

# SITE-SPECIFIC QUALITY ASSURANCE & QUALITY CONTROL AUDIT

## Permit Closure Type – Final



## PERMIT CLOSURE REPORT – DESIGNATION LAND USE CHANGE

Location ID - 321351

Location Name – ARAPAHOE-61N69W36SESW

### Report Date

7 Nov 2022

Soil Sage has conducted a thorough data audit as part of our Quality Assurance and Quality Control (QA/QC) protocols. The audit revealed this site has gone through a land use change.

### Initial Job Assignment

Client	CIVITAS Resources
Work Assignment	179 Site Permit Closures
Date	July 20, 2022

### Quality Assurance & Quality Control Audit

Auditor	Soil Sage
Audit Date	10/26/2022

### Audit Methodology

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

- ✓ Original List (spreadsheet) of proposed 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
- ✓ Natural Resources Conservation Service (NRCS) Map Unit Description
- ✓ Hydrology Map

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

## Site Description

<b>Name</b>	ARAPAHOE-61N69W36SESW		
<b>Location ID</b>	321351		
<b>Operator / #</b>	8 NORTH LLC / 10575		
<b>Field</b>	WATTENBERG 90750		
<b>County / State</b>	BOULDER / CO	<b>Lat/Long</b>	40.003480 / -105.069570
<b>Facility Status</b>	CL	<b>Location</b>	SESW 36 1N69W
<b>Facility Status Date</b>	02/15/2019	<b>Access Road</b>	Oil & Gas access road
<b>Facility Entities</b>	<input checked="" type="checkbox"/> Tank Battery	<input type="checkbox"/> Pits	
	<input checked="" type="checkbox"/> Wells	<input type="checkbox"/> Off-Location Flowlines	
	<input type="checkbox"/> Domestic Taps	<input checked="" type="checkbox"/> Flowlines	
<b>Environment Incidents &amp; Remediation</b>	<input type="checkbox"/> None	<input type="checkbox"/> Spill or Release ( <b>Form 19</b> )	
	<input checked="" type="checkbox"/> Remediation ( <b>Form 27</b> )		
<b>Sundry Notice (Form 4)</b>	No Form 4s were detected during this QA & QC Audit.		
<b>On Location Flowlines (Form 42)</b>	Form 42s exist for Site Related Facilities. See individual scout card data below for report details.		
<b>Off-Location Flowlines (Form 44)</b>	<p><b>Form 44 Doc # &amp; Date</b> – 401851605 – 12/11/2018</p> <ul style="list-style-type: none"> <li>○ <b>Purpose</b> – Registration</li> </ul> <p><b>Flowline Facility Information</b></p> <ul style="list-style-type: none"> <li>○ <b>COGCC Flowline ID</b> – 461374</li> <li>○ <b>Operator Flowline ID</b> – 01306354FL</li> <li>○ <b>Status &amp; Date</b> – 02/27/2019</li> <li>○ <b>Types of Fluids Transported</b> – Multiphase</li> <li>○ <b>Start Point Location ID</b> – 321351</li> <li>○ <b>Start Point Riser Lat/Long</b> – 40.003495 / -105.069556</li> <li>○ <b>Equipment at Start Point</b> – Well</li> <li>○ <b>End Point Location ID</b> – 460859</li> <li>○ <b>End Point Riser Lat/Long</b> – 40.003801 / -105.070176</li> </ul> <p><b>Equipment at End Point</b> – Separator.</p>		

