Red Willow Production Company: NC Ute 23D-2H (nAPP2401640502)

Site Assessment/Spill Characterization and Remediation Plan

1. Event and Background: On January 15, 2024 a leak of approximately 150 bbl of produced water with no visible evidence of hydrocarbons inside of secondary containment was discovered at Red Willow's "NC Ute 23D-2H" location (a Fruitland Coal well). The transfer pump froze allowing the production tanks to empty into the lined secondary containment tank battery mixing with the snow and stormwater already in the containment. A water truck was dispatched to recover what it could from the containment (produced water and snowmelt) and subsequently more snowmelt/released produced water continued to be recovered later as it thawed. Red Willow then had the gravel removed from the secondary containment to inspect the integrity of the liner; unfortunately, several small holes approximately ½" in diameter were observed. No signs of vegetation or soil impacts are visible near the backside of the tank battery where any produced water would have migrated off location via the stormwater diversion ditch.
2. Site Assessment
    a. Potential impacts from the contaminant(s) of concern:
        - The water gathering system from Red Willow's Fruitland coal formation wells in the area are a source for sodium bicarbonate impacts to soil structure and vegetation in the release area.
    b. Distance from producing agricultural land:
        - The majority of the spill stayed within the lined secondary containment and was recovered; while only an unknown, likely small volume may have permeated out of small holes in the liner. The nearest producing agricultural field is approximately 0.4 miles to the Northwest and is geographically isolated from the release by the San Juan River; the release is not immediately adjacent to any producing agricultural fields.
    c. Distance to nearest surface water, irrigation canal or Waters of the U.S. (WOTUS):
        - The San Juan River is a jurisdictional drainage that is approximately 450' to the Northwest and downgradient of the release.
    d. Geologic and hydrologic characteristics:
        - Direction of groundwater flow is South/Southwest;
        - Predominant soil type is Bayfield silty clay loam, 1 to 3 percent slopes. Depth to a restrictive feature is more than 80", Depth to water table is more than 80", Drainage class is well-drained. Secondary soil type is Vigil very gravelly loamy fine sand, 0 to 3 percent slopes. Depth to a restrictive feature is more than 80", Depth to water table is 30 to 70", Drainage class is moderately well-drained.
        - Seasonal hydrologic variability – N/A; area does not have the potential to be flood irrigated during irrigation season.
    e. Distance to nearest permitted domestic/agricultural water well and depth to groundwater:
        - No domestic/agricultural water wells are within 0.5 miles of the release.
        - The nearest domestic water well (permit #256417) is located approximately 0.75 miles to the Northeast, total depth is 140', static water level is reported to be 8' (see attachment).
    f. Determination of cleanup standards:
        - Closure Criteria for Soils Impacted by a Release as outlined in Table 1 of 19.15.29.12 NMAC specifically for depth to groundwater estimated to be ≤50' will be used.
3. Spill Characterization/Sampling Plan
    a. Sampling and analysis:

- The stormwater diversion ditch behind the tank battery will be sampled for produced water impacts from the release.
- Three composite soil samples were collected from the surface along the diversion ditch to be analyzed for Chlorides, TPH (GRO, ORO, MRO) and BTEX. Two composite soil samples were collected from underneath the liner of the tank battery to be analyzed for Chlorides, TPH (GRO, DRO, ORO) and BTEX. See "Map 1" below for approximate composite sampling locations. The exact points will be captured with GPS and coordinates noted in the Sampling Analysis Summary.
- A produced water sample was collected from the production tanks to be analyzed for TDS.
- Additional excavation and sampling may be conducted as-needed if impacts at the surface are found to be elevated.

b. Background sampling:
   - A background soil sample will be collected to be analyzed for Chlorides, TPH (GRO, DRO, ORO) and BTEX.

c. Sampling criteria for ≤50' to groundwater as outlined in Table 1 of 19.15.29.11 will be used.

