Highway 63 Gravel Pit 2.0

Aerial mapping example | Highway 63, Alberta | Source capture file: 01 October 2026

A clearer view of the working site.

Aerial imagery and surface data for documenting site conditions, tracing footprints and exploring stockpile estimates.



Project brief

Purpose

Showcase an earthworks site and the mapping deliverables available for site planning and material assessment.

Map reference

WGS84 / UTM zone 12N
EPSG:32612
20 cm web raster spacing

Approximate map centre

56.192366, -111.719787
Latitude, longitude (WGS84)

Deliverables

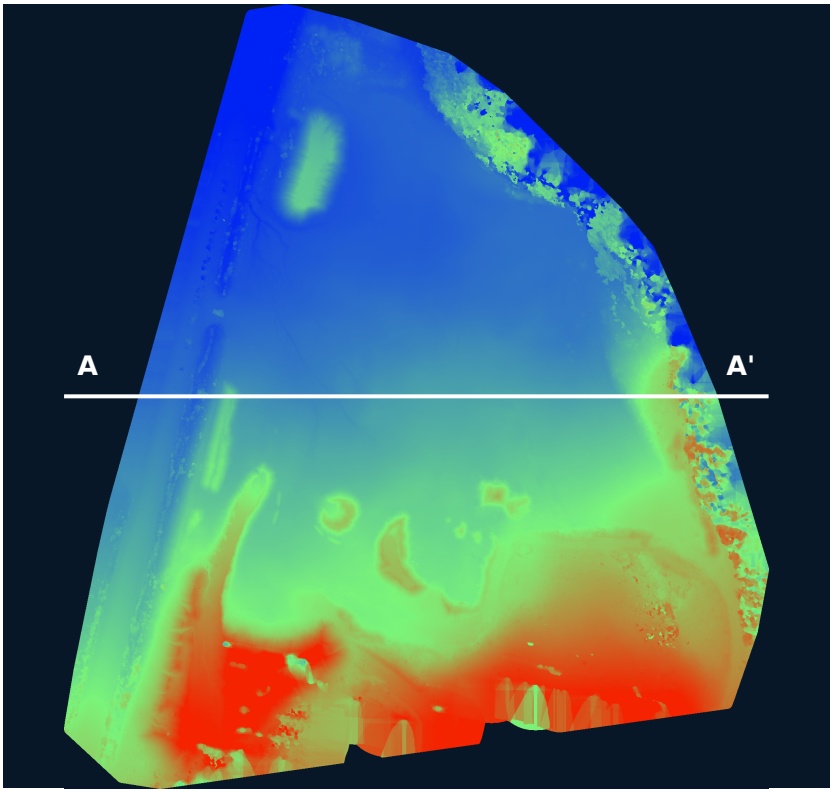
Orthophoto GeoTIFF
DSM GeoTIFF
Interactive map and 3D surface
GPS points, areas and profiles
Annotation exports

WEB RASTER SPACING	VALID DSM COVERAGE	DSM HEIGHT RANGE
20 cm	**9.79 ha**	**27.1 m**
Grid spacing, not survey accuracy	Raster footprint; not parcel area	Includes trees and structures

This is a sample deliverable based on uploaded map data. No legal boundary or certified stockpile quantity is asserted.

Surface elevation & profile

DSM values describe the visible surface, including vegetation and structures.



Reading the surface

Minimum valid height: **693.03 m**
Maximum valid height: **720.15 m**
Raster height range: **27.12 m**

