

Location Checklist



Operator / #	EXTRACTION OIL & GAS INC / 10459		
Location ID & Name	329854 KAMMERZELL-65N66W/29NWNW		
County	WELD, CO		
Well Information	Well Name:	KAMMERZELL #29-4H6	
	Well API #:	05-123-17938	
	Lat/Long as Drilled:	40.372780 / -104.809850	
	Plug Date & Form 6s Doc #:	11/07/2019 (Cut and Cap Date), 402237418	
Facility Entities	<input checked="" type="checkbox"/> Tank Battery (Off-Site)		Pits
	<input checked="" type="checkbox"/> Wells	<input checked="" type="checkbox"/>	On-Location Flowlines (Form 42) Doc #: 402215216
	<input type="checkbox"/> Domestic Taps	<input checked="" type="checkbox"/>	Off-Location Flowlines (Form 44) Doc #: 402539851
Equipment On-Site	<input checked="" type="checkbox"/> None		Debris
	Pit mouse/rat holes, cellars backfilled		
Access Road	<input checked="" type="checkbox"/> Regraded	<input checked="" type="checkbox"/>	Contoured
	<input type="checkbox"/> Culverts removed	<input checked="" type="checkbox"/>	Gravel removed
	Pre-Existing (Must provide supporting documentation)		
Reclamation Status	<input checked="" type="checkbox"/> Location and associated disturbances reclaimed		
	<input type="checkbox"/> Subsidence		
Spills or Releases (Form 19)	<input checked="" type="checkbox"/> No		Yes
Remediation (Form 27/27A)	<input checked="" type="checkbox"/> No		Yes
On-Location Flowlines	<input type="checkbox"/> No	<input checked="" type="checkbox"/>	Yes
Off-Location Flowlines	<input type="checkbox"/> No	<input checked="" type="checkbox"/>	Yes
Inspection Corrective Actions	<input type="checkbox"/> No	<input checked="" type="checkbox"/>	Yes – Resolved 2019
Sundry Notice	Form 4 Doc # & Date:	401149897 & 12/02/2016	
	Purpose:	Interim reclamation complete, site ready for inspection.	
	Comments:	The approval of this Form 4 is an acknowledgement that the document and attachments were received. It is not an approval of the interim reclamation as the outcome of the methods will be determined on the ground during an inspection at a future date.	
	Attachments:	Location Photos Doc # 401149902	
Drone Information	Make & Model	DJI M300/DJI Mavic 3 Multispectral	
	Image Processing Software	Pix4dfields – RGB/Multispectral Imagery & Pix4dmatic – RGB Imagery	
	Pilot Name & FAA Certificate #	Sam Streeter, #4100157	
	Date of FAA Certificate Issuance	23 Dec 2023	

**SITE-SPECIFIC QUALITY ASSURANCE
& QUALITY CONTROL AUDIT**



Final Reclamation Complete Notice – Cropland Drone Imagery

PERMIT CLOSURE REPORT – CROPLAND

Location ID 329854

Location Name KAMMERZELL-65N66W/29NWNW

Report Date

23 Jan 2024

Soil Sage has conducted a thorough data audit as part of our Quality Assurance and Quality Control (QA/QC) protocols. This report was developed in accordance with the ECMC Operator Guidance – Operator supplied cropland drone imagery and information for submitting a final reclamation complete notice.

Crop Year and Type

Crop 2023 – Alfalfa

Crop 2022 – Alfalfa

Quality Assurance & Quality Control Audit

Auditor	Soil Sage
Audit Date	30 Nov 2023

Audit Methodology

The following source materials were consulted during the QA and QC audit process:

- ✓ Site Permit Closures provided by CIVITAS Resources
- ✓ Colorado Oil & Gas Information System – COGIS Database
- ✓ On-site Evaluation and Proprietary Soil Sage Drone Imagery data collection
- ✓ Review of legacy imagery for site location and facility parameters

All pertinent data, imagery, and materials are included at the end of this report.

Site Description

Name	KAMMERZELL-65N66W/29NWNW		
Location ID	329854		
Operator / #	EXTRACTION OIL & GAS INC / 10459		
Field	WATTENBERG / 90750		
County, State	WELD, CO		
Lat/Long	40.375874 / -104.811333		
	<input checked="" type="checkbox"/>	Planned Location	As Drilled
Facility Status	CL	Location	NWNW 29 5N66W
Facility Status Date	11/07/2019		
Facility Entities	<input checked="" type="checkbox"/>	Tank Battery (Off-Site)	Pits
	<input checked="" type="checkbox"/>	Wells	<input checked="" type="checkbox"/> Off-Location Flowlines (Form 44)
		Domestic Taps	<input checked="" type="checkbox"/> On-Location Flowlines (Form 42)
		Electric Utilities	
Equipment on Site	<input checked="" type="checkbox"/>	No	Yes
		If yes, list:	
		Pit mouse/rat holes, cellars backfilled	
Access Road	<input checked="" type="checkbox"/>	Regraded	<input checked="" type="checkbox"/> Contoured
		Culverts Removed	<input checked="" type="checkbox"/> Gravel Removed
		Pre-Existing: must provide supporting documentation	
Environment Incidents & Remediation	<input checked="" type="checkbox"/>	None	Spill or Release (Form 19)
		Remediation (Form 27/27A)	
Variance Requests	No Variance Requests were detected during this QA & QC Audit.		
Inspection Corrective Actions (CA)s	<p>Corrective Actions (CA)s were detected during the QA & QC Audit.</p> <p>CA-Approving Inspection Overall Status: This is a Follow Up Inspection, No Follow Up Inspection Required</p> <p>CA-Approving Inspection Doc # & Date: 696300157 & 05/07/2019</p> <ul style="list-style-type: none"> ○ Inspector: Erica Petrie ○ Satisfactory/Action Required: The trash from previous inspection Doc ID #691200035 has been mitigated. See photo #1. The unused equipment from previous inspection Doc ID #691200035 was been mitigated. See photo #1. <p>Originating Field Inspection Report (FIR) Doc #: 691200035 & 04/03/2018</p> <ul style="list-style-type: none"> ○ Corrective Action: UNUSED EQUIPMENT. Found multiple unused 		