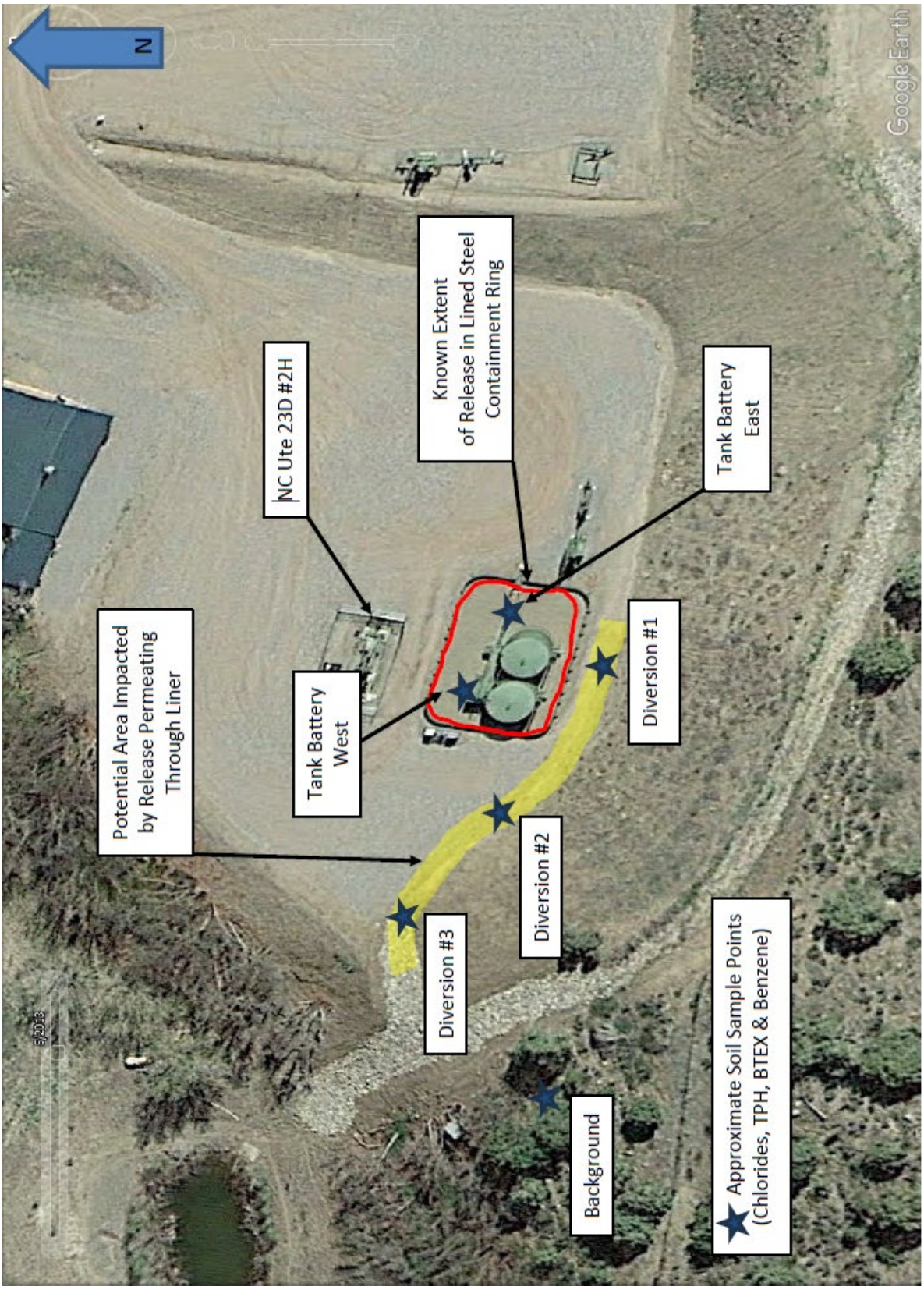
d. Sample coordinates:
   - See attached Sampling Analysis Summary.

e. Analytical results:
   - See attached Sampling Analysis Summary.

f. See attached map for approximate sample locations.

