VALUE SPACE

SATELLITE BASED RISK ASSESSMENTS AND MONITORING

THE WORLD IS FACING A DUAL PROBLEM

On one hand, there is aging and deteriorating infrastructure around the world that has surpassed its ‘alert age’ and;

On the other, climate change pushes the physics of brittle infrastructure to breaking points, faster than ever before.

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- $19m
  Costs saved for clients
- 152.25+
  Tons of CO2 emissions saved
- $25bn
  Value of assets profiled
- 3,500+
  Total assets risk-profiled
- 70+
  Countries

Focused Asset Classes

- The survey is conducted 100% remotely to minimize data collection costs.
- Value.Space can look back up to 8 years and see prior risks that have been present in the past.

Mines

Dams

Commercial Property

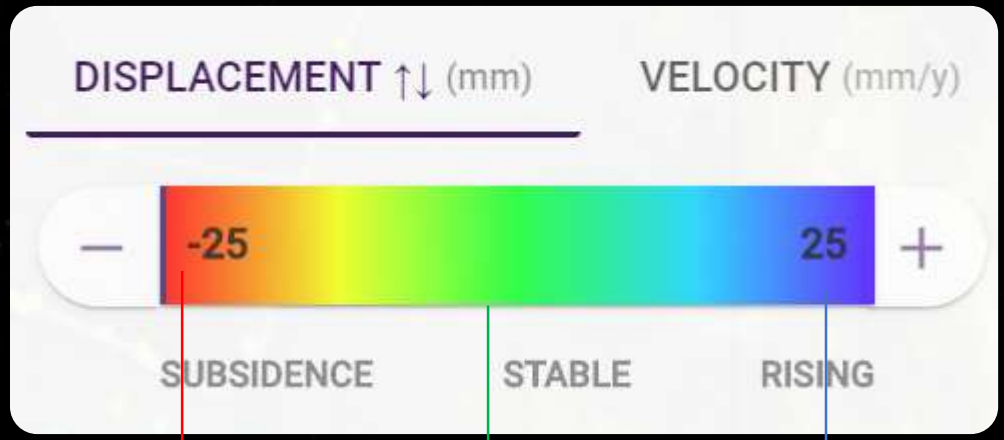
MANUAL WORKLOAD COMPARED TO VALUE.SPACE

Deformation monitoring is largely performed manually today by engineers who must go on-site to a e.g. dam or mine and depending on the size of the structure and area, spend days or weeks, measuring levels of deformation by hand.

This is costly, particularly if the area is large (1km2, 10km2 or 100km2) .

Value.Space provides a digital solution that is x10 faster, 100% remote and up to x25 more cost efficient than the manual alternative.

Deformation Gauge



Red = Downward Movement

Green = Stable

Blue = Upward Movement

SOUTH AFRICA, JAGERSFONTEIN, DIAMOND MINE TSF

Several risk markers could have been foreseen at least a year and a half before the loss event, likely longer if it would have been monitored regularly.