	<p>fittings near separator dump lines. Statewide unused equipment, weeds, waste, and trash requirements. Comply with Rule 603.f . CA Date: 04/30/2018</p> <ul style="list-style-type: none"> ○ Corrective Action: TRASH. Found large rag on ground near separator volume pot. Statewide unused equipment, weeds, waste, and trash requirements. Comply with Rule 603.f . CA Date: 04/11/2018
	<p>Complete ECMC Inspection Search Results: Link</p>
<p>Sundry Notice (Form 4)</p>	<p>Form 4s were detected during the QA & QC Audit. See individual scout card data for details.</p>
<p>On Location Flowlines (Form 42)</p>	<p>Form 42s were detected during the QA & QC Audit. See individual scout card data for details.</p>
<p>Off-Location Flowlines (Form 44)</p>	<p>Form 44 Doc # & Date: 402539851 & 05/18/2021</p> <ul style="list-style-type: none"> ○ Purpose: Off-Location Flowline Abandonment Verification ○ Abandonment Date: 01/21/2020 ○ ECMC Approval Date & Signee: ○ Operator Comments: This Form 44 is being submitted for two (2) Flowline Abandonments. Both flowlines have been removed in their entirety. 12317938FL - Previously serviced the Kammerzell 29-4H6 well (API #05-123-17938) - Recent PRESSURE TEST attached. - Updated GIS shapefile attached. 12317939FL - Previously serviced the Kammerzell 29-5 well (API #05-123-17939). - Recent PRESSURE TEST attached. - Updated GIS shapefile attached. ○ Notes: This Form 44 contains data for two off-location flowlines. This Location is associated with Flowline ID 465382 listed below. <p>Flowline Facility Information</p> <ul style="list-style-type: none"> ○ ECMC Flowline ID: 465382 ○ Operator Flowline ID: 12317938FL ○ Status & Date: AC & 05/18/2021 ○ Flowline Type: Wellhead Line ○ Type of Fluids Transported: Multiphase ○ Start Point Location ID: 329854

	<ul style="list-style-type: none"> ○ Start Point Riser Lat/Long: 40.372751 / -104.809850 (Kammerzell #29-4H6 Well) ○ Equipment at Start Point: Well ○ End Point Location ID: 448598 ○ End Point Riser Lat/Long: 40.372437 / -104.812199 (Kammerzell 29 Production Facilities) ○ Equipment at End Point Riser: Separator
<p>Field Inspection Form (Form INSP)</p>	<p>Form INSP Doc # & Date: 696300157 & 05/07/2019</p> <ul style="list-style-type: none"> ○ Status Summary: This is a Follow Up Inspection, No Follow Up Inspection Required ○ Inspected Facilities: Location ID 329854 ○ Inspection Status: Not Listed ○ Inspection Date & Inspector: 05/07/2019 by Erica Petrie ○ Comments: COGCC Inspection Report Summary. On Tuesday, 04/30/2019 at approximately 09:42 AM I, Inspector Erica Petrie, conducted a Follow-Up Field Inspection at Extraction Oil and Gas INC, Kammerzell 29-4H6, Location #329854 in Weld, Colorado. During this Follow-Up Inspection the following were observed: The unused equipment from previous inspection Doc ID #691200035 has been mitigated. See photo #1. The trash from previous inspection Doc ID #691200035 was been mitigated. See photo #1. No further action is required at this time. This is a summary of inspection report. ○ Attachments: Inspection Photos Doc #696300158. <p>Form INSP Doc # & Date: 691200035 & 04/03/2018</p> <ul style="list-style-type: none"> ○ Status Summary: Follow Up Inspection Required ○ Inspected Facilities: Kammerzell 29-4H6 well ○ Inspection Status: PR ○ Inspection Date & Inspector: 03/26/2018 by Bret Evins ○ Comments: Kammerzell 29-4H6 well access road is adequate. Current sign at Kammerzell 29-4H6 well is accurate correcting the CA from previous inspection conducted on 12/8/2017 (DOC #689300470). Berms capacity appears inadequate. Shares berms with 2 produced oil tanks. ○ Corrective Action: Found multiple unused fittings near separator dump lines. Statewide unused equipment, weeds, waste, and trash requirements. Comply with Rule 603.f.

	<p>CA Date: 04/30/2018</p> <ul style="list-style-type: none"> ○ Corrective Action: Found large rag on ground near separator volume pot. Statewide unused equipment, weeds, waste, and trash requirements. Comply with Rule 603.f. <p>CA Date: 04/11/2018</p> <ul style="list-style-type: none"> ○ Attachments: Inspection Photos Doc #691200036.
COGIS Tank Facilities Information (Scout Card)	<p>Tank Battery Name: Kammerzell 29 Location</p> <p>FACILITY ID: 448599</p> <ul style="list-style-type: none"> ○ Status & Date: AC & 12/07/2016 ○ Lat/Long: 40.372491 / -104.812466 ○ Notes: This is a shared, off-site tank battery with Kammerzell 29-5 well (API #05-123-17939).
COGIS Well Information (Scout Card)	<p>Well Name: KAMMERZELL #29-4H6</p> <p>API#: 05-123-17938</p> <p>FACILITY ID: 250135</p> <ul style="list-style-type: none"> ○ Status & Date: PA & 11/07/2019 ○ Lat/Long As Drilled: 40.372780 / -104.809850 ○ Form 6 Doc # & Date: 402237418 & 03/02/2020 ○ Form 42 Doc # & Date: 402215216 & 10/21/2019 Purpose: Start of Plugging Operations – 48-hour notice required. ○ Form 4 Doc # & Date: 401149897 & 12/02/2016 Purpose: Interim reclamation complete, site ready for inspection. <p>Attachments: Location Photos Doc #401149902</p>

ECMC Abbreviations: [Location & Facility Status Codes](#), [Inspection Types & Statuses](#) and [ECMC Help](#).

Audit Key Findings – Designation Land Use Observations

PREVIOUS LAND USE	CURRENT LAND USE
<p>Reference Imagery for Infrastructure: DigitalGlobe 2016</p>	<p>Remotely Sensed Imagery: 28 Aug 2023; 27 Jun 2023</p>
<p>Designation: Oil & Gas Facility</p>	<p>Designation: Cropland</p>

The following imagery sources were reviewed during this audit:

EarthExplorer, DRCOG 2002 - 2014, NAIP Imagery 2011, 2013, 2015, 2017, 2019, 2021, ESRI Maxar and Remotely Sensed Imagery Sep 2022

Closure Information

KAMMERZELL #29-4H6 well (API #[05-123-17938](#)) is located in Weld County, Colorado near the intersection of W 37th St and 77th Ave. There is an Off-Location Flowline between this well and the tank battery at Location ID [448598](#) Kammerzell 29 Production Facilities.

There was a Corrective Action at this location in 2018 due to unused equipment and trash at the location. The inspection found multiple unused fittings and a large rag around the separator. This was resolved by an ECMC inspection approving the CA in 2019.

KAMMERZELL #29-4H6 well (API #[05-123-17938](#)) was plugged and abandoned on 11/07/2019. The access road was reclaimed at this time. The related facility, Location ID [448598](#), was closed and reclaimed within the same timeframe as the well.

Soil Sage drone imagery confirms that no equipment was left on site at this location after reclamation activities occurred.