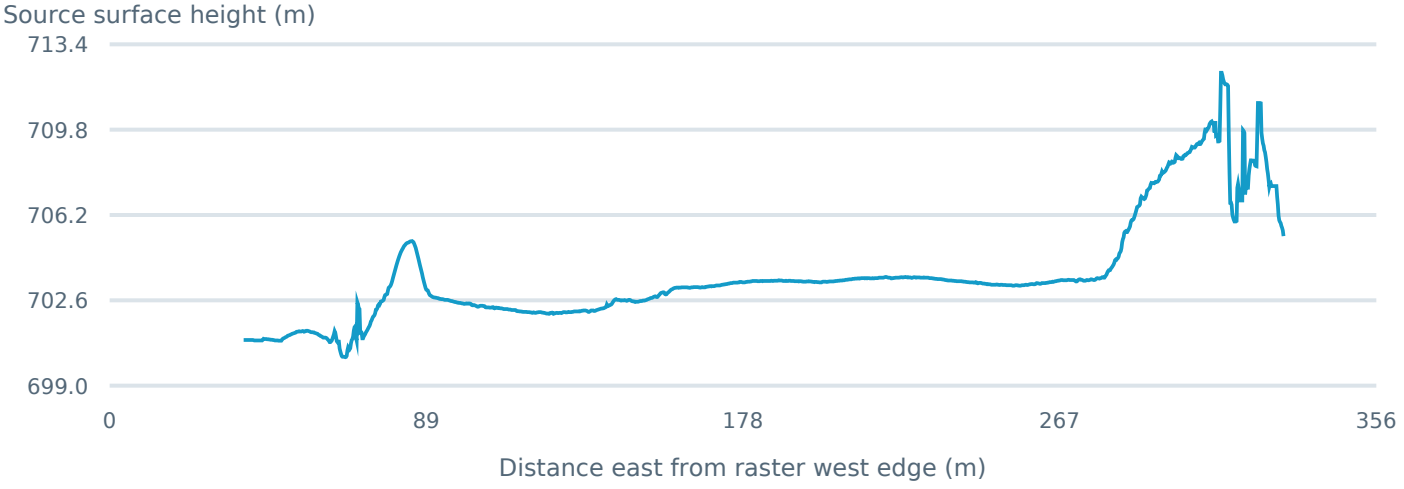
Blue indicates lower surfaces; red indicates higher surfaces. Colours are stretched for visual contrast and are not contour intervals.

The centreline below is an illustrative section, not a surveyed road or stockpile boundary.

Section A-A' northing:
6227722.83 m
WGS84 / UTM 12N

The source vertical datum has not been independently verified. Height differences do not establish bare-earth relief.