Loss event occurred 11th September, 2022


1
Find 1:
Bidirectional
movement cluster
2
Find 2:
Bidirectional
movement cluster
3
Find 3:
Bidirectional
movement cluster
4
Find 4:
Bidirectional
movement cluster
5
Find 5: area
without stable
reflection
1
2
3
4
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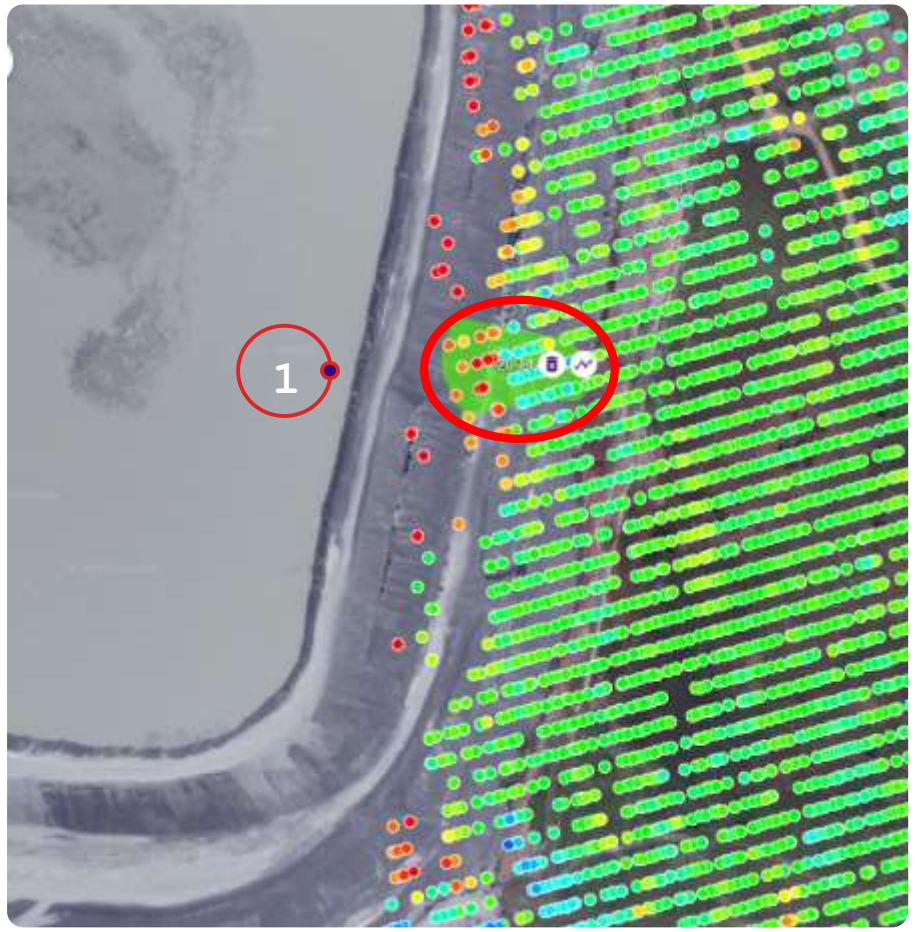
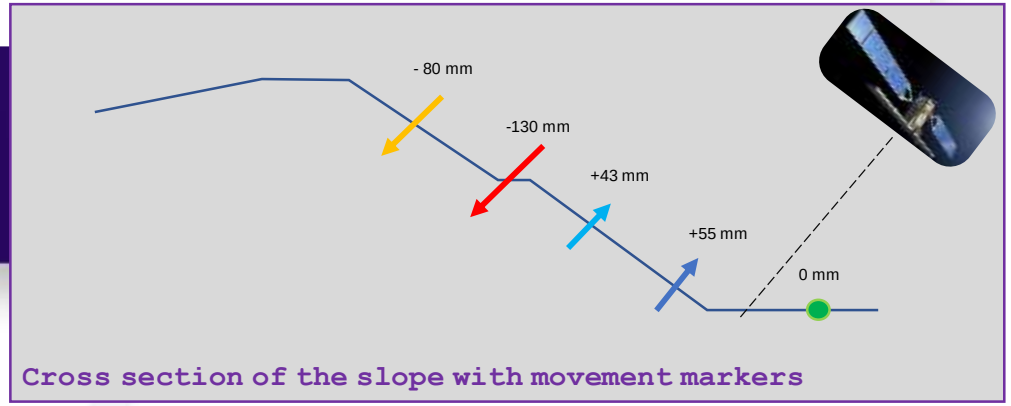


