	U.S. EPA Region 8 Response Section Sampling and Analysis Plan			
	Site Name	Grand Junction Solvents	SSID	B8M9
	City, State	Grand Junction and Loma, Colorado	Response Site	https://response.epa.gov/GJSolvents
	On-Scene Coordinator (OSC)	Craig Myers/Joe Payne	Contract TO/TD	2359-2412-01
	Create Date	2/2/2025	Revised Date	TBD
	Response Type	<input type="checkbox"/> OPA <input checked="" type="checkbox"/> CERCLA <input type="checkbox"/> Stafford <input type="checkbox"/> Other: <input checked="" type="checkbox"/> ER <input type="checkbox"/> RSE <input type="checkbox"/> TCRA <input type="checkbox"/> NTCR <input type="checkbox"/> Other:		
	<p>The sampling and analysis plan (SAP) is implemented under the Region 8 Response Section Programmatic Quality Assurance Project Plan (PQAPP). The SAP will cover key components and supplement information may be found in other site documentation, such as the site-specific data management plan, contracting documentation, and others. For programmatic documentation, please refer to Response.epa.gov/RECORDS or the site-specific response site or ask the On-Scene Coordinator for more information.</p>			

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1. Sampling and Analysis Plan Approvals and Project Team

Sampling and Analysis Plan Approvals Table		
Title	Name	Signature & Date
USEPA DAO (OSC/TOCOR)	Craig Myers/Joe Payne	
PROJECT QUALITY ASSURANCE OFFICER	Ellen McEntee	
ERRS RESPONSE MANAGER	Derek Gustafson	
START PROJECT MANAGER	Maura McAleese	

Notes:

DAO: Delegated Quality Assurance Approving Officer

ERRS: Emergency and Rapid Response Services

OSC: On-Scene Coordinator

START: Superfund Technical Assistance and Response Team

TOCOR: Task Order Contracting Office Representative

USEPA: United States Environmental Protection Agency

2. Project Management and Background

2.1. Project Task and Organization

Organization	Title	Name & Contact	SAP Recipient
United States Environmental Protection Agency (USEPA)	On-Scene Coordinator	Craig Myers (myers.craig@epa.gov)/ Joe Payne (payne.joe@epa.gov)	<input checked="" type="checkbox"/>
Emergency and Rapid Response Services (ERRS)	Response Manager	Derek Gustafson (d.gustafson@erllc.com)	<input checked="" type="checkbox"/>
Superfund Technical Assistance and Response Team (START)	Project Manager	Maura McAleese (maura.mcaleese@tetrattech.com)	<input checked="" type="checkbox"/>
	Field Team Lead	Didi Fung (dd.fung@tetrattech.com)	<input checked="" type="checkbox"/>
	Data Manager	Suddha Graves	<input checked="" type="checkbox"/>
	Tetra Tech Quality Assurance Manager	Ellen McEntee	<input checked="" type="checkbox"/>

2.2. Site Description

The Grand Junction Solvents Site encompasses two properties within 20 miles of Grand Junction. The properties are identified below.

Property Name	Latitude / Longitude	Address
Grand Junction	39.1244631, -108.6168109	820 23 ½ Road, Grand Junction, CO
Loma	39.2130517, -108.83152734	1431 12 Road, Loma, CO

The Grand Junction property is a former commercial facility located adjacent to a school. Reports indicate the presence of an estimated 20-25 drums and 15-20 totes on hard packed ground.

The Loma property is in a rural area outside of Grand Junction. Reports indicate the presence of an estimated 50-75 drums and 75-100 totes on an unpacked grassy surface adjacent to an active family-owned farm.

Existing features at the properties are identified in site maps and figures described in Section 2.3.

Proposed Site Schedule			
Activity	Estimated Start Date	Estimated Completion Date	Comments
SAP Submittal/Approval	1/6/2025	2/6/2025	SAP will be updated as response progresses.
Mobilization	1/6/2025	1/15/2025	None
Demobilization	1/15/2025	1/15/2025	None
Data Review and Verification	To be determined	To be determined	Expedited results to be requested from subcontracted laboratory

2.3. Site Map and Figures

Figures showing the site location and layout are attached to this plan.