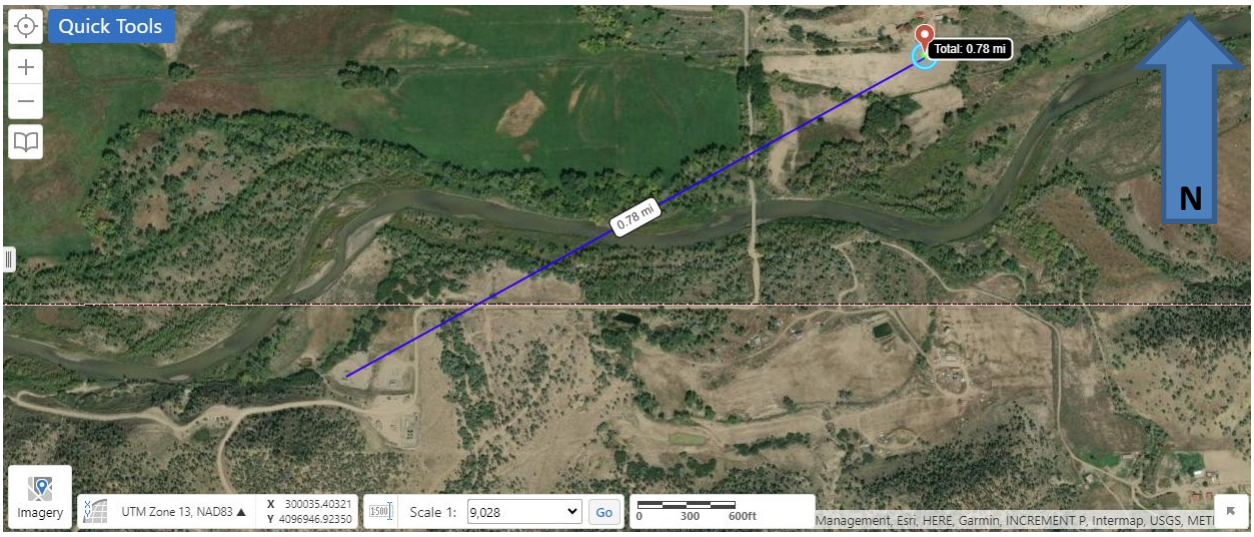
4. Remediation Techniques and Methods:
   a. Not Applicable: Initial sampling found no impacts above regulatory limits.
   b. If samples are below regulatory limits at the surface, a request for closure will be submitted.
5. Long-Term Monitoring & Treatment
   a. Not Applicable: Monitoring and treatment is not anticipated but the incident will be documented and revisited at P&A.
6. Confirmation sampling
   a. Not Applicable: Initial sampling found no impacts above regulatory limits.
7. Reclamation of Disturbed Area
   a. Not Applicable: No areas disturbed requiring reclamation.
8. Timeframes
   a. Spill Characterization and Remediation Plan and closure to be completed by April 12, 2024. If needed, extensions may be requested.
9. Summary: The produced water released into the tank battery on January 15, 2024 was diluted with snowmelt already contained within the tank battery and a large portion of that water was recovered via vac truck later that day and more was subsequently pulled as it thawed. Upon inspection of the liner, several very small holes were observed that prompted further investigation into potential impacts to the surrounding area. Direction of flow of any fluids having migrated through the liner would generally flow into the diversion ditch directly behind the tank battery (South) and then to the rock rundown in the Southwest corner of the pad. Samples collected from underneath the lined tank battery and along the diversion ditch revealed no impacts above the most stringent regulatory limits (≤ 50' to groundwater) and of that which was detected, was relatively minor. Therefore, Red Willow is requesting closure on this release incident.

Map #1 – Horizontal Spill Extent and Sample Locations



Map #2 - Distance to Live Water

Map #3 – Distance to Nearest Water Well



Well Constructed 256417-

Description

Receipt = 0522669
Permit = 256417-
Well Name =
Applicant = MEIER GALLIKER MONIKA
Case No =
Aquifers = ALL UNNAMED AQUIFERS
Uses = Domestic
Yield = 14
Well Depth = 140
Location Accuracy = Spotted from section lines

Sample Analysis Summary Table

NC Ute 23D-2H (nAPP2401640502) Initial Sampling
Analytical Results Summary

Baseline Water Sample	Sample Date	EC (mmhos/cm)	pH (pH Units)	TDS (mg/L)
Produced Water	3/1/2024	11	7.80	6,580

Chloride Soil Sample ID	Sample Date	Chloride (mg/kg)
Tank Battery - West	3/1/2024	93.8
Tank Battery - East	3/1/2024	105
Diversion #1	3/1/2024	N/D
Diversion #2	3/1/2024	56.2
Diversion #3	3/1/2024	29.4
Background	3/1/2024	N/D
19.15.29 Table 1 Standards		<600 mg/kg

"TPH" Soil Sample ID	Sample Date	GRO (C6-C10) mg/kg	DRO (C10-C28) mg/kg	EXT DRO (C28-C36) mg/kg	Total
Tank Battery - West	3/1/2024	N/D	N/D	N/D	N/D
Tank Battery - East	3/1/2024	N/D	N/D	N/D	N/D
Diversion #1	3/1/2024	N/D	N/D	N/D	N/D
Diversion #2	3/1/2024	N/D	N/D	N/D	N/D
Diversion #3	3/1/2024	N/D	N/D	N/D	N/D
Background	3/1/2024	22.3	N/D	N/D	22.3
19.15.29 Table 1 Standards					Total <100 mg/kg

BTEX Soil Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total
Tank Battery - West	3/1/2024	N/D	N/D	N/D	N/D	N/D
Tank Battery - East	3/1/2024	N/D	0.93	0.23	2.56	3.72
Diversion #1	3/1/2024	N/D	0.10	0.05	0.41	0.56
Diversion #2	3/1/2024	N/D	N/D	N/D	N/D	N/D
Diversion #3	3/1/2024	N/D	N/D	N/D	N/D	N/D
Background	3/1/2024	N/D	N/D	N/D	N/D	N/D
19.15.29 Table 1 Standards		<10 mg/kg				Total <50 mg/kg