1 Timeline: 05.2019 – 09.2022

Find 1: Bidirectional movement cluster (differs from usual

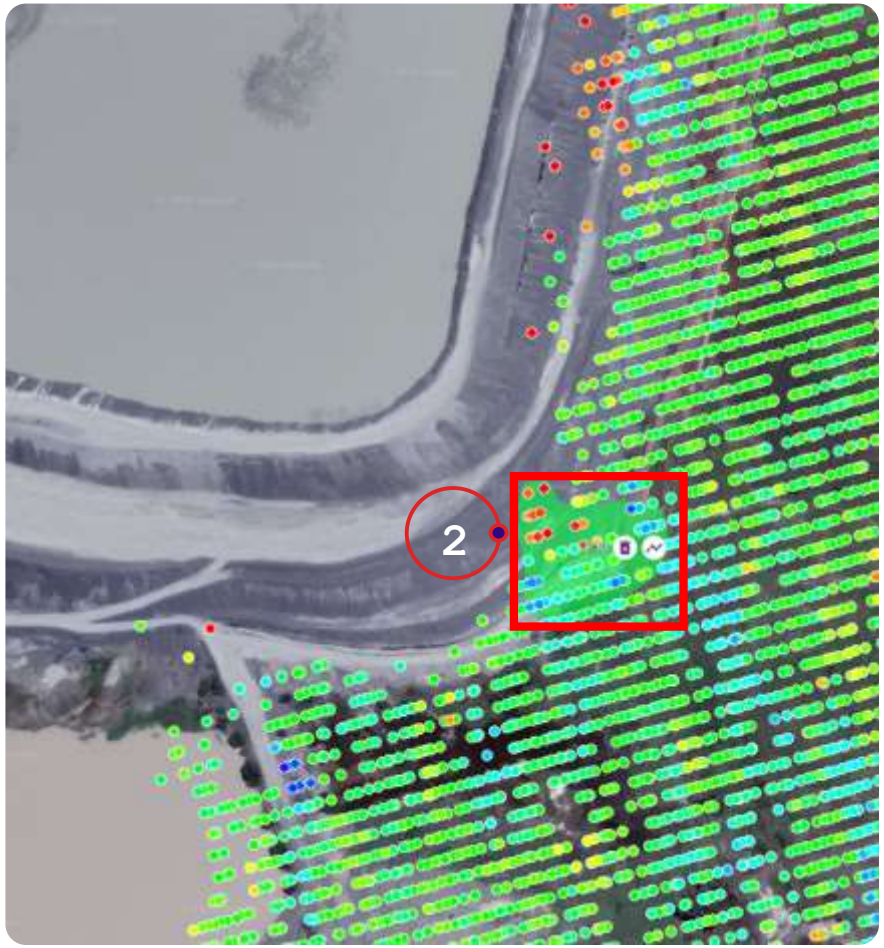


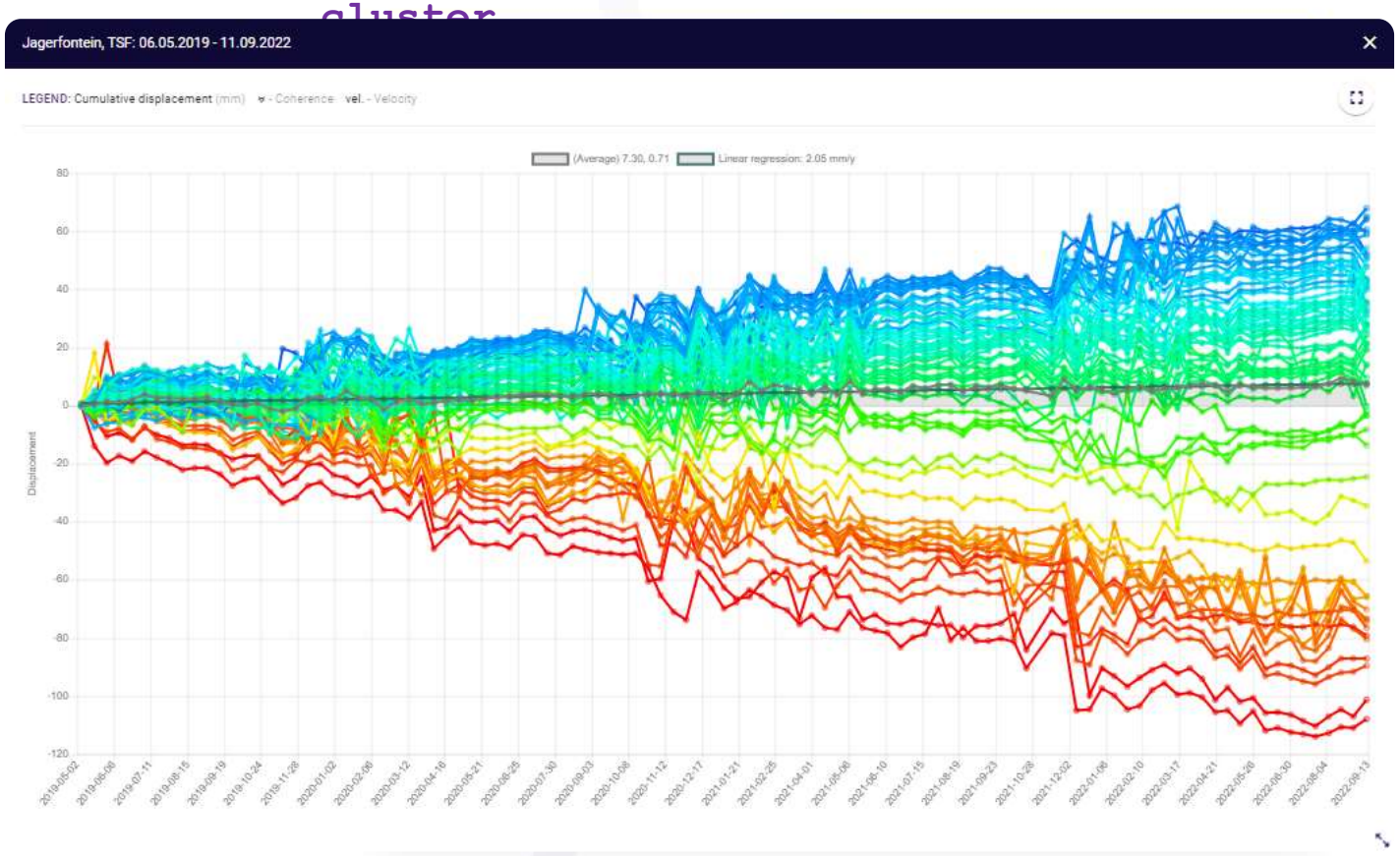
Cross section of the slope with movement markers

