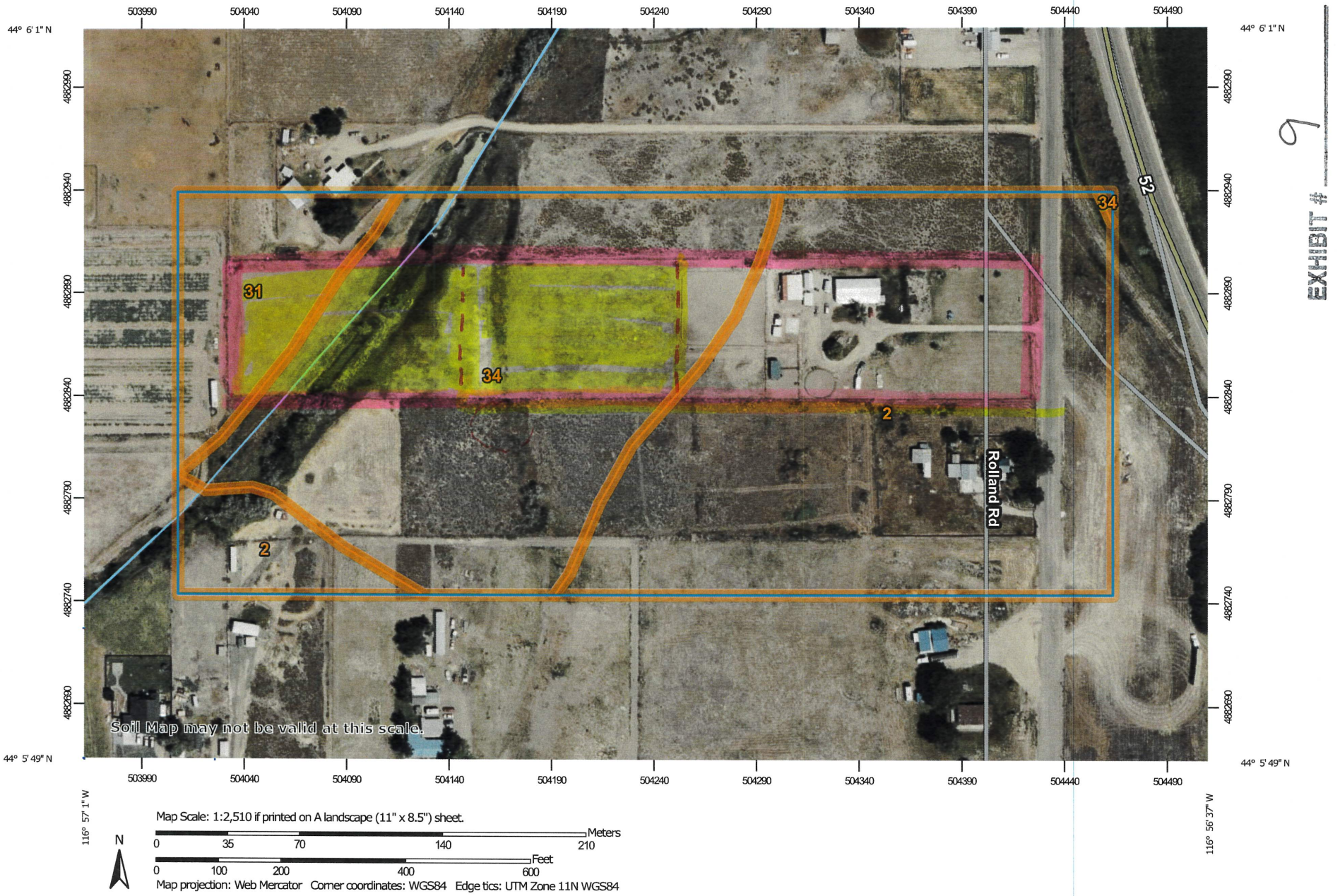
Soil Map—Malheur County, Oregon, Northeastern Part
(BRH Soil Classification)




Map Scale: 1:2,510 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

EXHIBIT # 9

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Malheur County, Oregon, Northeastern Part
Survey Area Data: Version 20, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 25, 2020—Jul 26, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 2 | Baldock silt loam | 11.4 | 51.3% |
| 31 | Stanfield silt loam | 2.0 | 9.1% |
| 34 | Umapine silt loam | 8.8 | 39.6% |
| **Totals for Area of Interest** | | **22.1** | **100.0%** |

# Malheur County, Oregon, Northeastern Part

## 31—Stanfield silt loam

### Map Unit Setting

*National map unit symbol:* 23cy
*Elevation:* 2,100 to 2,600 feet
*Mean annual precipitation:* 9 to 11 inches
*Mean annual air temperature:* 48 to 54 degrees F
*Frost-free period:* 120 to 170 days
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Stanfield and similar soils:* 83 percent
*Minor components:* 2 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Stanfield

#### Setting

*Landform:* Terraces
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

#### Typical profile

*H1 - 0 to 12 inches:* silt loam
*H2 - 12 to 22 inches:* silt loam
*H3 - 22 to 32 inches:* cemented material
*H4 - 32 to 60 inches:* silt loam

#### Properties and qualities

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* 20 to 40 inches to duripan
*Drainage class:* Moderately well drained
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
*Depth to water table:* About 18 to 72 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Low (about 3.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 4s
*Land capability classification (nonirrigated):* 6s
*Hydrologic Soil Group:* C
*Ecological site:* R010XY007OR - SODIC BOTTOM
*Hydric soil rating:* No

**Minor Components**

**Aquepts, poorly drained**
*Percent of map unit:* 2 percent
*Landform:* Flood plains
*Hydric soil rating:* Yes

## Data Source Information

Soil Survey Area: Malheur County, Oregon, Northeastern Part
Survey Area Data: Version 20, Sep 3, 2024

# Malheur County, Oregon, Northeastern Part

## 34—Umapine silt loam

### Map Unit Setting

*National map unit symbol:* 23d5
*Elevation:* 2,100 to 2,600 feet
*Mean annual precipitation:* 9 to 11 inches
*Mean annual air temperature:* 48 to 54 degrees F
*Frost-free period:* 120 to 170 days
*Farmland classification:* Prime farmland if irrigated and reclaimed of excess salts and sodium

### Map Unit Composition

*Umapine and similar soils:* 85 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Umapine

#### Setting

*Landform:* Terraces
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

#### Typical profile

*H1 - 0 to 11 inches:* silt loam
*H2 - 11 to 60 inches:* silt loam

#### Properties and qualities

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Somewhat poorly drained
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)
*Depth to water table:* About 24 to 48 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 20 percent
*Maximum salinity:* Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
*Sodium adsorption ratio, maximum:* 20.0
*Available water supply, 0 to 60 inches:* High (about 11.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 3w
*Land capability classification (nonirrigated):* 4s
*Hydrologic Soil Group:* C
*Ecological site:* R010XY007OR - SODIC BOTTOM

*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Malheur County, Oregon, Northeastern Part
Survey Area Data: Version 20, Sep 3, 2024