<b>Site Investigation and Remediation Workplan (Form 27)</b>	<p><b>Remediation Project # – 12305</b></p> <ul style="list-style-type: none"> <li>○ <b>Form 27 Supplemental Doc # &amp; Date</b> – 401885866 – 01/11/2019</li> <li>○ <b>Approved</b> – 01/15/2019 by Chris Canfield. Approved operator’s request for a determination of No Further Action</li> <li>○ <b>Final Resolution</b> – Case closed on 01/15/2019</li> </ul> <p><b>Form 27 Initial Doc # &amp; Date</b> – 401883071 – 12/20/2018</p> <ul style="list-style-type: none"> <li>○ <b>Purpose</b> – Facility decommissioning in support of final reclamation and Pit/PW vessel closure.</li> <li>○ <b>Operator Comments</b> – Decommission and removal of the well site and production equipment associated with the final reclamation.</li> <li>○ <b>Type of Waste Requiring Remediation</b> - E&amp;P Waste, Produced Water</li> <li>○ <b>Impacted Media</b> – Soils</li> <li>○ <b>Impacted Type</b> – Undetermined</li> <li>○ <b>Completion of Site Investigation</b> – Not listed on COGIS.</li> <li>○ <b>Impacted Facility ID</b> – 321351</li> <li>○ <b>Facility Type</b> – Location</li> <li>○ <b>Facility Name</b> – ARAPAHOE -61N69W 36SESW</li> </ul>
<b>COGIS Well Information (Scout Card)</b>	<p><b>Well</b> – ARAPAHOE #3-36 FACILITY ID 206759</p> <ul style="list-style-type: none"> <li>○ <b>Well Status &amp; Date</b> – PA – 02/15/2019</li> <li>○ <b>Form 10 – Doc # &amp; Date</b> – 402054937 on 08/28/2019 <b>Purpose</b> – Change of Operator. EXTRACTION OIL &amp; GAS purchases well from 8 NORTH LLC on 09/30/2018.</li> <li>○ <b>Form 6 Subsequent – Doc # &amp; Date</b> – 401950888 – Approved on 06/07/2019 by Nick McFarland.</li> <li>○ <b>Form 42 – Doc # &amp; Date</b> – 401923082 submitted on 01/03/2019. <b>Purpose</b> – Flowlines Abandoned. Completed 12/21/2018.</li> <li>○ <b>Form 42 – Doc # &amp; Date</b> – 401866348 submitted on 12/07/2018. <b>Purpose</b> – Start of Plugging Operations 48 Hours notice.</li> </ul>

## Audit Key Findings - Designation Land Use Change Observations

PREVIOUS LAND USE	CURRENT LAND USE
Reference Imagery for Infrastructure – DRCOG 2014	Remotely Sense Imagery – 09/01/2022
Designation – Well Pad	Designation – Housing Development

### The following imagery sources were reviewed during this audit:

EarthExplorer, DRCOG 2010 - 2014, NAIP Imagery 2011, 2013, 2015, 2017, 2019, 2021, ESRI Maxar and Remotely Sensed Imagery Sep 2022

### Closure Information

COGIS Webpage link to Remediation Form 27: 401883071

[https://cogcc.state.co.us/cogisdb/Incidents/reportDetail?report=rem&doc\\_num=401883071](https://cogcc.state.co.us/cogisdb/Incidents/reportDetail?report=rem&doc_num=401883071)

## Site Summary

Based on the key findings of our thorough data audit, the following information is provided:

### *Site Investigation Date*

09/01/2022

### *Reference Area Photos*

1 Sep 2022

Cardinal directional photos of the site





East



South



West



Overhead

# ATTACHMENTS

## Maps and Figures

### *Area Maps*

Previous Infrastructure Overview

Current Site Overview

Hydrology – (2 CCR 404-1 – 303.b.3.G pg.34)

## Background Information

*Natural Resources Conservation Service (NRCS) Map Unit Description*

Reference Soil Document

# Soil Properties

## USDA Soil Description

Location ID /  
Name

321351 - ARAPAHOE-  
61N69W36SESW

### Reference Soil Information

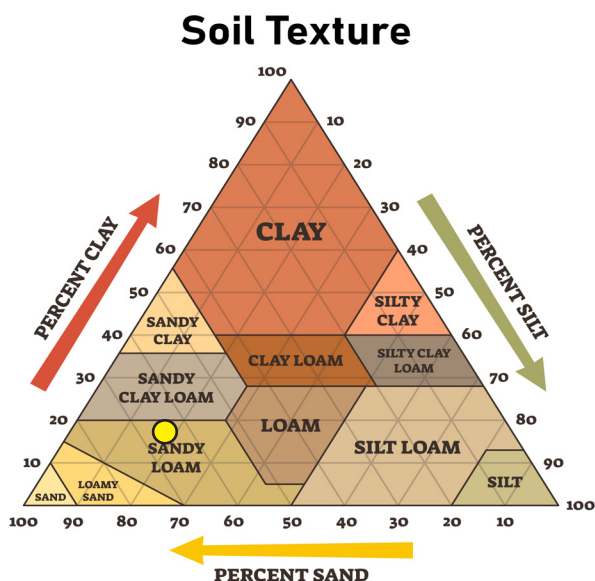
The location of the site is contained within two soil types, Ascalon sandy loam at two different slopes.

### Map Unit AcA Reference Soil information - Ascalon sandy loam

This soil is formed from wind-reworked alluvium and/or calcareous sandy eolian deposits. Landform is interfluvies, with the Sandy Plains Ecological Site. Soils are well drained with a moderate water holding capacity, and slope 0-3 percent.

