

Incident ID	NAB 1908656592
District RP	1RP-5407
Facility ID	fAB 1908656217
Application ID	pAB 1908656303

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>650</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Rob Kirk Title: General Manager, HSE and Compliance

Signature:  Date: August 30, 2019

email: rob.kirk@solarismidstream.com Telephone: 432-203-9020

OCD Only

Received by: _____ Date: _____

Incident ID	NAB 1908656592
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Remediation Plan

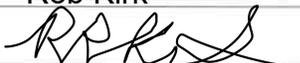
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Rob Kirk Title: General Manager, HSE and Compliance
 Signature:  Date: August 30, 2019
 email: rob.kirk@solarismidstream.com Telephone: 432-203-9020

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

Amended Release Investigation and Remedial Action Plan

General Site Information

Okeanos #1 SWD Flowback Line Release
NMOCD Reference No. 1RP-5407
Terracon Project No. AR197105

Site Contact

Rob Kirk, Solaris Water Midstream, LLC
907 Tradewinds Blvd, Suite B, Midland, Texas 79706
(432) 203-9020

Depth to Ground Water

Greater than 100 feet below grade surface

Distance to Nearest Surface Water

Laguna Gatuna (West-Central Lea County, NM), approximately 10.35 miles to the Northwest

Driving Directions

From Hwy 62, South on Lea Co. Rd. 27-A 7.8 mi, East on unimproved road 0.10 mi., North 0.20 mi. to Pipe location.

Legal Description

Unit M, Section 36, T20S, R34E, Lea County, New Mexico

Prepared for:

Solaris Water Midstream LLC
Midland, Texas

Prepared by:

Terracon Consultants, Inc.
Lubbock, Texas
TBPG Firm No. 50058

Offices Nationwide
Employee-Owned

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Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities



July 8, 2019

Solaris Water Midstream LLC
907 Tradewinds Blvd., Suite B
Midland, Texas 79706

Attn: Mr. Rob Kirk
P: 432-203-9020
E: rob.kirk@solarismidstream.com

RE: **Amended Release Investigation and Remedial Action Plan**
Okeanos #1 SWD Flowback Line Produced Water Release
Unit M, Section 36, Township 20 South, Range34 East
Lea County, New Mexico
NMOCD Reference No. 1RP-5047
Terracon Project No. AR197105

Dear Mr. Kirk,

This Release Investigation and Remedial Action Plan has been amended by Terracon Consultants, Inc. (Terracon) in accordance with the New Mexico Oil Conservation Division (NMOCD) regulation concerning Restoration, Reclamation, and Re-vegetation (19.15.29.13 NMAC – D (Reclamation of areas no longer in use)). The amended RAP addresses changes to Terracon's proposed remediation of contaminated soils in Section 9.0, Subsection 9.1, of the report, to state:

- Soils within the release margins, illustrated on Figure 2 of Appendix A, will be excavated to remove as much as possible waste containing, contaminated, earthen material with chloride concentrations greater than 600 mg/kg. If a restrictive barrier is encountered at a depth of less than 4-feet below ground surface, heavy equipment will be utilized to dig an appropriate number of trenches across the release area to 4-feet below ground surface to collect a bottom confirmation grab sample to demonstrate that impacted materials have been sufficiently mitigated.
- If impacted materials have not been sufficiently mitigated, a 20-mil liner will either be installed at the top of the restrictive barrier or at 4-feet (if no restrictive barrier encountered) below ground surface to encapsulate the remaining impacted soil at depth.
- Prior to liner installation, composite (if applicable) confirmation bottom samples will be collected to establish remaining BTEX, TPH, and Chloride concentration levels. In addition, composite confirmation wall samples will also be collected to establish horizontal



Terracon Consultants, Inc. 5827 50th st. Suite 1 Lubbock, Texas 79424
P (806) 300 0140 F (806) 797 0947 terracon.com

Geotechnical



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Amended Release Investigation and Remedial Action Plan

Okeanos #1 SWD Flowback Line ■ Lea County, New Mexico

July 8, 2019 ■ Terracon Project No. AR197040



Delineation and to determine that BTEX, TPH, Chloride concentration are acceptable for requesting backfilling and restoration approval of the excavated area.

