for the current monitoring event; the analytical data corresponding to each sampling location may be presented in table form on the figure or as an isoconcentration map; and

7. figures presenting geologic cross-sections based on outcrop and borehole data, if applicable.

7.10.4.13 Appendices

Each monitoring report shall include the following appendices. Additional appendices may be necessary to present data or documentation not listed below. Appendices must be logically ordered, and all pages of all appendices must be numbered.

7.10.4.13.1 Field Methods

The report shall include a section that describes the methods used to acquire field measurements of groundwater and vadose zone fluid elevations, subsurface vapor, soil moisture, water quality data, subsurface vapor samples, vadose zone fluid samples, and groundwater samples. It shall include the methods and types of instruments used to measure depths to water, air, headspace, or subsurface vapor parameters, soil moisture information, and water quality parameters. In addition, decontamination, well purging techniques, well sampling techniques, and sample handling procedures shall be provided in this appendix. Methods of measuring and sampling remediation systems shall be reported in this section, if applicable. Purge and decontamination water storage and disposal methods shall also be presented in this appendix. References to SOPs shall not substitute for such descriptions. Copies of purge and decontamination water disposal documentation shall be provided in a separate appendix.

7.10.4.13.2 Chemical Analytical Program

An appendix shall discuss the analytical program. It shall include the analytical methods, a summary of data quality objectives, and data quality review procedures. A summary of data quality exceptions and their effect on the acceptability of the analytical data with regard to the

monitoring event and the site status shall be included in this appendix along with references to case narratives provided in the laboratory reports.

7.10.4.13.3 Chemical Analytical Reports

An appendix shall include all laboratory chemical analytical data generated for the reporting period. The data may be submitted electronically on a compact disc in Microsoft Excel or other format acceptable to the NMED. The reports shall include all chain-of-custody records and QA/QC results provided by the laboratory. Hard (paper) copies, or electronic copy in PDF format, of all chain-of-custody records shall be submitted as part of this appendix.

7.10.5 RISK ASSESSMENT REPORT

The Permittee shall prepare risk assessment reports for sites requiring corrective action at the Facility using the format described below. This Section (7.10.5) provides a general outline for risk assessments and also sets forth the minimum requirements for describing risk assessment elements. In general, interpretation of data shall be presented only in the background, conceptual site model, and conclusions and recommendations sections of the reports. The other text sections of the Risk Assessment report shall be reserved for presentation of sampling results from all investigations, conceptual and mathematical elements of the risk assessment, and presentations of toxicity information and screening values used in the risk assessment. Permit Section 7.10.5.8 and subsequent sections should be presented in separate sections for the human health and ecological risk assessments, but the general risk assessment outline applicable to both sections is provided below.

7.10.5.1 Title Page

The title page shall include the type of document, revision number if applicable, the facility name, the unit, SWMU, or AOC name(s), and the submittal date. A signature block providing spaces for the name, title, and organization of the preparer and the responsible representative of the Facility shall be provided on the title page in accordance with the signature requirements in 40 CFR 270.11(b).

7.10.5.2 Executive Summary

The executive summary section shall provide a brief summary of the purpose and scope of the risk assessment of the subject site. The executive summary shall also briefly summarize the conclusions of the risk assessment. The Facility, unit, SWMU, or AOC name(s) and location(s) shall be included in the executive summary. The executive summary shall be limited to one page with a font size consistent with the rest of the document.

7.10.5.3 Table of Contents

The table of contents shall list all text sections, subsections, tables, figures, and appendices or attachments included in the risk assessment. The corresponding page numbers for the titles of each unit of the report shall be included in the table of contents.

7.10.5.4 Introduction

The introduction section shall include the Facility name, unit name(s) and location(s), and unit status (e.g., active operations, closed, corrective action). General information on the current site usage and status shall be included in this section.

7.10.5.5 Background

The background section shall describe relevant background information. This section shall briefly summarize historical site uses including the locations of current and former site structures and features. A labeled figure shall be included in the document showing the locations of current and former site structures and features.