2

Timeline: 05.2019 – 09.2022

Find 2: Bidirectional movement cluster





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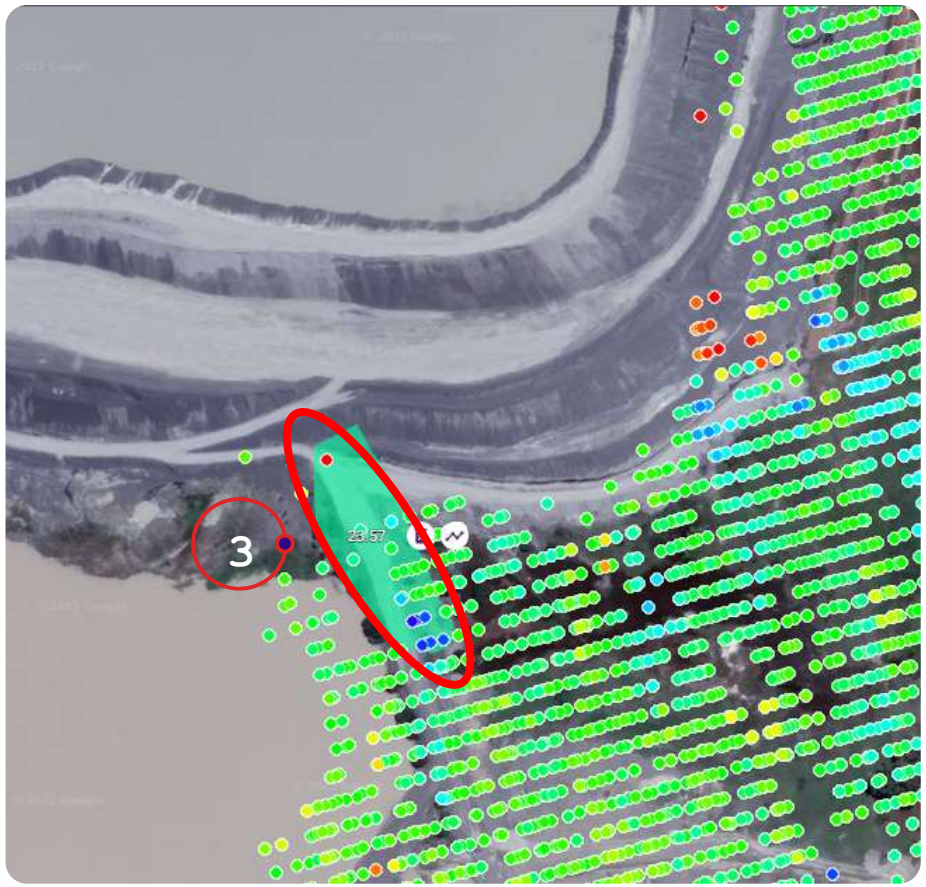
3