Terracon appreciates this opportunity to provide environmental services to Solaris Water Midstream LLC (Solaris). Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Joseph Guesnier
Staff Scientist
Lubbock

Erin Loyd, P.G.
Principal
Office Manager – Lubbock

DRAFT

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APPENDIX A – FIGURES AND TABLES

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Figure 2 – Site Plan

Table 1 – Soil Sample Analytical Results

APPENDIX B – ANALYTICAL REPORT AND CHAIN OF CUSTODY

APPENDIX C – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

**Release Investigation and Remedial Action Plan
Okeanos #1 SWD Flowback Line Produced Water Release
Unit M, Section 36, Township 20 South, Range 34 East
Lea County, New Mexico
NMOCD Reference No. 1RP-5047
Terracon Project No. AR197105
July 8, 2019**

1.0 SITE DESCRIPTION

The site is an approximate 3-acre tract of land within the SW ¼ SW ¼ Section 36, Township 20 South, Range 34 East, N.M.P.M., Lea County, New Mexico (hereinafter, the site). The site consists primarily of undeveloped land except for a pipeline utilized to transfer produced water to a saltwater disposal (SWD) facility operated by Solaris Water Midstream (Solaris) to the south. A Topographic Map illustrating the site location is included as Figure 1 and a Site Plan is included as Figure 2 in Appendix A.

2.0 SCOPE OF SERVICES

Terracon's scope of services is to investigate the magnitude and extent of the documented release and develop a Remedial Action Plan (RAP) in accordance with the NMOCD requirements that detail site closure activities to be completed. This RAP addresses the February 23, 2019 release of approximately 20 barrels (bbls) of produced water which contained an estimated 5 bbls of crude originating from a malfunctioning flange on a pipeline connection of a Solaris flowback line.

3.0 INTRODUCTION AND NOTIFICATION

A release of produced water containing crude oil occurred on February 23, 2019 at the Okeanos #1 SWD Flowback Line site in Lea County, New Mexico. The site is operated by Solaris. The site is comprised of an approximate 3-acre undeveloped area, approximately 22 miles northwest of Eunice, New Mexico. Incident information is provided in the following table:

Required Information	Site and Release information	
Responsible party	The facility is operated by Solaris Water Midstream	
Local contact	Contact: Mr. Rob Kirk	P: (469) 978-5620 E: rob.kirk@solarismidstream.com
NMOCD Notification	Notice of the release was provided to the NMOCD District 1 Hobbs Office by Rob Kirk (Solaris) on March 5, 2019.	

Required Information	Site and Release information	
Facility description	The facility is Okeanos #1 SWD in Lea County, New Mexico. It is an approximate 3-acre SWD located within the SW ¼ SW ¼ Section 36, Township 20 South, Range 34 East, N.M.P.M., approximately 22 miles northwest of Eunice, New Mexico. The site is developed as a SWD and water treatment/reuse facility.	
Time of incident	February 23, 2019, discovered at 11:00 a.m.	
Discharge event	Release of produced water containing crude oil originating from a malfunctioning flange on a pipeline connection of a Solaris transfer flowback line. The release origin occurred north of the facility pad, under development at the time of the release. The release area, near the origin of the release, was limited to an approximately 1-acre area; however, a portion of the release meandered along the surface for approximately 760 ft. to the northeast at a width ranging from approximately 35 ft. at the release point down to 8 ft. The release margins are illustrated on Figure 2 of Appendix A	
Type of discharge	The documented fluids release occurred at the surface and appears to be limited to near surface soils.	
Quantity of spilled material	Total Fluids: 20 bbls	Produced Water: 20 bbls containing approximately 5 bbls of crude oil
Site characteristics	Relatively flat with drainage following the native ground surface; very gently sloping to the northeast.	
Immediate corrective actions	Pipeline was shut in, and M&J Oilfield Services scraped up and stockpiled affected materials proximate to the release origin.	

4.0 INITIAL RESPONSE ACTIONS

4.1 Source Elimination and Site Security

Initial source elimination was accomplished by the Solaris foreman shutting in the leaking line and replacing the malfunctioning gasket. Solaris deployed M&J Oilfield Services (M&J), an on-site contractor, to secure the site and perform containment and site stabilization activities.