7.10.5.6 Site Description

A section shall provide a description of current site topography, features, and structures including a description of drainages, erosional features, current site uses, and other data relevant to assessing risk at the site. Depth to groundwater, vadose zone fluids, and directions of groundwater and vadose zone fluids flow shall be included in this section. The presence and location of surface water bodies such as springs or wetlands shall be noted in this section. Photos of the site may be incorporated into this section, if desired. Ecological features of the site should be described here, including type and amount of vegetative cover, observed and expected wildlife receptors, and level of disturbance of the site. A topographical map of the site and general vicinity of the site showing habitat types, boundaries of each habitat, and any surface water features shall be included in the Figures section of the document.

7.10.5.7 Sampling Results

A section shall include a summary of the history of releases of contaminants, known and possible sources of contamination, and the vertical and lateral extent of contamination present in each media. This section shall include summaries of sampling results of all investigations, including site plans (included in the Figures section of the document), showing locations of detected contaminants. This section shall reference pertinent figures, data summary tables, and citations for references to previous reports. References to previous reports shall include page, table, and figure numbers for referenced information. Summaries of sampling data for each constituent shall include the maximum value detected, the detection limit, the 95% upper confidence level (UCL) of the mean value detected (if applicable to the data set) and whether that 95% UCL of the mean was calculated based on a normal or lognormal distribution. Background values used for comparison to inorganic constituents at the site shall be presented in this subsection. The table of

background values should appear in the Tables section of the document and include actual values used as well as the origin of the values (facility-wide, site-specific, UCL, UTL). This section shall also include a discussion of how "non-detect" sample results were handled in the averaging of data.

7.10.5.8 Conceptual Site Model

A section shall present the conceptual site model. It shall include information on the expected fate and transport of contaminants detected at the site. This section shall provide a list of all sources of contamination at the site. Sources that are no longer considered to be ongoing but represent the point of origination for contaminants transported to other locations shall be included. The discussion of fate and transport shall address potential migration of each contaminant in each medium, potential breakdown products and their migration, and anticipated pathways of exposure for human or ecological receptors. Diagrammatic representations of the conceptual site model shall appear in the Figures section of the document.

For human health risk assessments, the conceptual site model shall include residential land use as the future land use for all risk assessments. In addition, site-specific future land use may be included, provided that written approval to consider a site-specific future land use has been obtained from the NMED prior to inclusion in the risk assessment. If a site-specific future land use scenario appears in the risk assessment, all values for exposure parameters and the source of those values shall be included in table format and presented in the Tables section of the document.

Conceptual site models presented for ecological risk assessments shall identify assessment endpoints and measurement receptors for the site. The discussion of the model shall explain how the measurement receptors for the site are protective of the wildlife receptors identified by the Permittee in the site description, Permit Section 7.10.5.6.

7.10.5.9 Risk Screening Levels

A section shall present the actual screening values used for each contaminant for comparison to all human health and ecological risk screening levels. A discussion of the methods used to calculate screening levels in accordance with Permit Section 7.4 and any variances from those procedures shall be included in this Section. If no valid toxicological studies exist for the receptor or contaminant, the contaminant and receptor combination shall be addressed using qualitative methods. If an approved site-specific risk scenario is used for the human health risk assessment, this section shall include all toxicity information and exposure assessment equations used for the site-specific scenario, as well as the sources for that information. Other regulatory levels applicable to screening the site, such as drinking water MCLs, shall also be included in this section.

7.10.5.10 Risk Assessment Results

This section shall present all risk values, Hazard Quotients (HQs), and Hazard Indices (HIs) for human health under projected future residential scenario and any site-specific scenarios. This section shall also present the HQ and HI for each contaminant for each ecological receptor.

7.10.5.11 Uncertainty Analysis

This section shall include discussion of qualitative, semi-quantitative, and quantitative uncertainty in the risk assessment and estimate the potential impact of the various uncertainties.

7.10.5.12 Conclusions and Recommendations

This section shall include an interpretation of the results of the risk assessment and any recommendations for future disposition of the site. This section may include additional information and considerations that the Permittee believes are relevant to the analysis of the site.