Sample Coordinates			
Sample ID	Sample Date	Latitude	Longitude
Tank Battery - West	3/1/2024	36.998770	-107.252792
Tank Battery - East	3/1/2024	36.998713	-107.252670
Diversion #1	3/1/2024	36.998657	-107.252784
Diversion #2	3/1/2024	36.998736	-107.252966
Diversion #3	3/1/2024	36.998814	-107.253067
Background	3/1/2024	36.998692	-107.253256

Soil Map Unit Description Pages

Carson National Forest, New Mexico, Part of Rio Arriba County

ByB—Bayfield silty clay loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2vd1m
Elevation: 6,000 to 7,000 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Bayfield and similar soils: 90 percent
Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bayfield

Setting

Landform: Valley flats
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone and shale

Typical profile

A1 - 0 to 2 inches: silty clay loam
A2 - 2 to 4 inches: silty clay loam
Bw1 - 4 to 8 inches: silty clay loam
Bw2 - 8 to 15 inches: silty clay loam
Bw3 - 15 to 20 inches: silty clay loam
C1 - 20 to 35 inches: silty clay
C2 - 35 to 48 inches: silty clay loam
C3 - 48 to 60 inches: silty clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.07 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Carson National Forest, New Mexico, Part of Rio Arriba County

VgA—Vigil very gravelly loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tl88
Elevation: 6,000 to 7,700 feet
Mean annual precipitation: 13 to 20 inches
Mean annual air temperature: 44 to 50 degrees F
Frost-free period: 100 to 125 days
Farmland classification: Not prime farmland

Map Unit Composition

Vigil and similar soils: 80 percent
Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vigil

Setting

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 3 inches: very gravelly loamy fine sand
C1 - 3 to 18 inches: extremely gravelly loamy sand
C2 - 18 to 68 inches: extremely cobbly loamy sand
C3 - 68 to 80 inches: extremely cobbly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (7.09 to 21.26 in/hr)
Depth to water table: About 30 to 70 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R036XC013UT - Southwestern Plateau Riparian Complex Intermittent (Valley Type IV - F4/B4C Stream Type)
Other vegetative classification: RIVER BOTTOM (048AY236CO)
Hydric soil rating: No

Laboratory Analytical Data

Report to:

Brian Conner

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Red Willow Production Co.

Project Name:	NC Ute 23D-2H
Work Order:	E403014
Job Number:	09078-0006
Received:	3/1/2024

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
3/8/24

Date Reported: 3/8/24

Brian Conner
PO Box 737
Ignacio, CO 81137

Project Name: NC Ute 23D-2H
Workorder: E403014
Date Received: 3/1/2024 2:11:00PM

Brian Conner,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/1/2024 2:11:00PM, under the Project Name: NC Ute 23D-2H.

The analytical test results summarized in this report with the Project Name: NC Ute 23D-2H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
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Table of Contents

Sample Summary

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	03/08/24 17:38

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Background	E403014-01A	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
Diversion #1	E403014-02A	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
	E403014-02B	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
Diversion #2	E403014-03A	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
	E403014-03B	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
Diversion #3	E403014-04A	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
	E403014-04B	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
Tank Battery -West	E403014-05A	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
	E403014-05B	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
Tank Battery -East	E403014-06A	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
	E403014-06B	Soil	03/01/24	03/01/24	Glass Jar, 4 oz.
Produced Water	E403014-07A	Aqueous	03/01/24	03/01/24	Poly 500mL

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Background

E403014-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Benzene	ND	0.0250	1	03/04/24	03/06/24	
Ethylbenzene	ND	0.0250	1	03/04/24	03/06/24	
Toluene	ND	0.0250	1	03/04/24	03/06/24	
o-Xylene	ND	0.0250	1	03/04/24	03/06/24	
p,m-Xylene	ND	0.0500	1	03/04/24	03/06/24	
Total Xylenes	ND	0.0250	1	03/04/24	03/06/24	
Surrogate: Bromofluorobenzene		*105 %*	*70-130*	*03/04/24*	*03/06/24*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/04/24*	*03/06/24*	
Surrogate: Toluene-d8		*97.7 %*	*70-130*	*03/04/24*	*03/06/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Gasoline Range Organics (C6-C10)	**22.3**	20.0	1	03/04/24	03/06/24	
Surrogate: Bromofluorobenzene		*105 %*	*70-130*	*03/04/24*	*03/06/24*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/04/24*	*03/06/24*	
Surrogate: Toluene-d8		*97.7 %*	*70-130*	*03/04/24*	*03/06/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2410073
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/24	03/07/24	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/24	03/07/24	
Surrogate: n-Nonane		*100 %*	*50-200*	*03/07/24*	*03/07/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2410051
Chloride	ND	20.0	1	03/05/24	03/05/24	