- Attachment 1 – Figure 1. Site Locations
- Attachment 2 – Figure 2. Grand Junction Property Layout
- Attachment 3 – Figure 3. Loma Property Layout

2.4. Project Definition Background

The Grand Junction and Loma properties have been reported to have abandoned waste on site from a hemp oil production company. The wastes are likely flammable, consisting of acetone, hexane, pentane, heptane, and ethanol. Used oils and unknown chemicals are also likely present.

2.4.1. Project Problem Statement

Based on the presence of drums and waste containers with unknown contents at the site, the site may pose a risk to the environment and nearby human receptors. START will collect information on the volume and condition of drums/waste containers onsite and conduct hazard categorization testing to assess potential hazards associated with drums and other containers present at the site. The number of drums/containers and their volume, condition, and contents are currently unknown, and additional objectives related to drum/container waste sampling will be determined in the field and communicated with the EPA On-Scene Coordinator (OSC) prior to sampling activities. The sampling and analysis plan (SAP), health and safety plan (HASP), and any other related documents will be updated as further information becomes available in the field.

2.4.2. Quality Objectives

Incident/Project Objectives	Data Quality Objectives	Data Category				Action Number
		Screening	Screening + Confirmation	Definitive	Other/Comments	
Complete an inventory of all containers onsite and determine condition of containers and associated volumes for disposal purposes.	Using a Survey123 form, record container details including photos, container conditions, size, condition, volume of material, and other relevant information to aid in disposal decision making.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All proposed locations in Section 3.2.	1
Hazard Categorization	Assess potential hazards associated with contents of unknown containers using HazCat field tests.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All proposed locations in Section 3.2.	2
Sampling	As needed, obtain samples associated with contents of drums and other containers for possible laboratory analysis to assess contaminant concentrations and waste disposal options.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Drum sampling objectives and locations will be determined by the field team with approval from the OSC.	3
Documentation	Provide written and photographic documentation of response activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		4
Communicate with public and/or stakeholders.	EPA will utilize the OSC Response Website to provide updates to the public and/or stakeholders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		5
Ensure hazardous materials are not migrating offsite during site work.	Perform perimeter air monitoring during intrusive site operations to evaluate whether there is offsite migration of hazardous materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		6

Note:

OSC On-site coordinator

2.5. Site-Specific Training

As described under the Program Quality Assurance Project Plan (PQAPP) and the HASP.

3. Data Generation and Acquisition Elements

Site specific data elements are identified below, standard practices and needs are described and outlined in the PQAPP. Any deviations will be noted below in the site narrative.

3.1. Sampling/Monitoring Process and Design

<input type="checkbox"/>	Random Sampling	<input type="checkbox"/>	Transect Sampling	<input checked="" type="checkbox"/>	Biased/Judgmental Sampling
<input type="checkbox"/>	Systematic Random Sampling	<input checked="" type="checkbox"/>	Search Sampling	<input type="checkbox"/>	Systematic Grid
<input checked="" type="checkbox"/>	Screening with Definitive Confirmation	<input checked="" type="checkbox"/>	Definitive Sampling	<input type="checkbox"/>	Screening without Definitive Confirmation
<input checked="" type="checkbox"/>	Stratified Random Sampling	<input type="checkbox"/>	Incremental Sampling	<input checked="" type="checkbox"/>	Other: Waste Stream Characterization

Sampling Narrative: Drums and other containers are located throughout the property and will serve as the primary collection points for samples. Additionally, other locations at the site may be inspected for additional drums and other containers at the discretion of the EPA OSC. START will assess the container conditions and types in the field to determine how containers should be opened and sampled. Glass and polyethylene coliwasa tubes and drum thieves will be used for drum sampling. Thieves and polyethylene pipettes will be used to sample containers less than 10 gallons. These samples may be analyzed for some or all the following analyte groups based on the results of field screening data, including hazard categorization testing results:

- Field Screening for Liquid/Solid Waste:
 - Corrosivity (pH less than or equal to 2 standard units or pH greater or equal to 12 standard units)
 - Oxidizer
 - Peroxide
 - Water reactivity
 - Water presence
 - Solubility in water and hexane
 - Cyanide
 - Sulfide
 - Ignitability/combustible