Summary Acreage Table

Description	Acres
Historic Disturbance Extent	0.62
Access Road	0.52
Flowline	Not Included
Tank Battery	Off-Site (Loc ID 448598)
Well Pad	0.10

Drone Information

Make	DJI
Model	M300/Mavic 3 Multispectral
Image Processing Software	Pix4dfields – RGB/Multispectral Imagery & Pix4dmatic – RGB Imagery
Pilot Name	Sam Streeter
Pilot FAA Certificate Number	4100157
Date of FAA Certificate Issuance	23 Dec 2023

Pre-Plugging Active Operations Location Overview



Infrastructure

Facility – CL – 11/07/2019
 Well – PA – 11/07/2019
 Tank Battery – Off-Site - AC - 12/7/2016
 Pit – NA
 Road – Oil and Gas Access
 On-Location FLO – 402215216 – 10/21/2019
 Off-Location FLO – 402539851 – 05/18/2021
 Environmental – NA

CIV - 329854 - Kammerzell 29-4H6
Map Extent - Pre-Plugging Road
Overview

Imagery: DigitalGlobe
 Imagery Date: 12 Jul 2016
 Map Date: 22 Jan 2024
 Datum: WGS 1984 UTM Zone 13N
 POC: Soil Sage

Legend

- ◆ Wells
- Flowline
- ▭ Historic Disturbance Extent
- ▭ Road



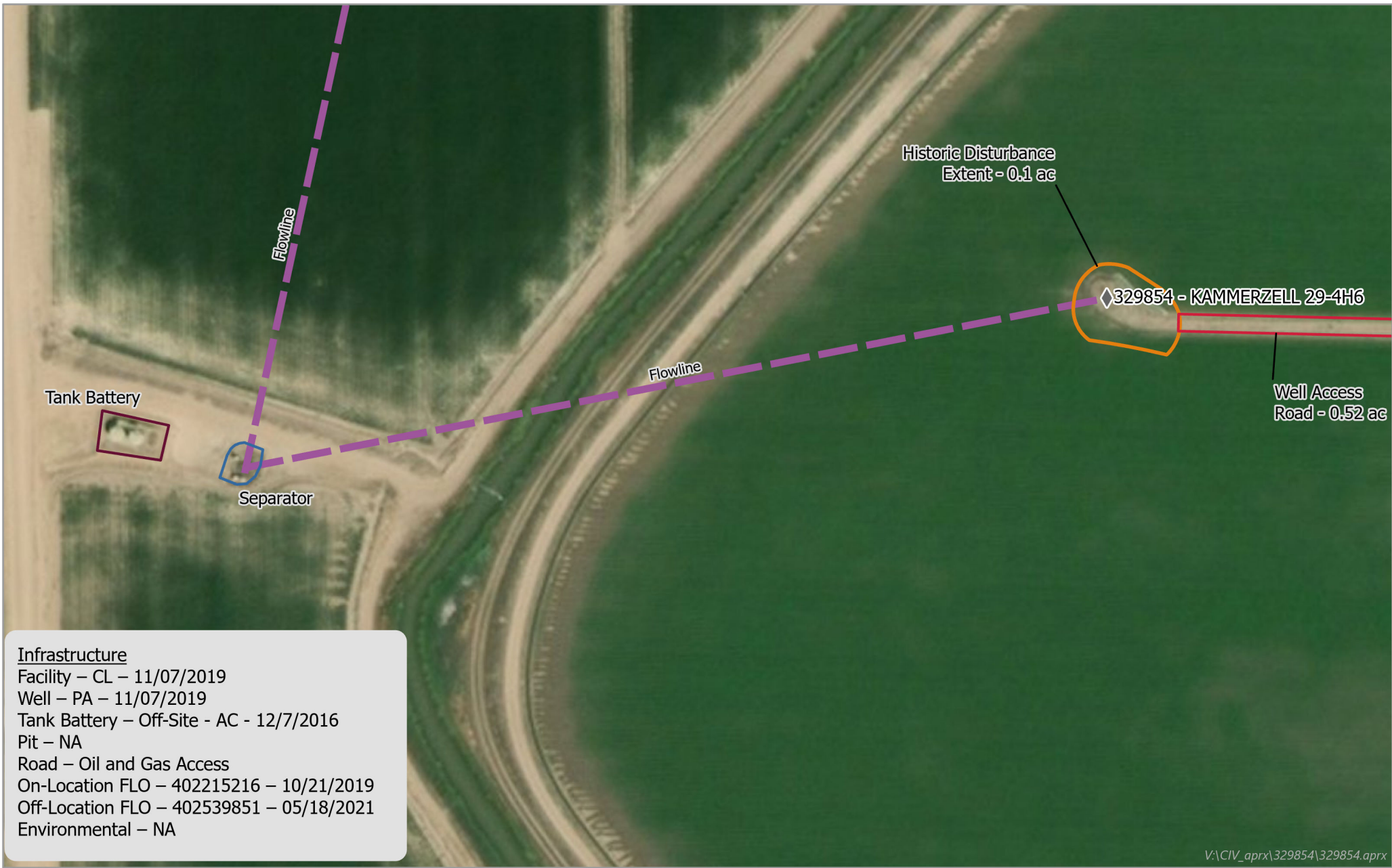
Total Disturbance:
 0.62 Acres
 Scale: 1:3,000

Pad Location:
 40.372780
 -104.809850



Service Credits - esi_imagery, Maxar, Microsoft

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Infrastructure

Facility – CL – 11/07/2019
 Well – PA – 11/07/2019
 Tank Battery – Off-Site - AC - 12/7/2016
 Pit – NA
 Road – Oil and Gas Access
 On-Location FLO – 402215216 – 10/21/2019
 Off-Location FLO – 402539851 – 05/18/2021
 Environmental – NA

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**CIV - 329854 - Kammerzell 29-4H6
 Map Extent - Pre-Plugging Overview**

Imagery: DigitalGlobe
 Imagery Date: 12 Jul 2016
 Map Date: 04 Jan 2024
 Datum: WGS 1984 UTM Zone 13N
 POC: Soil Sage

- ◆ Wells
- Flowline
- ▭ Historic Disturbance Extent
- ▭ Road
- ▭ Tank Battery
- ▭ Separator

0 30 60 Meters

Total Disturbance: 0.62 Acres
 Scale: 1:1,200

Pad Location:
 40.372780
 -104.809850



Post-Plugging and Abandonment Location Overview



Infrastructure

Facility – CL – 11/07/2019
 Well – PA – 11/07/2019
 Tank Battery – Off-Site - AC - 12/7/2016
 Pit – NA
 Road – Oil and Gas Access
 On-Location FLO – 402215216 – 10/21/2019
 Off-Location FLO – 402539851 – 05/18/2021
 Environmental – NA

**CIV - 329854 - Kammerzell 29-4H6
 Map Extent - Post-Plugging Road
 Overview**

Imagery: RS Orthomosaic and DSM
 Imagery Date: 28 Aug 2023
 Map Date: 22 Jan 2024
 Datum: WGS 1984 UTM Zone 13N
 POC: Soil Sage