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Diversion #1

E403014-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Benzene	ND	0.0250	1	03/04/24	03/07/24	
Ethylbenzene	**0.0495**	0.0250	1	03/04/24	03/07/24	
Toluene	**0.101**	0.0250	1	03/04/24	03/07/24	
o-Xylene	**0.0880**	0.0250	1	03/04/24	03/07/24	
p,m-Xylene	**0.320**	0.0500	1	03/04/24	03/07/24	
Total Xylenes	**0.408**	0.0250	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*97.2 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*97.7 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*109 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*97.2 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*97.7 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*109 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2410073
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/24	03/07/24	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/24	03/07/24	
Surrogate: n-Nonane		*101 %*	*50-200*	*03/07/24*	*03/07/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2410051
Chloride	ND	20.0	1	03/05/24	03/05/24	

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Diversion #2

E403014-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Benzene	ND	0.0250	1	03/04/24	03/07/24	
Ethylbenzene	ND	0.0250	1	03/04/24	03/07/24	
Toluene	ND	0.0250	1	03/04/24	03/07/24	
o-Xylene	ND	0.0250	1	03/04/24	03/07/24	
p,m-Xylene	ND	0.0500	1	03/04/24	03/07/24	
Total Xylenes	ND	0.0250	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*96.8 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*107 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*96.8 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*107 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2410073
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/24	03/07/24	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/24	03/07/24	
Surrogate: n-Nonane		*95.9 %*	*50-200*	*03/07/24*	*03/07/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2410051
Chloride	**56.2**	20.0	1	03/05/24	03/05/24	

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Diversion #3

E403014-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Benzene	ND	0.0250	1	03/04/24	03/07/24	
Ethylbenzene	ND	0.0250	1	03/04/24	03/07/24	
Toluene	ND	0.0250	1	03/04/24	03/07/24	
o-Xylene	ND	0.0250	1	03/04/24	03/07/24	
p,m-Xylene	ND	0.0500	1	03/04/24	03/07/24	
Total Xylenes	ND	0.0250	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*99.3 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*99.1 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*99.3 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*99.1 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2410073
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/24	03/07/24	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/24	03/07/24	
Surrogate: n-Nonane		*93.4 %*	*50-200*	*03/07/24*	*03/07/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2410051
Chloride	**29.4**	20.0	1	03/05/24	03/05/24	

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Tank Battery -West

E403014-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Benzene	ND	0.0250	1	03/04/24	03/07/24	
Ethylbenzene	ND	0.0250	1	03/04/24	03/07/24	
Toluene	ND	0.0250	1	03/04/24	03/07/24	
o-Xylene	ND	0.0250	1	03/04/24	03/07/24	
p,m-Xylene	ND	0.0500	1	03/04/24	03/07/24	
Total Xylenes	ND	0.0250	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*102 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*97.5 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*102 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*102 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*97.5 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*102 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2410073
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/24	03/07/24	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/24	03/07/24	
Surrogate: n-Nonane		*99.2 %*	*50-200*	*03/07/24*	*03/07/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2410051
Chloride	**93.8**	20.0	1	03/05/24	03/05/24	

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Tank Battery -East

E403014-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Benzene	ND	0.0250	1	03/04/24	03/07/24	
Ethylbenzene	**0.231**	0.0250	1	03/04/24	03/07/24	
Toluene	**0.930**	0.0250	1	03/04/24	03/07/24	
o-Xylene	**0.751**	0.0250	1	03/04/24	03/07/24	
p,m-Xylene	**1.81**	0.0500	1	03/04/24	03/07/24	
Total Xylenes	**2.56**	0.0250	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*100 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*105 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2410022
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/04/24	03/07/24	
Surrogate: Bromofluorobenzene		*100 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/04/24*	*03/07/24*	
Surrogate: Toluene-d8		*105 %*	*70-130*	*03/04/24*	*03/07/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2410073
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/24	03/07/24	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/24	03/07/24	
Surrogate: n-Nonane		*99.5 %*	*50-200*	*03/07/24*	*03/07/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2410051
Chloride	**105**	20.0	1	03/05/24	03/05/24	