7.10.5.13 Tables

Data presented in the summary tables shall include information on detection limits and significant data quality exceptions. All data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. All new data tables must include a column indicating the specific analytical laboratory report where the sample analysis can be found. A separate table providing tis information can also satisfy this requirement. A section shall provide the following summary tables, as appropriate. With prior approval from the NMED, the Permittee may combine one or more of the tables:

1. a table presenting background values used for comparison to inorganic constituents at the site; the table shall include actual values used as well as the origin of the values (Facility-wide, site-specific, UCL, UTL, or maximum);

2. a table summarizing sampling data shall include, for each constituent, all detected values above background, the maximum value detected, the 95 percent UCL of the mean value detected (if applicable to the data set), and whether that 95 percent UCL of the mean was calculated based on a normal or lognormal distribution;

3. a table of all screening values used and the sources of those values;

4. a table presenting all risk values, HQs, and HIs under projected future residential scenario;

5. a table presenting all risk values, HQs, and HIs under approved additional site-specific future land use scenario; and

6. a table presenting the HQ and HI for each contaminant for each ecological receptor.

7.10.5.14 Figures

This section shall present the following figures for each site, as appropriate. With prior approval from the NMED, the Permittee may combine one or more of the figures. All figures shall include

a scale and a north arrow. An explanation shall be provided on each figure for all abbreviations, symbols, acronyms, and qualifiers. The following figures shall be included, as applicable:

1. a vicinity map showing topography and the general location of the site relative to surrounding features or properties;

2. for human health risk assessments, a site plan that presents pertinent site features and structures, underground utilities, well locations, and remediation system locations and its details; off-site well locations and other relevant features shall be included on the site plan if practical; additional site plans may be required to present the locations of relevant off-site wells, structures, and features;

3. for ecological risk assessments, a topographical map of the site and general vicinity of the site showing habitat types, boundaries of each habitat, and any surface water features; and

4. conceptual site model diagrams for both human health and ecological risk assessments.

7.10.5.15 Appendices

Appendices may be included to present additional relevant information for the risk analysis such as the results of statistical analyses of data sets and comparisons of data, ecological checklists for the site, full sets of results of all sampling investigations at the site, or other data as appropriate. Appendices must be logically ordered, and all pages of all appendices must be numbered.

7.10.6 CORRECTIVE MEASURES EVALUATION

The Permittee shall prepare corrective measures evaluations for sites requiring corrective measures using the format described below. This Permit Section (7.10.6) provides a general outline for corrective measures evaluations and sets forth the minimum requirements for describing corrective measures when preparing these documents. All investigation summaries, site condition descriptions, corrective action goals, corrective action options, remedial options selection criteria, and schedules shall be included in the corrective measures evaluations. In general, interpretation of historical investigation data shall be presented only in the background sections of the corrective measures evaluations. At a minimum, detections of contaminants encountered during previous site investigations shall be presented in the corrective measures evaluations in table format with an accompanying site plan depicting the sample locations. The other text sections of the corrective measures evaluations shall be reserved for presentation of corrective action-related information regarding anticipated or potential site-specific corrective action options and methods relevant to the project. The general corrective measures evaluation outline is provided below.

7.10.6.1 Title Page

The title page shall include the type of document, revision number if applicable, the Facility name, the unit, SWMU, or AOC name(s), and the submittal date. A signature block providing spaces for the name, title, and organization of the preparer and the responsible Facility representative shall be provided on the title page in accordance with the signature requirements in 40 CFR §270.11(b).

7.10.6.2 Executive Summary

The executive summary shall provide a brief summary of the purpose and scope of the corrective measures evaluation to be conducted at the site. The executive summary or abstract shall also briefly summarize the conclusions of the evaluation. The Facility, unit, SWMU, or AOC name(s) and location(s) shall be included in the executive summary. The executive summary shall be limited to one page with a font size consistent with the rest of the document.