Timeline: 05.2019 – 09.2022

Find 3: Bidirectional movement



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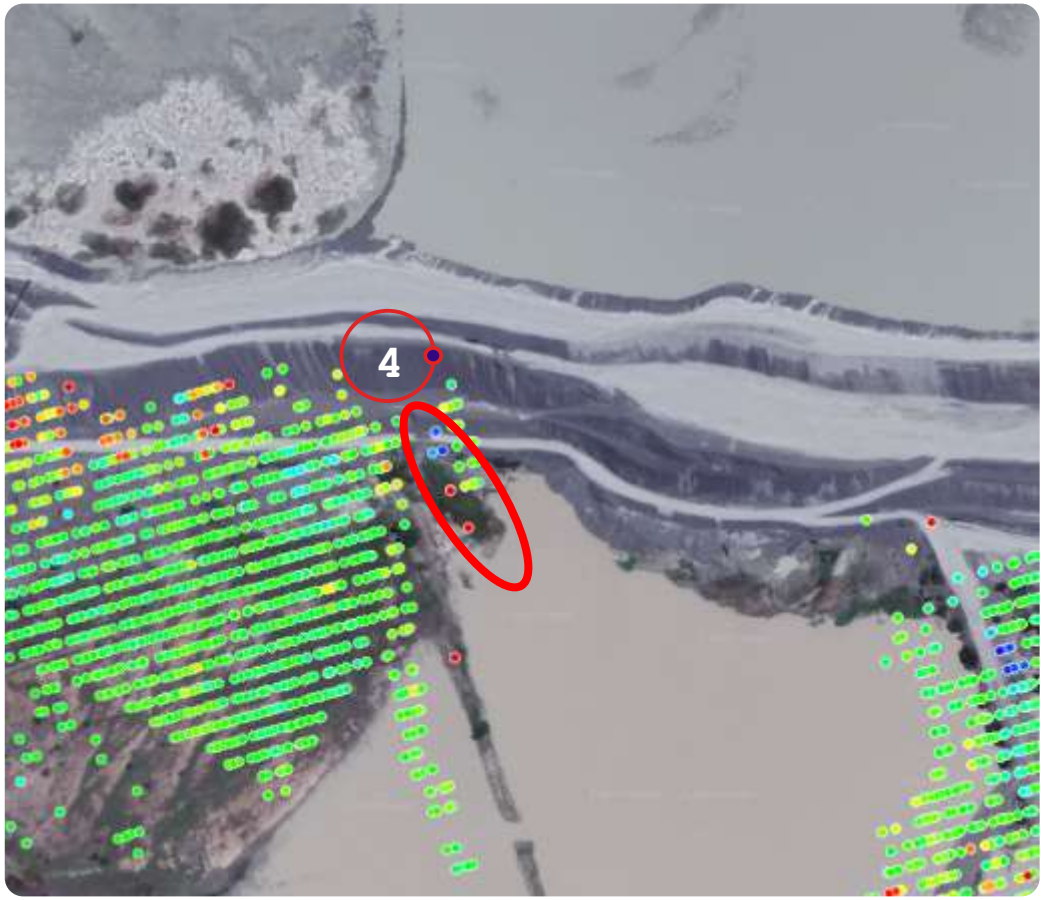
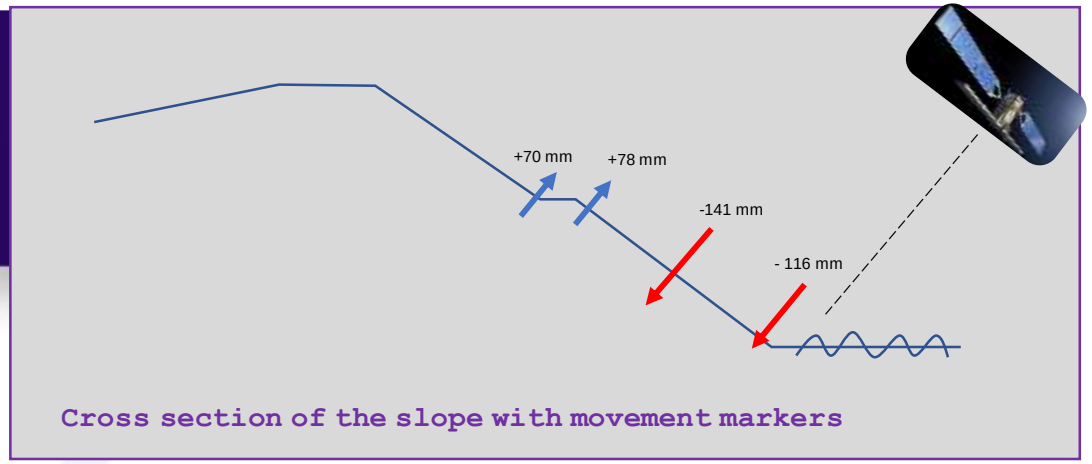
4