- Bielstein (copper wire)
 - Volatile organic compounds (VOC)
 - Polychlorinated biphenyls (PCB)
 - Tentative identification of compounds
- Field Screening for Air:
 - VOCs, carbon monoxide (CO), hydrogen sulfide (H₂S), lower explosive limit (LEL), oxygen (O₂), and radiation
- Potential Laboratory Analysis:
 - Total petroleum hydrocarbons (TPH) – gasoline-range organics (GRO), diesel-range organics (DRO), oil-range organics (ORO)
 - Toxicity characteristic leaching procedure (TCLP) VOCs
 - TCLP semi-volatile organic compounds (SVOCs)
 - PCBs
 - TCLP metals
 - TCLP pesticides
 - TCLP herbicides
 - Total organic halides
 - Flashpoint, paint filter, British thermal unit (BTU), cyanide, sulfide, and pH

Sample analyses are subject to change. Laboratory analysis requirements may be determined by the disposal facility and transport and disposal (T&D) coordinator. Additionally, as more information becomes available in the field during initial assessments of the drum/container number, volume, and conditions, screening and analytical objectives may change with the approval of the EPA OSC and disposal facility. Sampling location data will adhere to the site-specific data management plan (SDMP).

3.2. Analytical Sampling Methods

Obj #	Locations	Matrix	Number of Samples	Field QC	Sampling Method/SOP	Analysis	Analytical Method/SOP*
3	Unknown Chemicals	Solid/ Liquid Waste	TBD	Not Applicable	SERAS SOP Number 1831, Rev 2.0 Toxicity Characteristic Leaching Procedure (TCLP); ERT-PROC-2001-20 General Field Sampling Guidelines	TCLP VOCs	SW-846 1311/8260D
						TCLP SVOCs	SW-846 1311/8270E
						TCLP Metals	SW-846 1311/6010D/6020B/7470A
						TCLP Pesticides	SW-846 1311/8081B
						TCLP Herbicides	SW-846 1311/8151A
						Flashpoint/Ignitability	SW-846 1010B
						Paint Filter	SW-846 9095B
						BTUs	ASTM-D240
						Total and Amenable Cyanide	SW-846 9010C
						Reactive Cyanide	SW-846 Chapter 7.3.3
						Total Sulfide	SW-846 9034/SM 4500-S D
						Reactive Sulfide	SW-846 Chapter 7.3.4
						pH	SW-846 9045C/D
						PCBs	SW-846 8082A
						Total Organic Halides	SW-846 9020B
						Gasoline-Range Organics	SW-846 8015
						Diesel-Range Organics	SW-846 8015
						Oil-Range Organics	SW-846 8015

Notes:

*Should analytical data be required to characterize potential waste for disposal purposes, the disposal facility will provide the sampling and analysis requirements for potential waste and evaluate the analytical data to determine if the facility can accept the waste. START will confirm the sensitivity of the methods against the laboratory capabilities before selecting a laboratory.

#: Number

ASTM: ASTM International

BTUs: British Thermal Unit

ERT: Emergency response team

Obj: Objective

PCB: Polychlorinated biphenyl

QC: Quality control

SERAS: Scientific, Engineering, Response and Analytical Services

SOP: Standard operating procedure

SVOC: Semi-volatile organic compound

SW: Solid waste

TBD: To be determined

TCLP: Toxicity characteristic leaching procedure

VOC: Volatile organic compound

3.3. Containers, Preservation, and Hold Times

Analysis	Matrix ¹	Number of Containers	Field QC	Container Size and Type*	Preservation ²	Hold Time	Additional Field Parameters Required
TCLP VOCs	Solid	3	Not Applicable	Three 40-mL vials with zero headspace (minimum of 25 grams)	Store at <6 °C	14 days	Not Applicable
	Liquid			Three 40-mL vials with zero headspace		7 days	
TCLP SVOCs	Solid	1	Not Applicable	One 8-ounce glass jar (minimum of 200 grams)	Store at <6 °C	14 days	Not Applicable
	Liquid	2		Two 1-L amber glass bottle		7 days	
TCLP Metals	Solid	1	Not Applicable	One 8-ounce glass jar (minimum of 200 grams)	Store at <6 °C	180 days (metals), 28 days (mercury)	Not Applicable
	Liquid	2		Two 500-mL PTFE or HDPE		180 days (metals), 28 days (mercury)	
TCLP Pesticides	Solid	1	Not Applicable	One 8-ounce glass jar (minimum of 200 grams)	Store at <6 °C	14 days	Not Applicable
	Liquid	2		Two 1-L amber glass bottle		7 days	
TCLP Herbicides	Solid	1	Not Applicable	One 8-ounce glass jar (minimum of 200 grams)	Store at <6 °C	14 days	Not Applicable
	Liquid	2		Two 1-L amber glass bottle		7 days	
Flashpoint/ Ignitability	Solid	1	Not Applicable	One 4-ounce glass jar	Store at <6 °C	ASAP	Not Applicable
	Liquid			250-mL HDPE			
Paint Filter	Solid/ Liquid	1	Not Applicable	One 8-ounce glass jar	None	1 year	Not Applicable