Legend

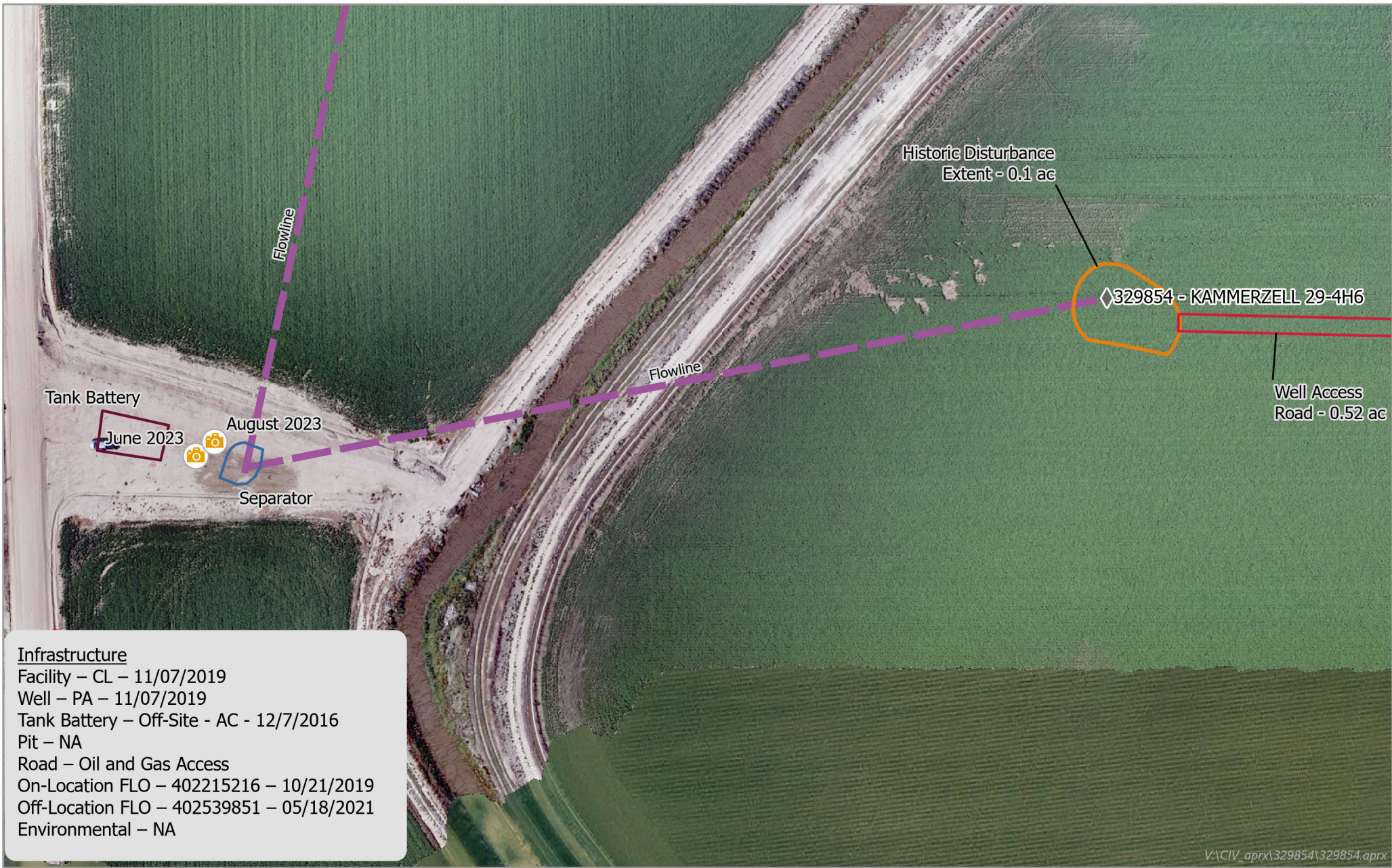
- ◆ Wells
- Flowline
- Historic Disturbance Extent
- Tank Battery
- Separator
- Road



Total Disturbance:
 0.62 Acres
 Scale: 1:3,000

Pad Location:
 40.372780
 -104.809850





Infrastructure

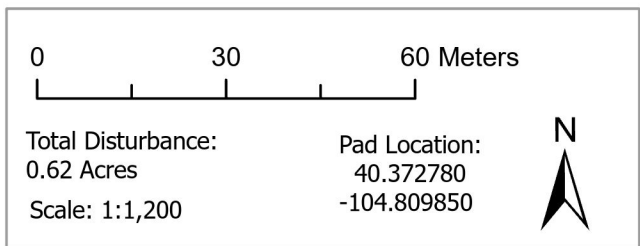
Facility – CL – 11/07/2019
 Well – PA – 11/07/2019
 Tank Battery – Off-Site - AC - 12/7/2016
 Pit – NA
 Road – Oil and Gas Access
 On-Location FLO – 402215216 – 10/21/2019
 Off-Location FLO – 402539851 – 05/18/2021
 Environmental – NA

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Service Credits - Maxar, Microsoft

**CIV - 329854 - Kammerzell 29-4H6
Map Extent - Post-Plugging Overview**

Imagery: RS Orthomosaic and DSM
 Imagery Date: 28 Aug 2023
 Map Date: 04 Jan 2024
 Datum: WGS 1984 UTM Zone 13N
 POC: Soil Sage



Cardinal Directional Drone Photos & Reference Area Photos

Site Investigation and Photos Date

28 Aug 2023

Drone Photo Height

170 feet

Cardinal directional photos of the site. Reference overview map.



In View – Well, Access Road, Flowline

NORTH – 40.372082 / -104.809849



In View – Well, Access Road, Flowline

EAST – 40.372846 / -104.810769



In View – Well, Access Road, Flowline

SOUTH – 40.373331 / -104.809820



In View – Well, Access Road, Flowline

SOUTH – 40.372095 / -104.810903



In View – Well, Access Road, Flowline

WEST – 40.372758 / -104.809274



In View – Well, Tank Battery, Access Road, Flowline

WEST – 40.372758 / -104.808796



In View – Well, Access Road, Flowline

EAST – 40.372908 / -104.810676



In View – Well, Access Road, Flowline

EAST – 40.372608 / -104.810684



In View – Well, Tank Battery, Access Road, Flowline

WEST – 40.372757 / -104.805356



In View – Tank Battery, Flowline

NORTH – 40.371418 / -104.812191



In View – Tank Battery, Flowline

EAST – 40.372449 / -104.813546



In View – Tank Battery, Flowline

EAST – 40.372323 / -104.813675



In View – Tank Battery, Flowline

SOUTH – 40.373320 / -104.812388



In View – Tank Battery, Flowline

WEST – 40.372475 / -104.810709

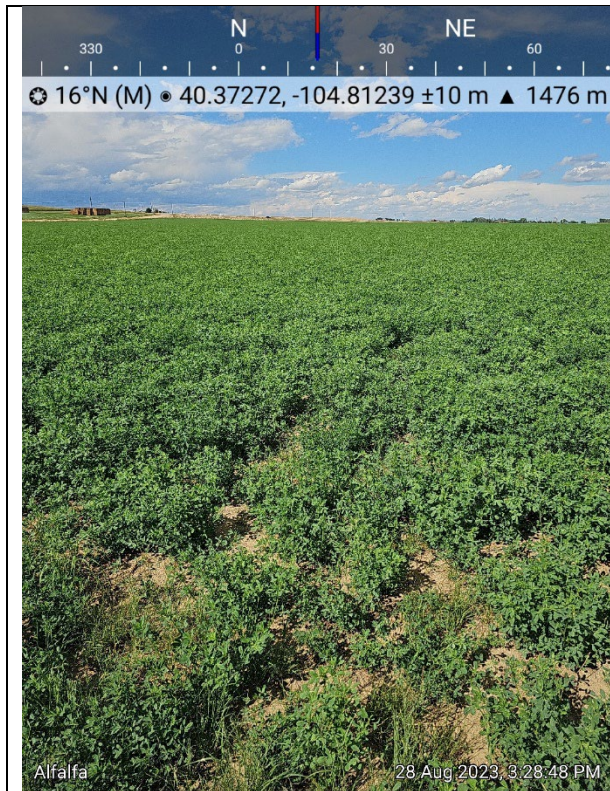
Well – Handheld Photographic Evidence

Site Investigation and Photos Date

28 Aug 2023

Handheld photos taken from the production facilities for the well, at Location ID [448598](#). No handheld photos taken from Kammerzell 29-4H6 wellhead location due to crop height.