Sample Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Produced Water

E403014-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: JL			Batch: 2410016
Total Dissolved Solids	**6580**	20.0	1	03/04/24	03/07/24	
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units	Analyst: DT			Batch: 2410083
pH @25°C	**7.80**		1	03/07/24 12:52	03/07/24 13:40	H5
Wet Chemistry by 9050A/2510B	uS/cm	uS/cm	Analyst: BA			Batch: 2410066
Specific Conductance (@ 25 C)	**11000**	10.0	1	03/06/24	03/06/24	

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Volatile Organic Compounds by EPA 8260B

Analyst:

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2410022-BLK1)									Prepared: 03/04/24 Analyzed: 03/06/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	*0.490*		*0.500*		*98.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.493*		*0.500*		*98.6*	*70-130*			
Surrogate: Toluene-d8	*0.551*		*0.500*		*110*	*70-130*			
LCS (2410022-BS1)									Prepared: 03/04/24 Analyzed: 03/06/24
Benzene	2.56	0.0250	2.50		102	70-130			
Ethylbenzene	2.50	0.0250	2.50		100	70-130			
Toluene	3.06	0.0250	2.50		122	70-130			
o-Xylene	2.26	0.0250	2.50		90.5	70-130			
p,m-Xylene	4.53	0.0500	5.00		90.6	70-130			
Total Xylenes	6.79	0.0250	7.50		90.6	70-130			
Surrogate: Bromofluorobenzene	*0.518*		*0.500*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.494*		*0.500*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*0.599*		*0.500*		*120*	*70-130*			
Matrix Spike (2410022-MS1)				**Source: E403015-01**					Prepared: 03/04/24 Analyzed: 03/06/24
Benzene	2.54	0.0250	2.50	ND	101	48-131			
Ethylbenzene	2.53	0.0250	2.50	ND	101	45-135			
Toluene	2.75	0.0250	2.50	ND	110	48-130			
o-Xylene	2.39	0.0250	2.50	ND	95.6	43-135			
p,m-Xylene	4.79	0.0500	5.00	ND	95.9	43-135			
Total Xylenes	7.18	0.0250	7.50	ND	95.8	43-135			
Surrogate: Bromofluorobenzene	*0.488*		*0.500*		*97.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.515*		*0.500*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.533*		*0.500*		*107*	*70-130*			
Matrix Spike Dup (2410022-MSD1)				**Source: E403015-01**					Prepared: 03/04/24 Analyzed: 03/06/24
Benzene	2.39	0.0250	2.50	ND	95.5	48-131	6.13	23	
Ethylbenzene	2.46	0.0250	2.50	ND	98.5	45-135	2.55	27	
Toluene	2.50	0.0250	2.50	ND	100	48-130	9.35	24	
o-Xylene	2.53	0.0250	2.50	ND	101	43-135	5.81	27	
p,m-Xylene	5.07	0.0500	5.00	ND	101	43-135	5.71	27	
Total Xylenes	7.61	0.0250	7.50	ND	101	43-135	5.74	27	
Surrogate: Bromofluorobenzene	*0.500*		*0.500*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.472*		*0.500*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*0.490*		*0.500*		*98.0*	*70-130*			

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Wet Chem/Gravimetric by SM2540C

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	
Blank (2410016-BLK1)									Prepared: 03/04/24 Analyzed: 03/07/24
Total Dissolved Solids	ND	10.0							
LCS (2410016-BS1)									Prepared: 03/04/24 Analyzed: 03/07/24
Total Dissolved Solids	83.0	10.0	100		83.0	55-134			
Duplicate (2410016-DUP1)				**Source: E403014-07**					Prepared: 03/04/24 Analyzed: 03/07/24
Total Dissolved Solids	6420	20.0		6580			2.46	5	

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Wet Chemistry by 9040C/4500H+B

Analyst: DT

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	
LCS (2410083-BS1)							Prepared: 03/07/24 Analyzed: 03/07/24		
pH	7.96		8.00		99.7	98.75-101.25			
Duplicate (2410083-DUP1)				**Source: E403014-07**			Prepared: 03/07/24 Analyzed: 03/07/24		
pH	7.74			7.80			0.772	20	

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Wet Chemistry by 9050A/2510B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	
Blank (2410066-BLK1)									Prepared: 03/06/24 Analyzed: 03/06/24
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2410066-BS1)									Prepared: 03/06/24 Analyzed: 03/06/24
Specific Conductance (@ 25 C)	1390	10.0	1410		98.4	98-102			
Duplicate (2410066-DUP1)				**Source: E403014-07**					Prepared: 03/06/24 Analyzed: 03/06/24
Specific Conductance (@ 25 C)	11000	10.0		11000			0.273	20	