7.10.6.3 Table of Contents

The table of contents shall list all text sections, subsections, tables, figures, and appendices or attachments included in the corrective measures evaluation. The corresponding page numbers for the titles of each section of the report shall be included in the table of contents.

7.10.6.4 Introduction

The introduction section shall include the Facility name, unit name(s) and location(s) and unit status (e.g., active operations, closed, corrective action). General information on the current site usage and status shall be included in this section. A brief description of the purpose of the corrective measures evaluation and the corrective action objectives for the project also shall be provided in this section.

7.10.6.5 Background

The background section shall describe the relevant background information. This section shall briefly summarize historical site activities including the locations of current and former site structures and features. A labeled figure shall be included in the document showing the locations of current and former site structures and features. The locations of subsurface features such as pipelines, underground tanks, utility lines, and other subsurface structures shall be included in the background section and labeled on the site plan.

This section shall include contaminant and waste characteristics, a brief summary of the history of contaminant releases, known and possible sources of contamination, and the vertical and lateral extent of contamination present in each medium. This section shall include brief summaries of results of previous investigations, including references to pertinent figures, data summary tables, and text in previous reports. References to previous reports shall include page, table, and figure numbers for referenced information. Summary tables and site plans showing relevant investigation locations shall be referenced and included in the Tables and Figures sections of the document, respectively.

7.10.6.6 Site Conditions

7.10.6.6.1 Surface Conditions

A section on surface conditions shall describe current and historic site topography, features, and structures, including a description of topographic drainages, man-made drainages, vegetation, and

erosional features. It shall also include a description of current uses of the site and any current operations at the site. This section shall also include a description of those features that could potentially influence corrective action option selection or implementation such as topographic features, archeological sites, wetlands, or other features that may affect remedial activities. In addition, descriptions of features located in surrounding sites that may have an effect on the subject site regarding sediment transport, surface water runoff, or contaminant transport shall be included in this section. A site plan displaying the locations of all pertinent surface features and structures shall be included in the Figures section of the corrective measures evaluation.

7.10.6.6.2 Subsurface Conditions

A section on subsurface conditions shall describe the site conditions observed during previous subsurface investigations. It shall include relevant soil horizon and stratigraphic information, groundwater and vadose zone fluid conditions, fracture data, and subsurface vapor information. A site plan displaying the locations of all borings and excavations advanced during previous investigations shall be included in the Figures section of the corrective measures evaluation.

7.10.6.7 Potential Receptors

7.10.6.7.1 Sources

A section shall provide a list of all sources of contamination at the site where corrective measures are to be considered or are required. Sources that are no longer considered to be releasing contaminants at the site but may be the point of origination for contaminants transported to other locations, shall be included in this section.

7.10.6.7.2 Pathways

A section shall describe potential migration pathways that could result in either acute or chronic exposures to contaminants. It shall include such pathways as utility trenches, paleochannels, surface exposures, surface drainages, stratigraphic units, fractures, structures, and other features. The migration pathways for each contaminant and each medium should be tied to the potential receptors for each pathway. A discussion of contaminant characteristics relating to fate and transport of contaminants through each pathway shall also be included in this section.

7.10.6.7.3 Receptors

A section shall provide a listing and description of all anticipated potential receptors that could possibly be affected by the contamination present at the site. Potential receptors shall include human and ecological receptors, groundwater, and other potential receptors. This section shall identify relevant pathways, such as pathways that could divert or accelerate the transport of contamination to human receptors, ecological receptors, and/or groundwater.

7.10.6.8 Regulatory Criteria

A section shall set forth the applicable cleanup standards, risk-based screening levels, and risk-based cleanup goals for each medium at the site. The appropriate cleanup levels for each site shall be included, if site-specific levels have been established. A table summarizing the applicable cleanup standards shall be included as part of the document. Alternately, the report may include applicable cleanup standards as a column in the data tables. If cleanup levels calculated in a risk evaluation are employed, the risk evaluation document shall be referenced including pertinent page numbers for referenced information.