Depth (in)	Physical			Chemical			
	Texture	Bulk Density	Partical Size Percent sand, silt, clay	pH	EC	SAR	OM%
0-10	Sandy Loam	1.52	63-19-18	7.1	0.1	0.0	0.84
10-20	Sandy Clay Loam	1.51	58-17-25	7.5	0.1	0.0	0.47
20-30	Sandy Clay Loam	1.48	62-15-23	8.2	0.1	0.0	0.22
30-40	Sandy Clay Loam	1.55	69-13-18	8.2	0.1	0.0	0.16
40-50	Sandy Loam	1.62	75-11-14	8.2	0.1	0.0	0.10
50 +	Sandy Loam	1.62	75-11-14	8.2	0.1	0.0	0.10

### Soil Texture Triangle reflect the 0-10 in depth



### Erosion Potential (10 inches)

- K Factor, Whole soil - .17. 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 – 4L. 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

Location ID /  
Name

321351 - ARAPAHOE-  
61N69W36SESW

### Reference Soil Information

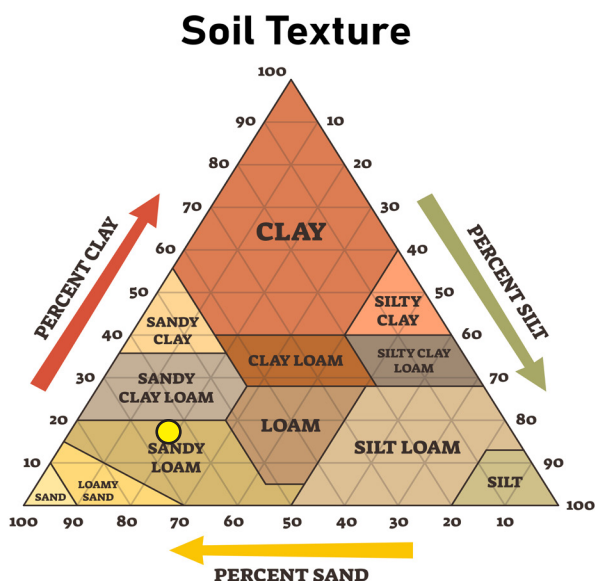
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10-20	Sandy Clay Loam	1.57	57-18-25	7.5	0.1	0.0	0.47
20-30	Sandy Clay Loam	1.50	55-22-23	8.2	0.1	0.0	0.22
30-40	Sandy Clay Loam	1.56	65-16-19	8.2	0.1	0.0	0.16
40-50	Sandy Loam	1.62	75-11-14	8.2	0.1	0.0	0.10
50 +	Sandy Loam	1.62	75-11-14	8.2	0.1	0.0	0.10

### Soil Texture Triangle reflect the 0-10 in depth



### Erosion Potential (10 inches)

- K Factor, Whole soil - .17. 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.



## CIV - 321351 - ARAPAHOE Map Extent - DRCOG 2010

Imagery: DRCOG  
 Imagery Date: 2010  
 Map Date: 09 Nov 2022  
 Datum: NAD\_1983\_UTM\_Zone\_13N  
 POC: Soil Sage

### Legend

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

0 0.02 0.04 0.07 Miles

Overall Disturbance:  
0.53 acres

Scale: 1:1,800

Pad Location:  
40.003480  
-105.069570



Service Credits -





## CIV - 321351 - ARAPAHOE Map Extent - DRCOG 2010

Imagery: DRCOG  
 Imagery Date: 2010  
 Map Date: 09 Nov 2022  
 Datum: NAD\_1983\_UTM\_Zone\_13N  
 POC: Soil Sage

### Legend

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

0 0 0.01 0.02 Miles

Overall Disturbance:  
0.53 acres

Scale: 1:500

Pad Location:  
40.003480  
-105.069570



Service Credits -





## CIV - 321351 - ARAPAHOE Map Extent - Overview

Imagery: RS Orthomosaic & DSM  
 Imagery Date: 1 Sep 2022  
 Map Date: 09 Nov 2022  
 Datum: NAD\_1983\_UTM\_Zone\_13N  
 POC: Soil Sage