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2410022-BLK1)									Prepared: 03/04/24 Analyzed: 03/06/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	*0.490*		*0.500*		*98.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.493*		*0.500*		*98.6*	*70-130*			
Surrogate: Toluene-d8	*0.551*		*0.500*		*110*	*70-130*			
LCS (2410022-BS2)									Prepared: 03/04/24 Analyzed: 03/06/24
Gasoline Range Organics (C6-C10)	58.3	20.0	50.0		117	70-130			
Surrogate: Bromofluorobenzene	*0.516*		*0.500*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.513*		*0.500*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.587*		*0.500*		*117*	*70-130*			
Matrix Spike (2410022-MS2)				**Source: E403015-01**					Prepared: 03/04/24 Analyzed: 03/06/24
Gasoline Range Organics (C6-C10)	55.5	20.0	50.0	ND	111	70-130			
Surrogate: Bromofluorobenzene	*0.506*		*0.500*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.480*		*0.500*		*96.0*	*70-130*			
Surrogate: Toluene-d8	*0.547*		*0.500*		*109*	*70-130*			
Matrix Spike Dup (2410022-MSD2)				**Source: E403015-01**					Prepared: 03/04/24 Analyzed: 03/06/24
Gasoline Range Organics (C6-C10)	56.0	20.0	50.0	ND	112	70-130	0.967	20	
Surrogate: Bromofluorobenzene	*0.496*		*0.500*		*99.1*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.495*		*0.500*		*99.0*	*70-130*			
Surrogate: Toluene-d8	*0.547*		*0.500*		*109*	*70-130*			

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2410073-BLK1)									Prepared: 03/07/24 Analyzed: 03/07/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*54.2*		*50.0*		*108*	*50-200*			
LCS (2410073-BS1)									Prepared: 03/07/24 Analyzed: 03/07/24
Diesel Range Organics (C10-C28)	291	25.0	250		116	38-132			
Surrogate: n-Nonane	*58.1*		*50.0*		*116*	*50-200*			
Matrix Spike (2410073-MS1)				**Source: E403014-03**					Prepared: 03/07/24 Analyzed: 03/07/24
Diesel Range Organics (C10-C28)	287	25.0	250	ND	115	38-132			
Surrogate: n-Nonane	*55.6*		*50.0*		*111*	*50-200*			
Matrix Spike Dup (2410073-MSD1)				**Source: E403014-03**					Prepared: 03/07/24 Analyzed: 03/07/24
Diesel Range Organics (C10-C28)	288	25.0	250	ND	115	38-132	0.325	20	
Surrogate: n-Nonane	*58.3*		*50.0*		*117*	*50-200*			

QC Summary Data

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	**Reported:**
PO Box 737	Project Number:	09078-0006	
Ignacio CO, 81137	Project Manager:	Brian Conner	3/8/2024 5:38:58PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2410051-BLK1)									Prepared: 03/05/24 Analyzed: 03/06/24
Chloride	ND	20.0							
LCS (2410051-BS1)									Prepared: 03/05/24 Analyzed: 03/06/24
Chloride	245	20.0	250		98.1	90-110			
Matrix Spike (2410051-MS1)				**Source: E403009-03**					Prepared: 03/05/24 Analyzed: 03/06/24
Chloride	256	20.0	250	ND	102	80-120			
Matrix Spike Dup (2410051-MSD1)				**Source: E403009-03**					Prepared: 03/05/24 Analyzed: 03/06/24
Chloride	257	20.0	250	ND	103	80-120	0.477	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Red Willow Production Co.	Project Name:	NC Ute 23D-2H	
PO Box 737	Project Number:	09078-0006	**Reported:**
Ignacio CO, 81137	Project Manager:	Brian Conner	03/08/24 17:38

H5	pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information | Chain of Custody | Page 1 of 1

Client:	RWPC
Project:	NC Ute 231-2H
Project Manager:	Brian Conner
Address:	14933 Highway 172
City, State, Zip	Ignacio, Co. 81137
Phone:	970-553-9127
Email:	bconner@rwpc.us; ehscompliance@rwpc.us
Report due by:	

Bill To

Attention:	RWPC
Address:	14933 Highway 172
City, State, Zip	Ignacio, Co. 81137
Phone:	970-563-5100
Email:	accountspayable@rwpc.us