7.10.6.9 Identification of Corrective Measures Options

A section shall identify and describe potential corrective measures for source, pathway, and receptor controls. Corrective measures options shall include the range of available options including, but not limited to, a no action alternative, institutional controls, engineering controls, in-situ and onsite remediation alternatives, complete removal, and any combination of alternatives that would potentially achieve cleanup goals.

7.10.6.10 Evaluation of Corrective Measures Options

A section shall provide an evaluation of the corrective measures options identified in Section 7.10.6.9 above. The evaluation shall be based on the applicability, technical feasibility, effectiveness, implementability, impacts to human health and the environment, and cost of each option. A table summarizing the corrective measures alternatives and the criteria listed below shall be included in the Tables section of this document. The general basis for evaluation of corrective measures options is described below.

7.10.6.10.1 Applicability

Applicability addresses the overall suitability for the corrective action option for containment or remediation of the contaminants in the relevant media with regard to protection of human health and the environment.

7.10.6.10.2 Technical Feasibility

Technical feasibility describes the uncertainty in designing, constructing, and operating a specific remedial alternative. The description shall include an evaluation of historical applications of the remedial alternative including performance, reliability, and minimization of hazards.

7.10.6.10.3 Effectiveness

Effectiveness assesses the ability of the corrective measure to mitigate the measured or potential impact of contamination in a medium under the current and projected site conditions. The assessment also shall include the anticipated duration for the technology to attain regulatory compliance. In general, all corrective measures described above will have the ability to mitigate the impacts of contamination at the site, but not all remedial options will be equally effective at

achieving the desired cleanup goals to the degree and within the same time frame as other options. Each remedy shall be evaluated for both short-term and long-term effectiveness.

7.10.6.10.4 Implementability

Implementability characterizes the degree of difficulty involved during the installation, construction, and operation of the corrective measure. Operation and maintenance of the alternative shall be addressed in this section.

7.10.6.10.5 Human Health and Ecological Protectiveness

This category evaluates the short-term (remedy installation-related) and long-term (remedy operation-related) hazards to human health and the environment of implementing the corrective measure. The assessment shall include whether the technology will create a hazard or increase existing hazards and the possible methods of hazard reduction.

7.10.6.10.6 Cost

A section shall discuss the anticipated cost of implementing the corrective measure. The costs shall be divided into: 1) capital costs associated with construction, installation, pilot testing, evaluation, permitting, and reporting of the effectiveness of the alternative; and 2) continuing costs associated with operating, maintaining, monitoring, testing, and reporting on the use and effectiveness of the technology.

7.10.6.11 Selection of Preferred Corrective Measure

The Permittee shall propose the preferred corrective measures at the site and provide a justification for the selection in this section. The proposal shall be based upon the ability of the remedial alternative to: 1) achieve cleanup standard objectives in a timely manner; 2) protect human and ecological receptors; 3) control or eliminate the sources of contamination; 4) control migration of released contaminants; and 5) manage remediation waste in accordance with State and Federal regulations. The justification shall include the supporting rationale for the remedy selection, based on the factors listed in Permit Section 10.6.10, and a discussion of short- and long-term objectives for the site. The benefits and possible hazards of each potential corrective measure alternative shall be included in this section.

7.10.6.12 Design Criteria to Meet Cleanup Objectives

The Permittee shall present descriptions of the preliminary design for the selected corrective measures in this section. The description shall include appropriate preliminary plans and specifications to effectively illustrate the technology and the anticipated implementation of the remedial option at the site. The preliminary design shall discuss the design life of the alternative and provide engineering calculations for proposed remediation systems.

7.10.6.13 Schedule

A section shall set forth a proposed schedule for completion of remedy-related activities such as bench testing, pilot testing, construction, installation, remedial excavation, cap construction, installation of monitoring points, and other remedial actions. The anticipated duration of corrective action operations and the schedule for conducting monitoring and sampling activities shall also be presented. In addition, this section shall provide a schedule for submittal of reports and data to the NMED, including a schedule for submitting all status reports and preliminary data.