4.2 Containment and Site Stabilization

M&J scraped up and stockpiled affected soil proximate to the release origin, comprising an area measuring approximately 6,000 square feet (sf). From this area, M&J stockpiled affected materials totaling an estimated 10-cubic yards (cy). Following consolidation of these materials, M&J fenced off the area to deter inadvertent contact with the materials.

5.0 GENERAL SITE CHARACTERISTICS

5.1 Depth to Ground Water

The depth to groundwater at the site is anticipated to be deeper than 100 feet below grade surface (bgs). A search of the New Mexico Office of the State Engineer (NMOSE) website identified no registered wells within one mile of the site. NMOSE registered wells within 1.5 miles of the site have an average depth to groundwater of 760 feet bgs, with a minimum reported depth of 650 feet bgs.

5.2 Distance to Nearest Potable Water Well

Based on review of the NMOSE database, registered potable water wells were not present within 0.5 miles of the site.

5.3 Distance to Nearest Surface Water

The Laguna Gatuna (playa) is located approximately 10.4 miles northwest of the site.

5.4 Soil / Waste Characteristics

Soils at the site are mapped as Kimbrough gravely loam, dry, 0 to 3 percent slopes. This soil has a surface layer of fine- to coarse-grained sand. While the Kimbrough is comprised of fine- to coarse-grained sands at the surface restrictive, petrocalcic features, are present at 4 to 18 inches bgs. resulting in the formation being categorized with a high runoff classification.

5.5 Ground Water Quality

Groundwater quality is unknown at the site. As stated previously, there are no wells registered with the NMSEO website within 0.5 miles of the site.

6.0 SOIL REMEDIAL ACTION LEVELS

Crude oil facilities in New Mexico are generally regulated by the NMOCD. Terracon proposes to remediate produced water and crude oil impacted soil of the Okeanos SWD Flowback Line Release consistent with the remediation/abatement goals and objectives set forth in the New Mexico Oil Conservation Division (NMOCD) *Closure Criteria for Soils Impacted by a Release, June 21, 2018*.

The guidance document provides direction for initial response actions, site assessment, sampling procedures and provides closure criteria based on the depth to groundwater, distance to private and domestic water sources, and the distance to the nearest surface water body as follows:

Table 1			
Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/L TDS	Constituent	Method*	Limit**
≤50 feet	Chloride***	EPA 300.0 or SM4500 CI B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	50 mg/kg
51 feet-100 feet	Chloride***	EPA 300.0 or SM4500 CI B	10,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
>100 feet	Chloride***	EPA 300.0 or SM4500 CI B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

*Or other methods approved by the division

**Numerical limits or natural background level, whichever is greater

***This applies to releases of produced water or other fluids, which may contain chloride

6.1 Remediation Levels

Remediation limits for Chlorides, TPH (GRO+DRO+MRO), GRO+DRO, BTEX (includes benzene, toluene, ethylbenzene and xylenes), and Benzene are selected based on the minimum depth below any point within the horizontal boundary of the release to ground water of being <100 feet:

Constituent	Remediation Limits
Chloride	20,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
GRO+DRO	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

7.0 SOIL SAMPLING PROCEDURES

Soil sampling procedures are detailed as follows:

7.1 Soil Sampling Procedures for Laboratory Analysis

Soil Sampling Procedures

Soil sampling for laboratory analysis were conducted according to NMOCD-approved industry standards or other NMOCD-approved procedures. Accepted NMOCD soil sampling procedures and laboratory analytical methods are as follows:

- Collect samples in clean, air-tight glass jars supplied by the laboratory which will conduct the analysis or from a reliable laboratory equipment supplier.
- Label the samples with a unique code for each sample.
- Cool and store samples with cold packs or on ice.
- Promptly ship sample to the lab for analysis following chain of custody procedures.
- All samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.

Analytical Methods

All soil samples must be analyzed using EPA methods, or by other NMOCD-approved methods and must be analyzed within the holding time specified by the method. Below are laboratory analytical methods the selected laboratory will use for analysis of soil samples analyzed for petroleum related constituents.