Lab Use Only

Lab WO#	Job Number
E403014	09078-0006

TAT

1D	2D	3D	Standard
			X

EPA Program

CWA	SDWA	RCRA

State

NM	CO	UT	AZ	TX	
X					

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS, EC, pH	Benzene 8260b	Remarks
11:00am	3-1-24	S	1 g	Background	1	X	X	X			X		X	
10:30am	3-1-24	S	2 g	Diversion #1	2	X	X	X			X		X	
10:15am	3-1-24	S	2 g	Diversion #2	3	X	X	X			X		X	
10:10am	3-1-24	S	2 g	Diversion #3	4	X	X	X			X		X	
10:15am	3-1-24	S	2 g	Tank Battery - West	5	X	X	X			X		X	
11:25am	3-1-24	S	2 g	Tank Battery - East	6	X	X	X			X		X	
10:40am	3-1-24	A	1 p	Produced Water	7							X		

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Brian Conner

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	3-1-24	2:06pm	[signature]	3/1/24	14:11
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on ice: (Y) / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 3/4/2024 10:50:28AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Red Willow Production Co.	Date Received:	03/01/24 14:11	Work Order ID:	E403014
Phone:	(970)563-0145	Date Logged In:	03/02/24 10:43	Logged In By:	Alexa Michaels
Email:	bconner@rwpc.us	Due Date:	03/08/24 17:00 (5 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Brian Conner
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	

Sample Cooler

7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		

Sample Container

14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	

Field Label

20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	Yes	
Collectors name?	Yes	

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filteration required and/or requested for dissolved metals?	No	

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

Reportable Release Photographic Documentation

NC Ute 23D #002H (nAPP2401640502)

Frozen produced water gathered in lined steel ring tank battery.

Frozen produced water gathered in lined steel ring tank battery.

Released produced water was pulled by a vac truck; remaining ice will be pulled as it thaws.

Released produced water was pulled by a vac truck; remaining ice will be pulled as it thaws.

Looking North: Liquids and gravel were pulled from the secondary containment.

Small holes found in liner, approximately 0.5” diameter.

Small hole found in liner, approximately 0.5” diameter.

One of the holes cut into the line to collect samples from underneath the tank battery.

Sample “Diversion #2” collected from diversion ditch. Please note that the area is saturated from snowmelt coming from the North-facing slope above the diversion and is not produced water.

Sample “Diversion #1” collected from diversion ditch. Please note that the area is saturated from snowmelt coming from the North-facing slope above the diversion and is not produced water.

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QUESTIONS

Action 325013

QUESTIONS

Operator: RED WILLOW PRODUCTION COMPANY P.O. Box 369 Ignacio, CO 81137	OGRID: 216282
	Action Number: 325013
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2401640502**
Incident Name	**NAPP2401640502 NC UTE 23D #002H @ 30-039-31020**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-039-31020] NC UTE 23D #002H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	NC UTE 23D #002H
Date Release Discovered	01/15/2024
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Freeze | Pump | Produced Water | Released: 150 BBL | Recovered: 150 BBL | Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

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QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	False
If all the actions described above have not been undertaken, explain why	The produced water collected in a synthetically lined secondary containment and a vac truck was dispatched to recover the liquid as soon as the release was discovered. There is a volume of produced water that is frozen and not currently recoverable. Nothing has escaped secondary containment.
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Mitchell Morris Title: Environmental Compliance Specialist II-Air Email: mmorris@rwpc.us Date: 01/16/2024

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QUESTIONS (continued)

Operator: RED WILLOW PRODUCTION COMPANY P.O. Box 369 Ignacio, CO 81137	OGRID: 216282
	Action Number: 325013
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Between 200 and 300 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	Yes
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	01/15/2024
On what date will (or did) the final sampling or liner inspection occur	03/01/2024
On what date will (or was) the remediation complete(d)	03/19/2024
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Number: 325013
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
Is (or was) there affected material present needing to be removed	No
Is (or was) there a power wash of the lined containment area (to be) performed	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	Removed released water with vac truck on the day of discovery. Performed initial soil sampling and results indicated all constituents below regulatory requirements.
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Mitchell Morris Title: Environmental Compliance Specialist II-Air Email: mmorris@rwpc.us Date: 03/21/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Liner Inspection Information	
Last liner inspection notification (C-141L) recorded	***{Unavailable.}***
Was all the impacted materials removed from the liner	*Unavailable.*

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**Yes**
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
Summarize any additional remediation activities not included by answers (above)	No additional action necessary. Lost liquid was recovered by vac truck and soil samples are clean.

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Mitchell Morris Title: Environmental Compliance Specialist II-Air Email: mmorris@rwpc.us Date: 03/21/2024

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CONDITIONS

Action 325013

CONDITIONS

Operator:	OGRID:
RED WILLOW PRODUCTION COMPANY P.O. Box 369 Ignacio, CO 81137	216282
	Action Number: 325013
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	None	5/23/2024