7.10.6.14 Tables

A section shall present the following summary tables, as appropriate. Data presented in the summary tables shall include information on dates of sample collection, analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions. All data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. Data quality exceptions must be clearly flagged or otherwise indicated in all tables. All new data tables must include a column indicating the specific analytical laboratory report where the sample analysis can be found. A separate table providing this information can also satisfy this requirement. The following summary tables shall be included in the corrective measures evaluations, as appropriate:

1. a table summarizing regulatory criteria, background, and the applicable cleanup standards;

2. a table summarizing historical field survey location data;

3. tables summarizing historical field screening and field parameter measurements for each media;

4. tables summarizing historical soil, rock, or sediment laboratory analytical data; the summary tables shall include the analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions that would influence interpretation of the data;

5. a table summarizing historical groundwater elevation and depth to water data; the table shall include the monitoring well depths and the screened intervals in each well;

6. tables summarizing historical groundwater and vadose zone laboratory analytical data; the analytical data tables shall include the analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions that would influence interpretation of the data;

7. tables summarizing historical surface water laboratory analytical data; the analytical data tables shall include the analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions that would influence interpretation of the data;

8. tables summarizing historical air sample screening and analytical data; the data tables shall include the screening instruments used, laboratory analytical methods, detection limits, reporting limits (or limits of quantitation), and significant data quality exceptions that would influence interpretation of the data;

9. tables summarizing historical pilot or other testing data, if applicable, including units of measurement and types of instruments used to obtain measurements;

10. a table summarizing the corrective measures alternatives and evaluation criteria; and

11. a table presenting the schedule for installation, construction, implementation, and reporting of selected corrective measures.

7.10.6.15 Figures

This section shall present the following figures for each site, as appropriate. All figures shall include a scale. All plan view figures shall include a north arrow. An explanation shall be provided on each figure in the legend for all abbreviations, symbols, acronyms, and qualifiers. All data quality exceptions must be flagged or otherwise clearly indicated as such on all figures. GIS data must be provided to NMED upon request. All figures shall contain a date. The following figures shall be included, as applicable:

1. a vicinity map showing topography and the general location of the subject site relative to surrounding features or properties;

2. a unit site plan that presents pertinent site features and structures, underground utilities, well locations, and remediation system locations and details; off-site well locations and other relevant features shall be included on the site plan if practical; additional site plans may be required to present the locations of relevant off-site well locations, structures, and features;

3. figures showing historical soil boring locations, excavation locations, and sampling locations;

4. figures presenting historical soil sample field screening and laboratory analytical data, if appropriate;

5. figures showing all existing wells including vapor monitoring wells and piezometers; the figures shall present historical groundwater elevation data and indicate groundwater flow directions;

6. figures presenting historical groundwater laboratory analytical data including past data, if applicable; the analytical data corresponding to each sampling location may be presented as individual concentrations, in table form on the figure, or as an isoconcentration map;

7. figures presenting historical surface water sample locations and analytical data including past data, if applicable; the laboratory analytical data corresponding to each sampling location may be presented as individual concentrations or in table form on the figure;

8. figures presenting historical air sampling locations and presenting air quality data; the field screening or laboratory analytical data corresponding to each sampling location may be presented as individual concentrations, in table form on the figure or as an isoconcentration map;

9. figures presenting historical pilot or other test locations and data, where applicable, including site plans or graphic data presentation;

10. figures presenting geologic cross-sections based on outcrop and borehole data, if applicable;

11. figures presenting the locations of existing and proposed remediation systems;

12. figures presenting existing remedial system design and construction details; and

13. figures presenting preliminary design and construction details for preferred corrective measures.

7.10.6.16 Appendices

Each corrective measures evaluation shall include, as appropriate, as an appendix, the management plan for waste, including investigation derived waste, generated as a result of construction, installation, or operation of remedial systems, monitoring, or other activities conducted during corrective measures. Each corrective measures evaluation shall include additional appendices presenting relevant additional data, such as pilot or other test or investigation data, remediation system design specifications, system performance data, or cost analyses as necessary. Appendices must be logically ordered, and all pages of all appendices must be numbered.