 <p>87°E (M) • 40.372487, -104.812331 ±5 m ▲ 1476 m</p> <p>East Tank Battery 28 Aug 2023, 3:30:03 PM</p>	 <p>349°N (M) • 40.372708, -104.812355 ±4 m ▲ 1476 m</p> <p>Alfalfa - Scale 28 Aug 2023, 3:29:08 PM</p>
<p>Looking East at tank battery and separator location towards wellhead – 40.372487 / -104.812331</p>	<p>Alfalfa field – helmet for scale – 40.372708 / -104.812355</p>



Looking North into alfalfa field –
40.372720 / -104.812390



Looking North into alfalfa field –
40.372635 / -104.812341

Cardinal Directional Drone Photos Showing No Equipment Remaining

Site Investigation and Photos Date

27 Jun 2023

Drone Photo Height

330 feet

Cardinal directional of the site. Reference overview map.



In View – Well, Access Road, Flowline

NORTH – 40.372218 / -104.809756



In View – Well, Access Road, Flowline

EAST – 40.373067 / -104.810751



In View – Well, Access Road, Flowline

SOUTH – 40.373880 / -104.809669



In View – Well, Tank Battery, Access Road, Flowline

WEST – 40.373162 / -104.808343



In View – Tank Battery, Flowline

NORTH – 40.371467 / -104.812280



In View – Well, Tank Battery, Access Road, Flowline

EAST – 40.372605 / -104.813673



In View – Tank Battery, Flowline

SOUTH – 40.373425 / -104.812476



In View – Tank Battery, Flowline


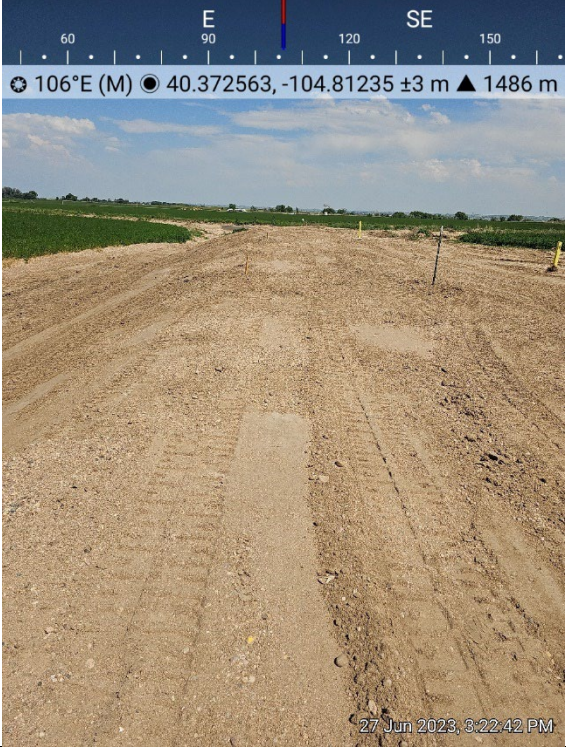
WEST – 40.372465 / -104.811086

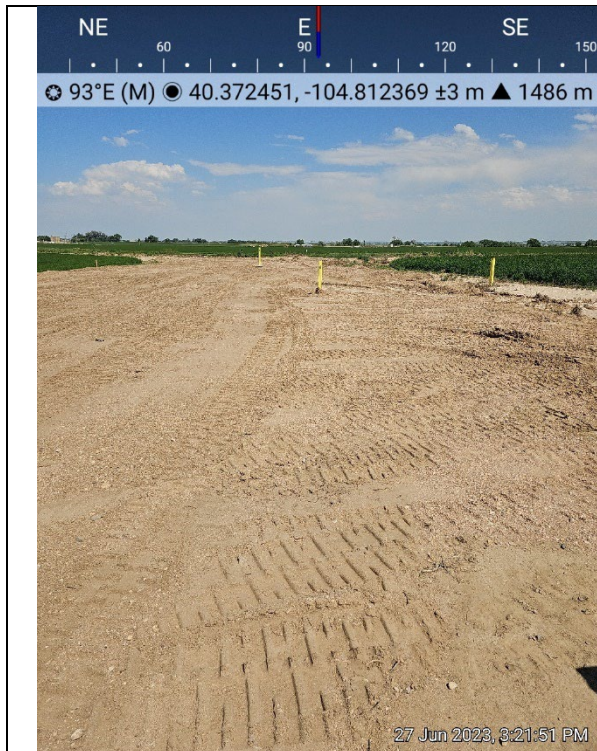
Well – Handheld Photographic Evidence

Site Investigation and Photos Date

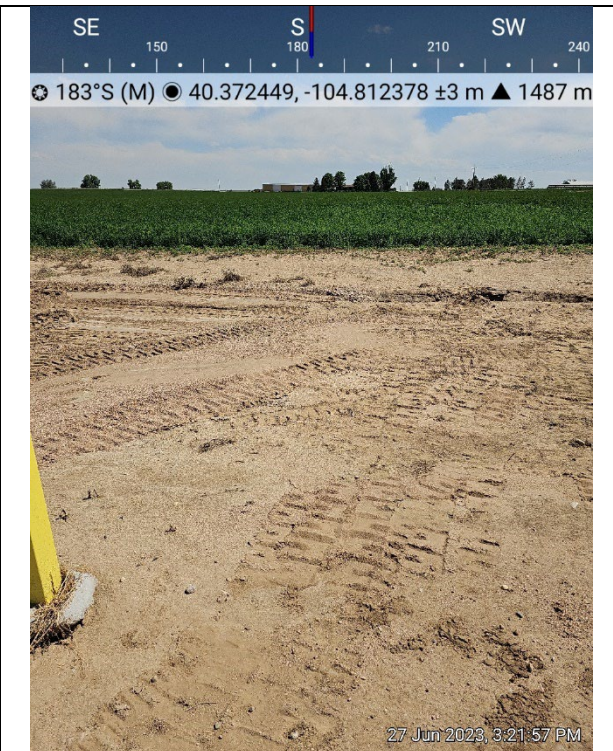
27 Jun 2023

Handheld photos taken from the production facilities for the well, at Location ID [448598](#), looking towards wellhead. No handheld photos taken from Kammerzell 29-4H6 wellhead location due to crop height.