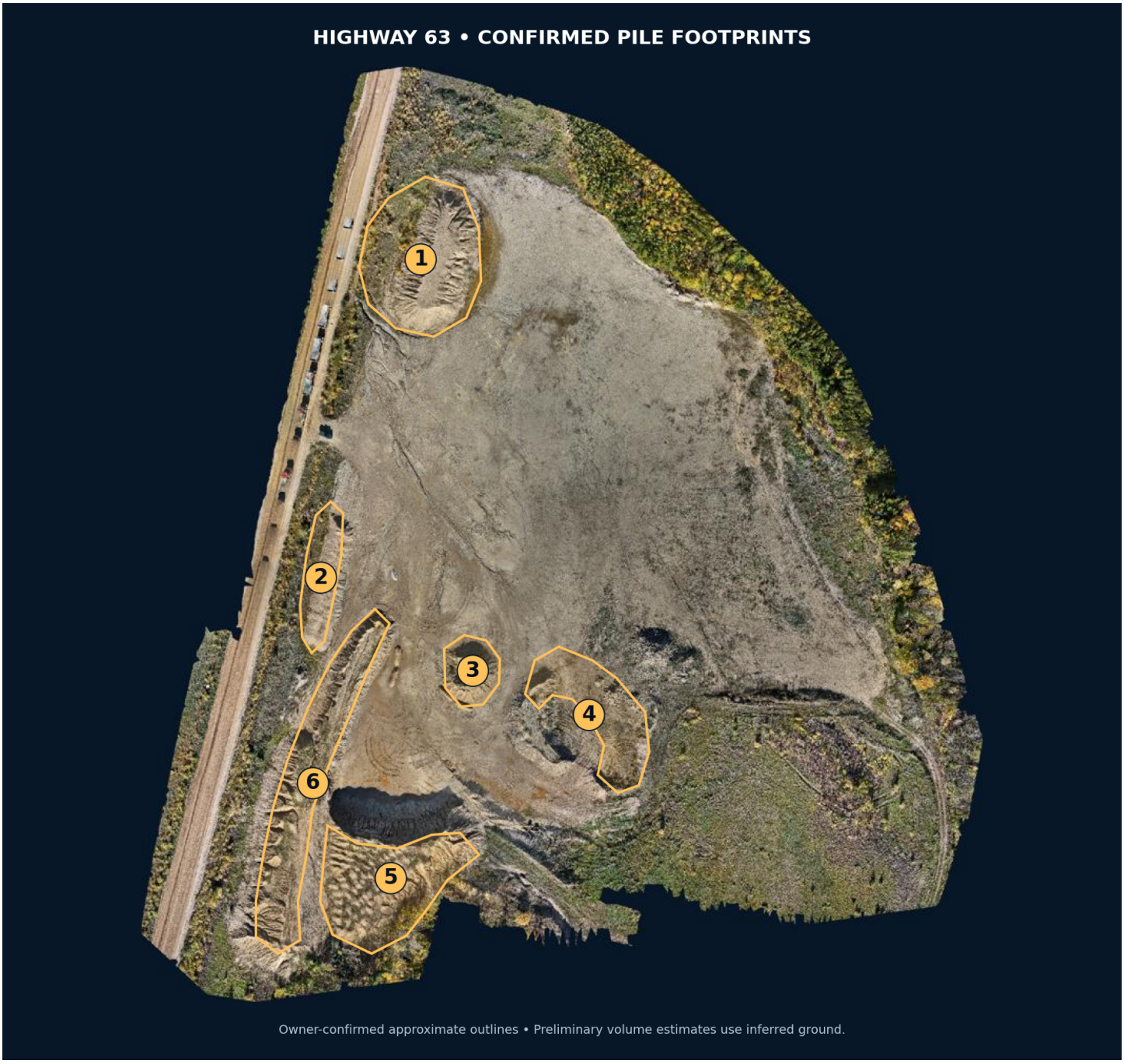
Illustrative east-west section A-A'



Section uses the 20 cm DSM grid; blank segments indicate missing data. Trees, equipment and structures may create sharp surface changes. The interactive map can create and export other profiles.

Confirmed pile footprints

Six revised outlines confirmed by the project owner; October 1 source data.



Footprint interpretation

Outlines were drawn visually and revised for piles 4, 5 and 6 following the owner’s corrections. They are approximate material boundaries, not surveyed toe lines.

Preliminary stockpile volumes

Calculated 07 October 2026 from the 20 cm DSM and confirmed footprints.

Approximately 14,400 m³ combined

Screening estimates above inferred sloping ground. Not verified inventory or billing quantities.

PILE	FOOTPRINT	VOLUME
1	2,662 m²	5,420 m³
2	753 m²	700 m³
3	564 m²	810 m³
4	1,464 m²	310 m³
5	2,187 m²	3,650 m³
6	2,470 m²	3,510 m³

How the estimate was calculated

For each footprint, a sloping plane was fitted to DSM samples in an exterior band approximately 0.4-2.0 m from its edge, with outlying samples reduced by a robust fit. Positive cell height above that plane was multiplied by cell area and summed. Cells below the plane contribute zero. All six footprints had valid DSM coverage.

Ground assumptions materially affect the result

No pre-stockpile or surveyed base was available. Adjacent terrain is especially uneven at piles 5 and 6. Varying the surrounding sampling band from 1 m to 5 m changed pile 5 from approximately 3,490 to 4,290 m³ and pile 6 from approximately 3,130 to 4,410 m³. These comparisons are not confidence intervals or accuracy bounds.

The DSM includes visible surfaces and vegetation. Source vertical datum, positional accuracy and the hidden ground beneath the piles were not independently verified. Confirm toes and base ground before inventory, payment or contractual use.