Find 4 : Bidirectional movement cluster (between relatively





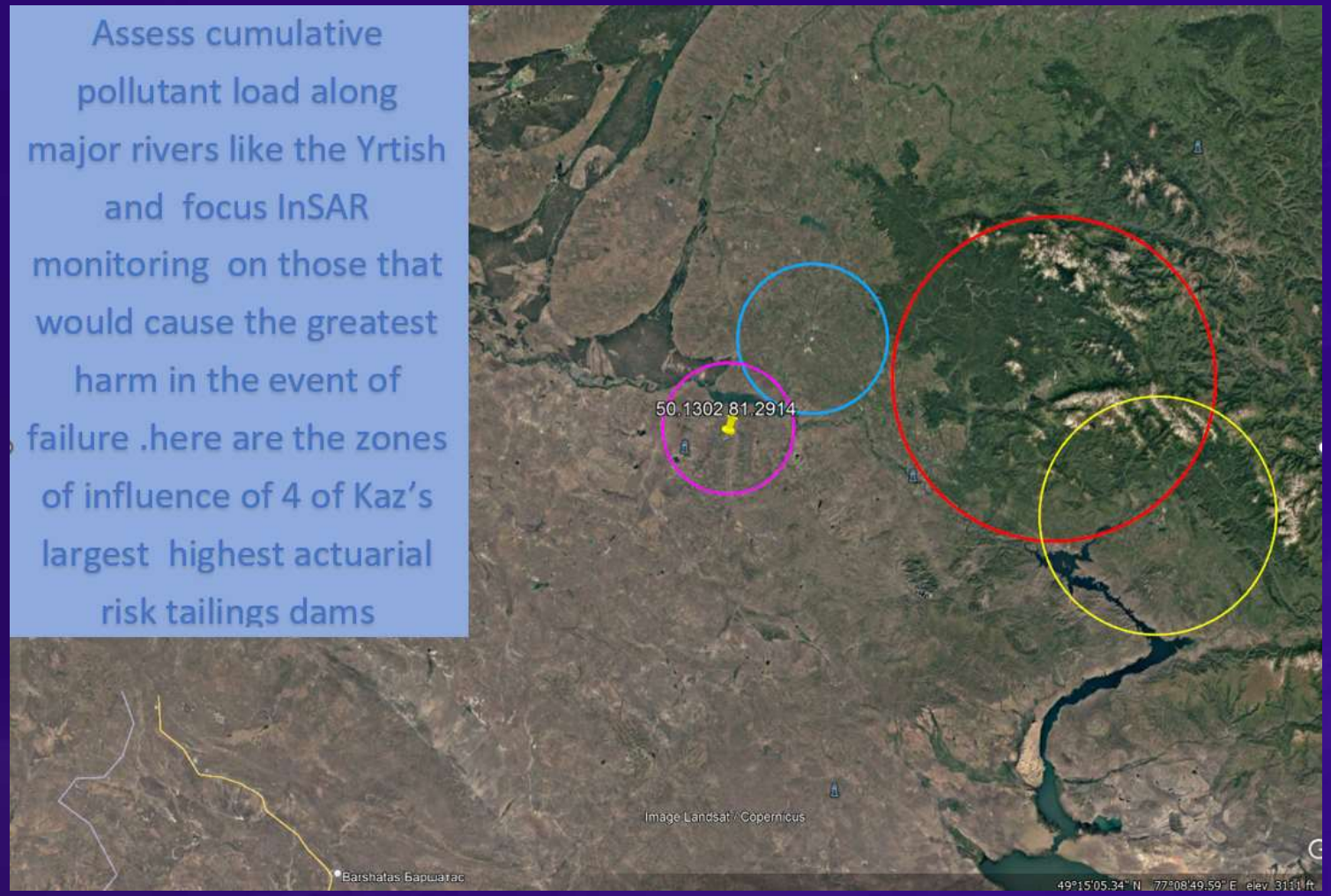
Cross section of the slope with movement markers