	
<p>Looking North at tank battery and separator location – 40.372459 / -104.812371</p>	<p>Looking East at tank battery and separator location towards wellhead – 40.372563 / -104.812350</p>



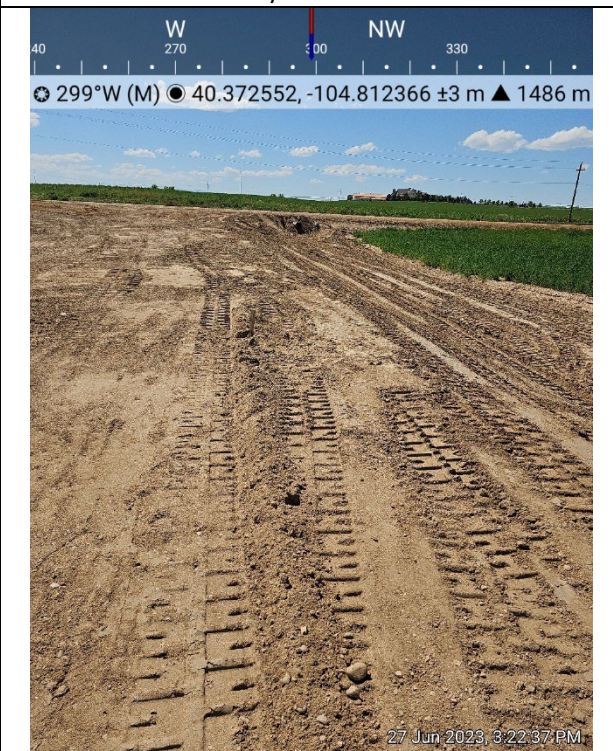
Looking East at tank battery and separator location – 40.372451 / -104.812369



Looking South at tank battery and separator location – 40.372449 / -104.812378



Looking West at tank battery and separator location – 40.372450 / -104.812381



Looking Northwest at tank battery and separator location – 40.372552 / -104.812366



Looking Southeast at tank battery and separator location – 40.372465 / -104.812351



Monitoring well at tank battery and separator location – 40.372527 / -104.812232


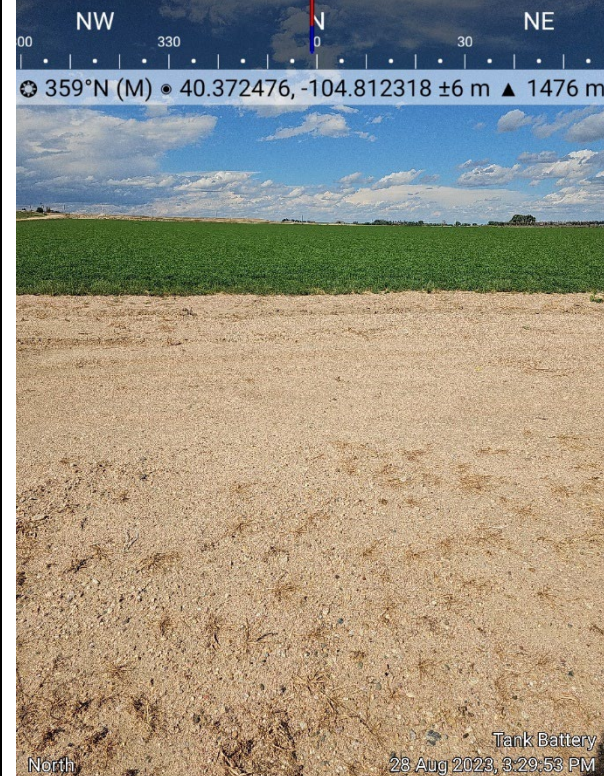


Monitoring well at tank battery and separator location – 40.372456 / -104.812369

Off-Location Tank Battery Outside of the Cropland – Handheld Photographic Evidence

Site Investigation and Photos Date

28 Aug 2023

 <p>SE 150 S 180 SW 210 240 192°S (M) • 40.372415, -104.812302 ±5 m ▲ 1486 m Overhead Tank Battery 28 Aug 2023, 3:30:24 PM</p>	 <p>NW 00 N 0 NE 30 359°N (M) • 40.372476, -104.812318 ±6 m ▲ 1476 m North Tank Battery 28 Aug 2023, 3:29:53 PM</p>
<p>Overhead photo at tank battery and separator location – 40.372415 / -104.812302</p>	<p>Looking North from tank battery and separator location – 40.372476 / -104.812318</p>