### Legend

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

0 0.02 0.04 0.07 Miles

Overall Disturbance:  
0.53 acres

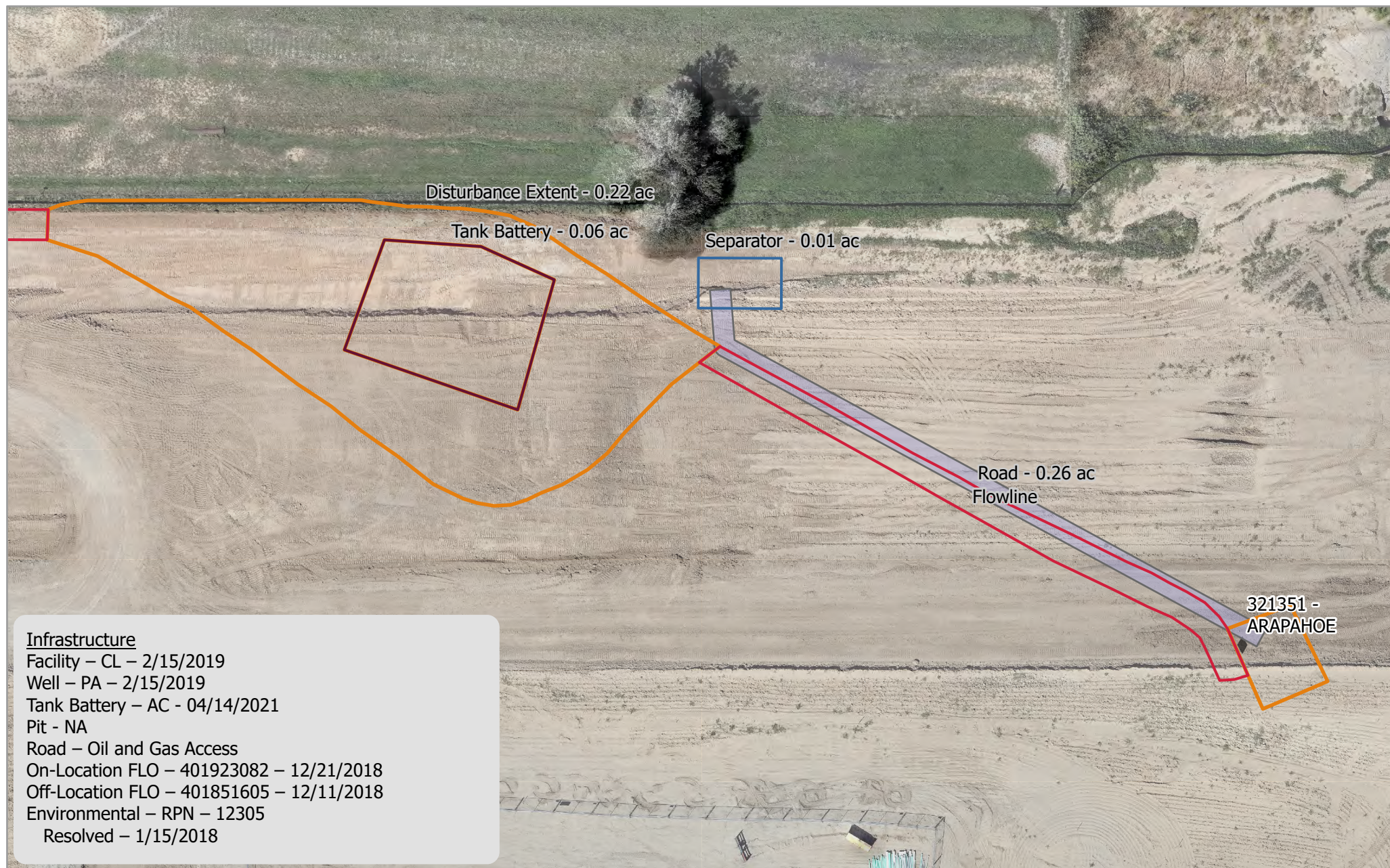
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Pad Location:  
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Service Credits -





## CIV - 321351 - ARAPAHOE Map Extent - Overview

Imagery: RS Orthomosaic & DSM  
 Imagery Date: 1 Sep 2022  
 Map Date: 10 Nov 2022  
 Datum: NAD\_1983\_UTM\_Zone\_13N  
 POC: Soil Sage

### Legend

- ◆ Wells
- ▭ Disturbance Extent
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0 0 0.01 0.02 Miles

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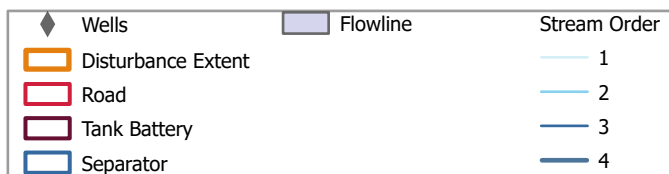


Service Credits -



## CIV - 321351 - ARAPAHOE Map Extent - Hydrology

Imagery: RS Orthomosaic & DSM  
 Imagery Date: 1 Sep 2022  
 Map Date: 09 Nov 2022  
 Datum: NAD\_1983\_UTM\_Zone\_13N  
 POC: Soil Sage



Overall Disturbance:  
0.53 acres

Scale: 1:1,800

Pad Location:  
40.003480  
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Service Credits -