Analysis	Matrix ¹	Number of Containers	Field QC	Container Size and Type*	Preservation ²	Hold Time	Additional Field Parameters Required
BTUs	Solid	1	Not Applicable	One 4-ounce glass or poly	Store at <6 °C	28 days	Not Applicable
	Liquid			250-mL glass or poly			
Total Cyanide	Solid	1	Not Applicable	One 500-mL poly or glass	Store at <6 °C	14 days	Not Applicable
	Liquid			One 500-mL poly or glass	NaOH to pH >12 Store at <6 °C	14 days	Not Applicable
Amenable Cyanide	Solid	1	Not Applicable	One 500-mL poly or glass	Store at <6 °C	14 days	Not Applicable
	Liquid			One 500-mL poly or glass	NaOH to pH >10 Store at <6 °C		
Reactive Cyanide	Solid/ Liquid	1	Not Applicable	One 500-mL poly or glass	Store at <6 °C	14 days	Not Applicable
Total Sulfide	Solid	1	Not Applicable	125-mL glass	Store at <6 °C	7 days	Not Applicable
	Liquid			1-L PTFE	NaOH to pH >9/zinc acetate Store at <6 °C		
Reactive Sulfide	Solid/ Liquid	2	Not Applicable	Two 500-mL poly or glass	Store at <6 °C	7 days	Not Applicable
pH	Solid	1	Not Applicable	One 8-ounce glass jar	Store at <6 °C	15 minutes	Not Applicable
	Liquid			One 125-mL PTFE			
PCBs	Solid	1	Not Applicable	One 8-ounce amber glass jar	Store at <6 °C	1 year	Not Applicable
	Liquid	2		Two 1-L amber glass bottles			
Total Organic Halides	Solid	1	Not Applicable	125-mL glass	Store at <6 °C	28 days	Not Applicable
	Liquid	2		1-L amber glass	H ₂ SO ₄ to pH <2 Store at <6 °C		

Analysis	Matrix ¹	Number of Containers	Field QC	Container Size and Type*	Preservation ²	Hold Time	Additional Field Parameters Required
Gasoline-Range Organics	Solid	3	Not Applicable	Three 5-gram clear glass Terracore vials	Two deionized water, one methanol, store at <6 °C	14 days	Not Applicable
	Liquid	3		Three 40-mL vials	Store at <6 °C pH <2 with HCl	7 days	
Diesel-Range Organics	Solid	1	Not Applicable	One 8-ounce amber glass jar	Store at <6 °C	14 days	Not Applicable
	Liquid	2		Two 1-L amber glass bottles	Store at <6 °C pH <2 with HCl	7 days	
Oil-Range Organics	Solid	1	Not Applicable	One 8-ounce amber glass jar	Store at <6 °C	14 days	Not Applicable
	Aqueous	2		Two 1-L amber glass bottles	Store at <6 °C pH <2 with HCl	7 days	

Notes:

¹Nonaqueous liquid container and preservation requirements will be determined on a case-by-case basis.

²Nonaqueous liquids should not be chemically preserved.

*If lab analysis is needed, shared volume to reduce sample containers may take place once method needs are confirmed. Container volume requirements may vary and change once method and analysis needs are confirmed.