Looking East at tank battery and separator location – 40.372487 / -104.812331



Looking South at tank battery and separator location – 40.372489 / -104.812319



Looking West at tank battery and separator location – 40.372484 / -104.812314

ATTACHMENTS

Maps and Figures

Area Maps

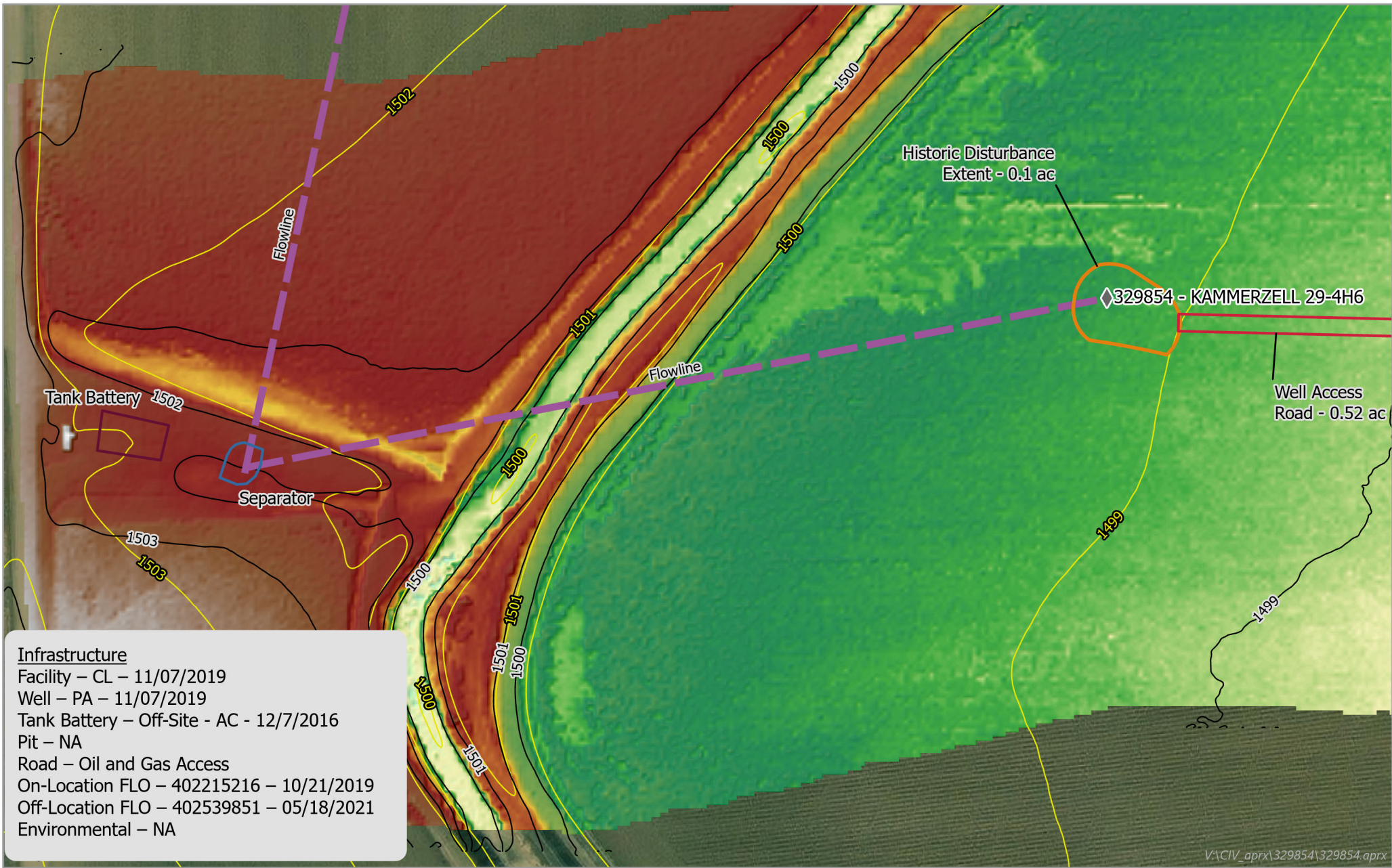
Elevation & Contours

Hydrology

Background Information

Natural Resources Conservation Service (NRCS) Map Unit Description

Reference Soil Document

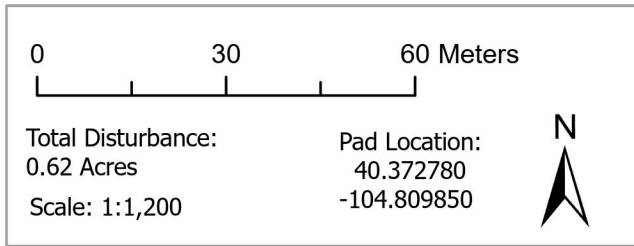
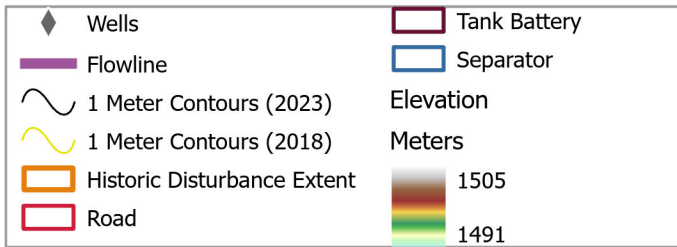


Infrastructure

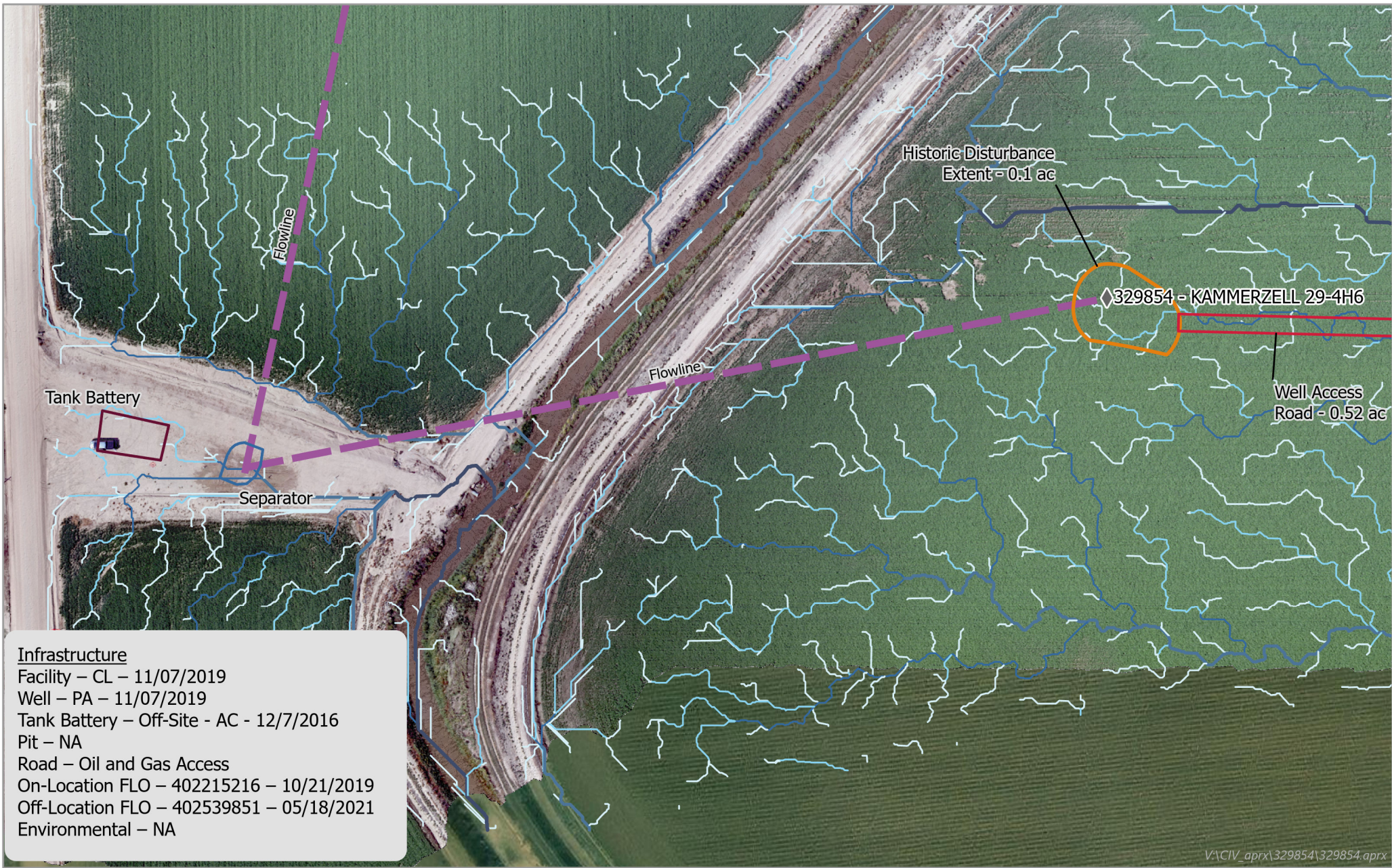
Facility – CL – 11/07/2019
 Well – PA – 11/07/2019
 Tank Battery – Off-Site - AC - 12/7/2016
 Pit – NA
 Road – Oil and Gas Access
 On-Location FLO – 402215216 – 10/21/2019
 Off-Location FLO – 402539851 – 05/18/2021
 Environmental – NA

**CIV - 329854 - Kammerzell 29-4H6
Map Extent - Elevation & Contours**

Imagery: RS DSM, CWCB
 Imagery Date: 27 Jun 2023, 2018
 Map Date: 04 Jan 2024
 Datum: WGS 1984 UTM Zone 13N
 POC: Soil Sage