- Chloride – EPA Method 300.0
- Total Petroleum Hydrocarbons - TPH (GRO+DRO+MRO) – EPA Method 8015M

- Benzene, toluene, ethylbenzene and total xylenes (BTEX) – EPA Method 8021B
- Benzene – EPA Method 8021B

8.0 RELEASE INVESTIGATION DATA EVALUATION

During Terracon's March 1, 2019 release investigation activities, a total of 26 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. Eighteen samples were collected from within the release margins; one sample was collected from the stockpile; and seven samples were collected outside of the impacted area to evaluate background concentrations.

8.1 Background Data Evaluation

Benzene was detected above applicable laboratory SDLs in 7 of the 17 soil samples analyzed within the release margins. The benzene concentrations ranged from 0.00867 milligrams per kilogram (mg/kg) in soil sample HA-1 (Surface to 0.5 ft bgs) to 0.344 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs). The detected benzene concentrations did not exceed the applicable NMOCD Reporting Action Limit (RAL) for benzene of 10 mg/kg, as summarized in Table 1.

Four of six background samples analyzed for Total BTEX exhibited concentrations above applicable laboratory sample detection limits (SDLs). These Total BTEX concentrations ranged from 0.00769 mg/kg in soil sample HA-9 (0.5 to 1 ft bgs) to 0.0257 mg/kg in soil sample HA-9 (Surface to 0.5 ft bgs).

Chloride was detected above applicable laboratory SDLs in each of the analyzed background samples. The chloride concentrations ranged from 34.3 mg/kg in soil sample HA-9 (Surface to 0.5 ft bgs) to 461 mg/kg in soil sample HA-9 (0.5 to 1 ft bgs).

Six of seven background samples analyzed for Total TPH exhibited concentrations above applicable SDLs. The Total TPH concentrations ranged from 17.1 mg/kg in soil sample HA-11 (Surface to 0.5 ft bgs) to 24.7 mg/kg in soil sample HA-9 (Surface to 0.5 ft bgs).

Detected concentrations for BTEX, chloride, and TPH in background samples did not exceed NMOCD Action Levels based on the criteria ranking parameters. Based on the analytical results of the background samples, NMOCD Action Levels will continue to be utilized as the applicable Remedial Action Levels (RALs) for the site.

8.2 Release Margins Data Evaluation

Benzene was detected above applicable laboratory SDLs in 7 of the 17 soil samples analyzed within the release margins. The benzene concentrations ranged from 0.00867 mg/kg in soil sample HA-1 (Surface to 0.5 ft bgs) to 0.344 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs).

The detected benzene concentrations did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 1.

Total BTEX was detected above applicable laboratory SDLs in 16 of the 17 soil samples analyzed within the release margins. The Total BTEX concentrations ranged from 0.0218 mg/kg in soil sample HA-2 (0.5 to 1.0 ft bgs) to 117 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs). The detected Total BTEX concentrations did not exceed the applicable NMOCD RAL for Total BTEX of 120 mg/kg, as summarized in Table 1.

Chloride was detected above applicable laboratory SDLs in each of the 16 soil samples analyzed within the release margins. The chloride concentrations ranged from 271 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs) to 24,700 mg/kg in soil sample HA-1 (Surface to 0.5 ft bgs). Except for soil sample HA-1 (Surface to 0.5 ft bgs), the soil samples analyzed within the release margins did not exhibit chloride concentrations exceeding the applicable NMOCD RAL for chloride of 20,000 mg/kg, as summarized in Table 1.

Total TPH was detected above applicable laboratory SDLs in each of the 18 soil samples analyzed within the release margins. The Total TPH concentrations ranged from 20 mg/kg in soil sample HA-1 (0.5 to 1.0 ft bgs) to 25,100 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs). Eight samples collected within the release margins exhibited Total TPH concentrations above the NMOCD RAL of 2,500 mg/kg for Total TPH, as summarized in Table 1.

8.3 Stockpile Data Evaluation

Benzene was detected above the applicable laboratory SDL at a concentration of 0.177 mg/kg in the stockpile sample SP-1. The detected benzene concentration did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 1.