°C: Degrees Celsius

<: Less than

>: Greater than

ASAP: As soon as possible

BTUs: British Thermal Unit

H₂SO₄: Sulfuric acid

HCl: Hydrochloric acid

HDPE: High density polyethylene

L: Liter

mL: Milliliter

NaOH: Sodium hydroxide

PCB: Polychlorinated biphenyl

Poly: Polyethylene

PTFE: Polytetrafluoroethylene

QC: Quality control

SVOC: Semi-volatile organic compound

TCLP: Toxicity characteristic leaching procedure

VOC: Volatile organic compound

3.4. Monitoring/Screening Methods

Obj #	Analyte/Parameter	Type	Location	Matrix	Instrument	Action Levels*	Action to be Taken
1	VOCs, CO, H ₂ S, LEL, and O ₂	Ambient mobile and perimeter	Perimeter and Work Zones	Air	MultiRAE Pro AreaRAE Pro	ERT-PROC-2008-20-R1.1_General Air Monitoring and Sampling Guidelines; QSG MultiRAE Pro v2.1; Manufacturer's Manual AEGLs, NIOSH	Notify EPA and Site Safety Officer; Upgrade PPE; TBD by EPA
2	Corrosivity (pH less than or equal to 2 SU or pH greater or equal to 12 SU) Oxidizer Peroxide Water Reactivity Water Presence Solubility Cyanide Sulfide Ignitability/Combustible Bielstein (Copper wire) VOCs PCBs Tentative identification of compounds	Targeted	Unknown containers	Waste	Gemini® FTIR/Raman, MultiRAE®, TVA 2020, HAZCAT® Kit, pH strip, Clor-n-oil test kits	ERT-PROC-2141-20 SOP HAZCAT® Chemical Identification System; ERT-PROC-2139-20 SOP Operation of the MultiRAE Pro Wireless Portable Detector; applicable User's Manuals for field equipment RCRA Hazardous Waste Regulations	TBD by EPA
<p>* Please reference standard/generic action levels, such as RMLs, RSLs, NIOSH, AEGLs, etc.</p> <p>If site specific action levels exist reference accordingly in the table and provide any supplemental documentation in the site files.</p>							

Notes:

#: Number

AEGLs: Acute Exposure Guidance Levels

CO: Carbon monoxide

EPA: U.S. Environmental Protection Agency

ERT: Emergency response team

FTIR: Fourier-Transform Infrared

H₂S: Hydrogen sulfide

LEL: Lower explosive limit

NIOSH: National Institute for Occupational Safety and Health

O₂: Oxygen

Obj: Objective

PCB: Polychlorinated biphenyl

PPE: Personal protective equipment

QSG: Quick Start Guide

RCRA: Resource Conservation and Recovery Act

RML: Regional removal management level

RSL: Regional screening level

SOP: Standard operating procedure

SU: Standard Unit

TBD: To be determined

TVA: Toxic vapor analyzer

VOC: Volatile organic compound

4. Data Quality Indicators and Data Acceptability Criteria

Project goal(s) for completeness:		100%			
Analyte / Parameter	Analytical Method/SOP	Precision	Accuracy	Sensitivity/Quantitation Limits	Other Requirements
All	All	Per analytical method (lab QC stated by method requirements)	Per analytical method (lab QC stated by method requirements)	TBD based on analytical laboratory	N/A

Notes:

N/A: not applicable

QC: Quality control

SOP: Standard operating procedure

TBD: To be determined

5. Reconciliation with PQAPP

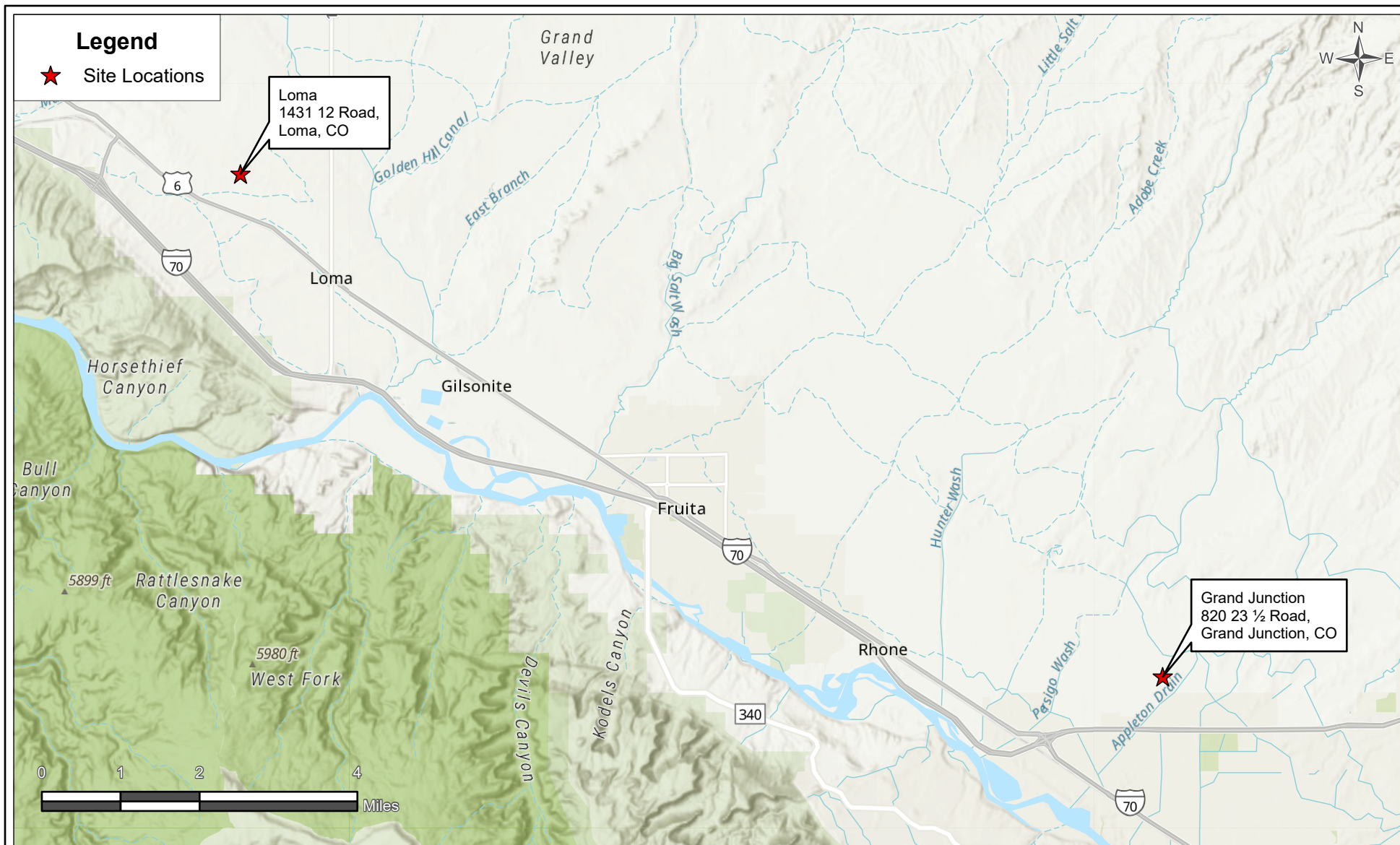
PQAPP Section	Deviation(s)
N/A	N/A

Notes:

N/A: not applicable

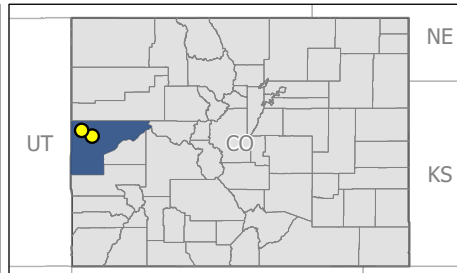
6. Document Revision History

Date	Version	Author(s)	Description of Change
2/2/2025	0	Ashley Filion	Initial draft.



Notes:

Source:
 Background: ESRI World Topo Basemap
 Locations: Tetra Tech, Inc.
Spatial Reference: WGS 1984 Web Mercator Auxiliary Sphere
 Coordinate System



United States
 Environmental
 Protection Agency

Region 8 START V
 TD: 2359-2412-01



TETRA TECH

Analyst: M. Caldwell
 Date: 2/3/2025

Grand Junction Solvents

Grand Junction, Mesa County, Colorado

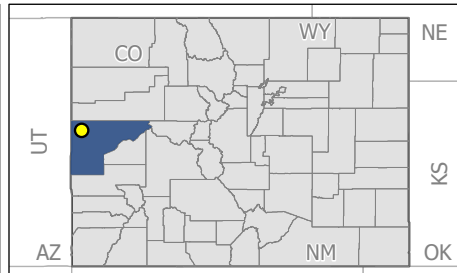
**Figure 1
 Site Locations**





Notes:

Source:
 Background: ESRI Bing Hybrid Basemap
 Locations: Tetra Tech, Inc.
 Parcels: Regrid Rest Service
Spatial Reference: WGS 1984 Web Mercator Auxiliary Sphere
 Coordinate System



United States
Environmental
Protection Agency

Region 8 START V
TD: 2359-2412-01



TETRA TECH

Analyst: M. Caldwell
Date: 2/3/2025

Grand Junction Solvents

Grand Junction, Mesa County, Colorado

**Figure 3
Loma Property Layout**