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Service Credits - Maxar, Microsoft



Infrastructure

Facility - CL - 11/07/2019
 Well - PA - 11/07/2019
 Tank Battery - Off-Site - AC - 12/7/2016
 Pit - NA
 Road - Oil and Gas Access
 On-Location FLO - 402215216 - 10/21/2019
 Off-Location FLO - 402539851 - 05/18/2021
 Environmental - NA

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CIV - 329854 - Kammerzell 29-4H6
Map Extent - Hydro

Imagery: RS DSM, Orthomosaic
 Imagery Date: 27 Jun 2023, 28 Aug 2023
 Map Date: 04 Jan 2024
 Datum: WGS 1984 UTM Zone 13N
 POC: Soil Sage

◆ Wells	Stream Order
— Flowline	— 1
— Historic Disturbance Extent	— 2
— Road	— 3
— Tank Battery	— 4
— Separator	— 5

0 30 60 Meters

Total Disturbance: 0.62 Acres

Scale: 1:1,200

Pad Location: 40.372780
-104.809850



Service Credits - Maxar, Microsoft

Soil Properties

USDA Soil Description

Reference Soil Information

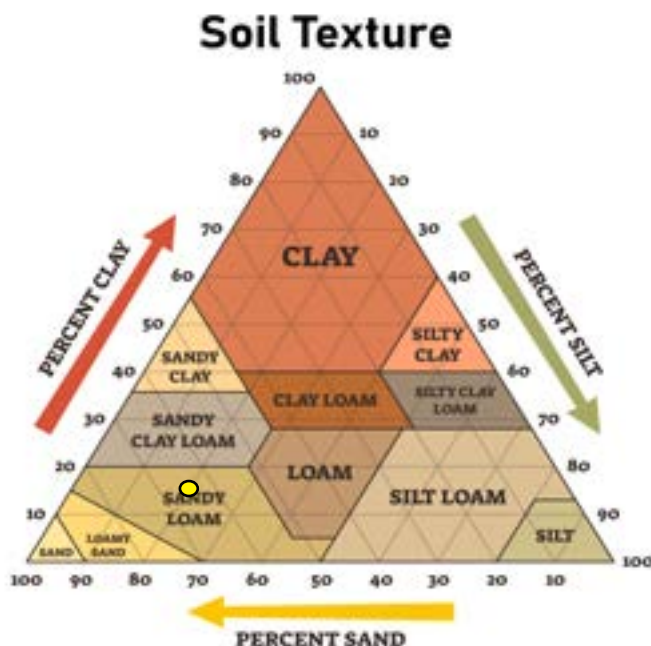
The location of the site is contained within two soil types, Olney fine sandy loam and Otero sandy loam.

Map Unit 47 Reference Soil information - Olney fine sandy loam

This soil is formed from mixed deposit outwash. Landform is plains, with the Sandy Plains Ecological Site. Soils are well drained with a moderate water holding capacity, and slope 1-3 percent.

Depth (in)	Physical			Chemical			
	Texture	Bulk Density	Partical Size Percent sand, silt, clay	pH	EC	SAR	OM%
0-10	Fine Sandy Loam	1.43	65-20-15	7.2	0.0	0.0	0.75
10-20	Sandy Clay Loam	1.33	56-17-27	7.2	0.0	0.0	0.75
20-30	Sandy Clay Loam	1.41	62-22-16	8.3	1.0	0.0	0.25
30-40	Sandy Clay Loam	1.50	64-26-10	8.5	1.0	0.0	0.25
40-50	Fine Sandy Loam	1.50	64-26-10	8.5	1.0	0.0	0.25
50 +	Fine Sandy Loam	1.50	64-26-10	8.5	1.0	0.0	0.25

Soil Texture Triangle reflect the 0-10 in depth



Erosion Potential (10 inches)

- K Factor, Whole soil - .24. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.
- Wind Erodibility Group – 3. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

Soil Properties

USDA Soil Description

Reference Soil Information

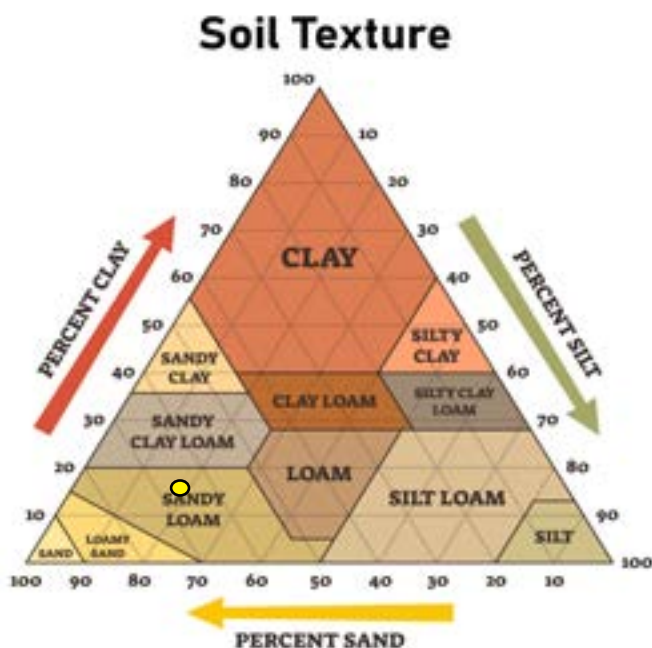
The location of the site is contained within two soil types, Olney fine sandy loam and Otero sandy loam.

Map Unit 51 Reference Soil information - Otero sandy loam

This soil is formed from eolian deposits and/or mixed outwash. Landform is plains, with the Sandy Plains Ecological Site. Soils are well drained with a moderate water holding capacity, and slope 1-3 percent.

Depth (in)	Physical			Chemical			
	Texture	Bulk Density	Partical Size Percent sand, silt, clay	pH	EC	SAR	OM%
0-10	Sandy Loam	1.43	66-19-15	7.9	1.0	0.0	1.25
10-20	Sandy Loam	1.43	66-19-15	7.9	1.8	0.0	0.44
20-30	Fine Sandy Loam	1.43	65-20-15	7.9	2.0	0.0	0.25
30-40	Fine Sandy Loam	1.43	65-20-15	7.9	2.0	0.0	0.25
40-50	Fine Sandy Loam	1.43	65-20-15	7.9	2.0	0.0	0.25
50 +	Fine Sandy Loam	1.43	65-20-15	7.9	2.0	0.0	0.25

Soil Texture Triangle reflect the 0-10 in depth



Erosion Potential (10 inches)

- K Factor, Whole soil - .15. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.
- Wind Erodibility Group – 3. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

Soil Reference Information

There is a general relationship of soil bulk density to root growth based on soil texture. Bulk densities ideal for root growth are less than 1.60 g/cc for sandy textures, less than 1.40 g/cc for loamy textures, and less than 1.10 g/cc for clayey textures. Bulk densities that restrict root growth are greater than 1.80 g/cc for sandy textures, 1.65 g/cc for loamy textures, and 1.47 g/cc for clayey textures.