Total BTEX was detected above the applicable laboratory SDL at a concentration of 6.97 mg/kg in 16 of the 17 soil samples analyzed within the release margins. The detected Total BTEX concentration did not exceed the applicable NMOCD RAL for BTEX of 120 mg/kg, as summarized in Table 1.

Chloride was detected above applicable laboratory SDL at a concentration of 24,300 mg/kg. The detected chloride concentration did exceed the applicable NMOCD RAL for chloride of 20,000 mg/kg, as summarized in Table 1.

Total TPH was detected above applicable laboratory SDL at a concentration of 2,710 mg/kg which exceeds the applicable NMOCD RAL for Total TPH of 2,500 mg/kg, as summarized in Table 1.

8.4 Release Investigation Data Summary

Based on the review of the above release investigation analytical results, the areas within the release margins exhibit concentrations of benzene, Total BTEX, chloride and Total TPH in multiple locations including the stockpiled materials generated during release response activities. Based on these exceedances above NMOCD RALs, Sections 9.0 and subsequent detail recommended remedial response actions to be implemented at the site.

9.0 SOIL REMEDIATION

Impacted soil will be remediated and managed according to the criteria described below which will remove contaminants to protect fresh waters, public health and the environment.

9.1 Contaminated Soils

Soils exceeding the designated NMOCD RALs described in Section 6 will be remediated as follows:

- Soils within the release margins, illustrated on Figure 2 of Appendix A, will be excavated to remove as much as possible waste containing, contaminated, earthen material with chloride concentrations greater than 600 mg/kg. If a restrictive barrier is encountered at a depth of less than 4-feet below ground surface, heavy equipment will be utilized to dig an appropriate number of trenches across the release area to 4-feet below ground surface to collect a bottom confirmation grab sample to demonstrate that impacted materials have been sufficiently mitigated.
- If impacted materials have not been sufficiently mitigated, a 20-mil liner will either be installed at the top of the restrictive barrier or at 4-feet (if no restrictive barrier encountered) below ground surface to encapsulate the remaining impacted soil at depth.
- Prior to liner installation, composite (if applicable) confirmation bottom samples will be collected to establish remaining BTEX, TPH, and Chloride concentration levels. In addition, composite confirmation wall samples will also be collected to establish horizontal delineation and to determine that BTEX, TPH, Chloride concentration are acceptable for requesting backfilling and restoration approval of the excavated area.

9.2 Soil Management

The selected method of soil management is removal and disposal at a NMOCD-approved facility. Excavated soils will be transported by truck (20 cubic yard capacity) and disposed of at the R360 Disposal Facility operated by R360 Environmental Solutions, Inc., located in Halfway, New Mexico.

10.0 TERMINATION OF REMEDIAL ACTIONS, FINAL CLOSURE AND REPORTING

10.1 Termination of Remedial Action

Remedial action of soils at the site will be terminated when the following criteria have been met. Contaminated soils will be removed from the site. Sufficient contaminated soil will be removed so that residual contaminant concentrations are below the soil remediation action levels. If soil action levels cannot practicably be attained, an evaluation of risk will be performed and provided to NMOCD for approval showing that the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, public health and the environment.

10.2 Final Closure

Upon termination of remedial actions (Sections 6 and 9) the area of the release will be closed by backfilling the excavated area, contouring to surrounding area topography and reseeded the area with approved-native vegetative seed.

10.3 Final Report

Upon completion of remedial activities, a final report summarizing all actions taken to mitigate environmental damage related to the release will be provided to NMOCD for approval.

APPENDIX A – FIGURES AND TABLES

Figure 1 – Topographic Map

Figure 2 – Soil Sample Location Map

Table 1 – Soil Sample Analytical Results

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**APPENDIX B – ANALYTICAL REPORT AND CHAIN OF
CUSTODY**

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APPENDIX C – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Solaris Water Midstream, as reflected in our proposal (PA4197040).

Additional Scope Limitations

Development of this RAP is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and our recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Solaris Water Midstream, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Solaris Water Midstream and Terracon. Any unauthorized distribution or reuse is at Solaris Water Midstream sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Solaris Water Midstream and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Solaris Water Midstream and all relying parties unless otherwise agreed in writing.