RIDDER-SOKOLNOE TAILINGS STORAGE FACILITY (TSF), KAZAKHSTAN

ASSESSMENT TIMELINE
15.03.2020 - 28.02.2023

Severity and range in event of failure

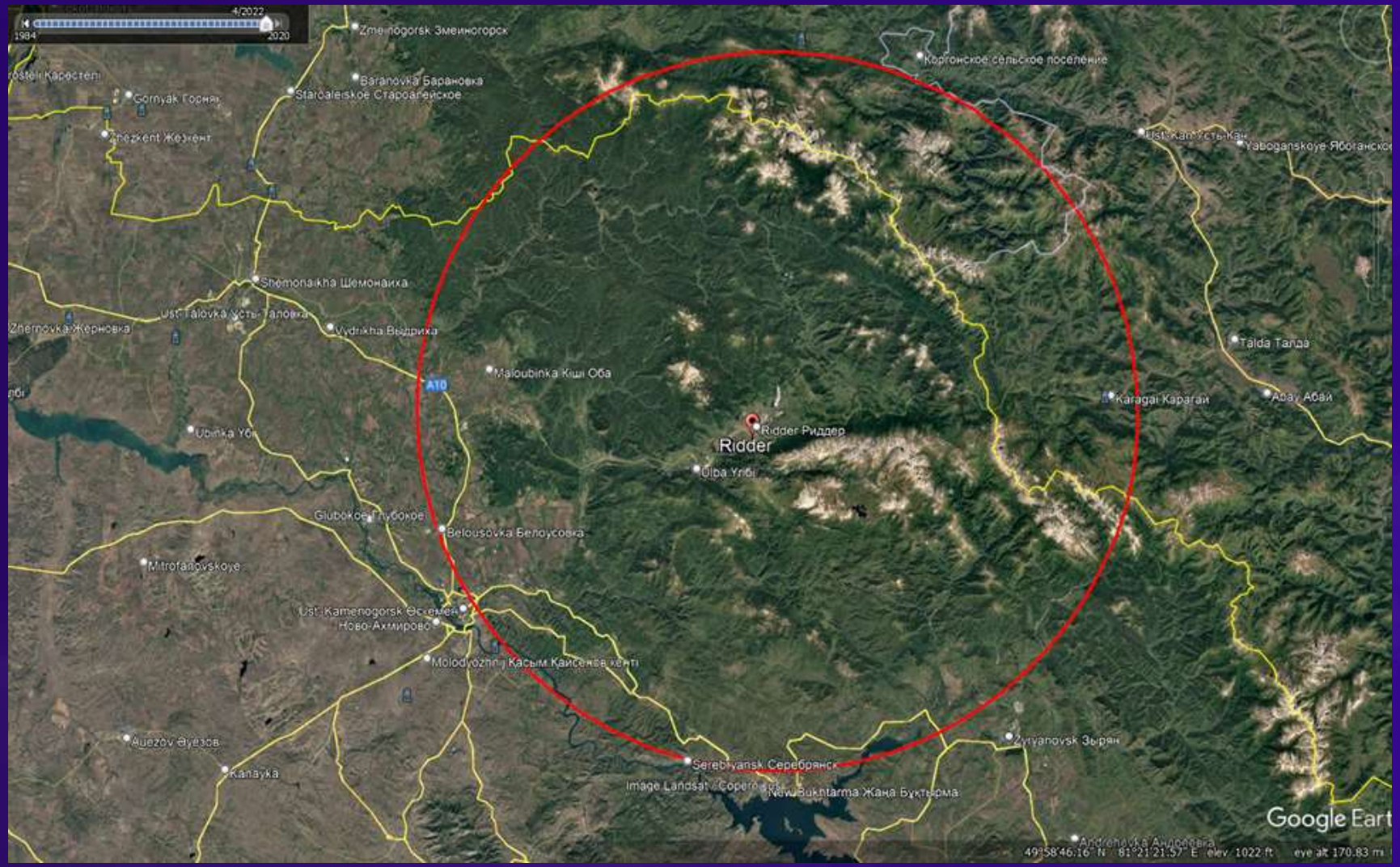
Assess cumulative pollutant load along major rivers like the Yrtish and focus InSAR monitoring on those that would cause the greatest harm in the event of failure .here are the zones of influence of 4 of Kaz's largest highest actuarial risk tailings dams



1. Ridder
2. East Boulder
3. Nikolayevsky
4. Zyryanovski

World Mine Tailings Failures (WMTF) – Calculated runout, radius impact in a failure event.

Ridder – Impact radius in event of failure



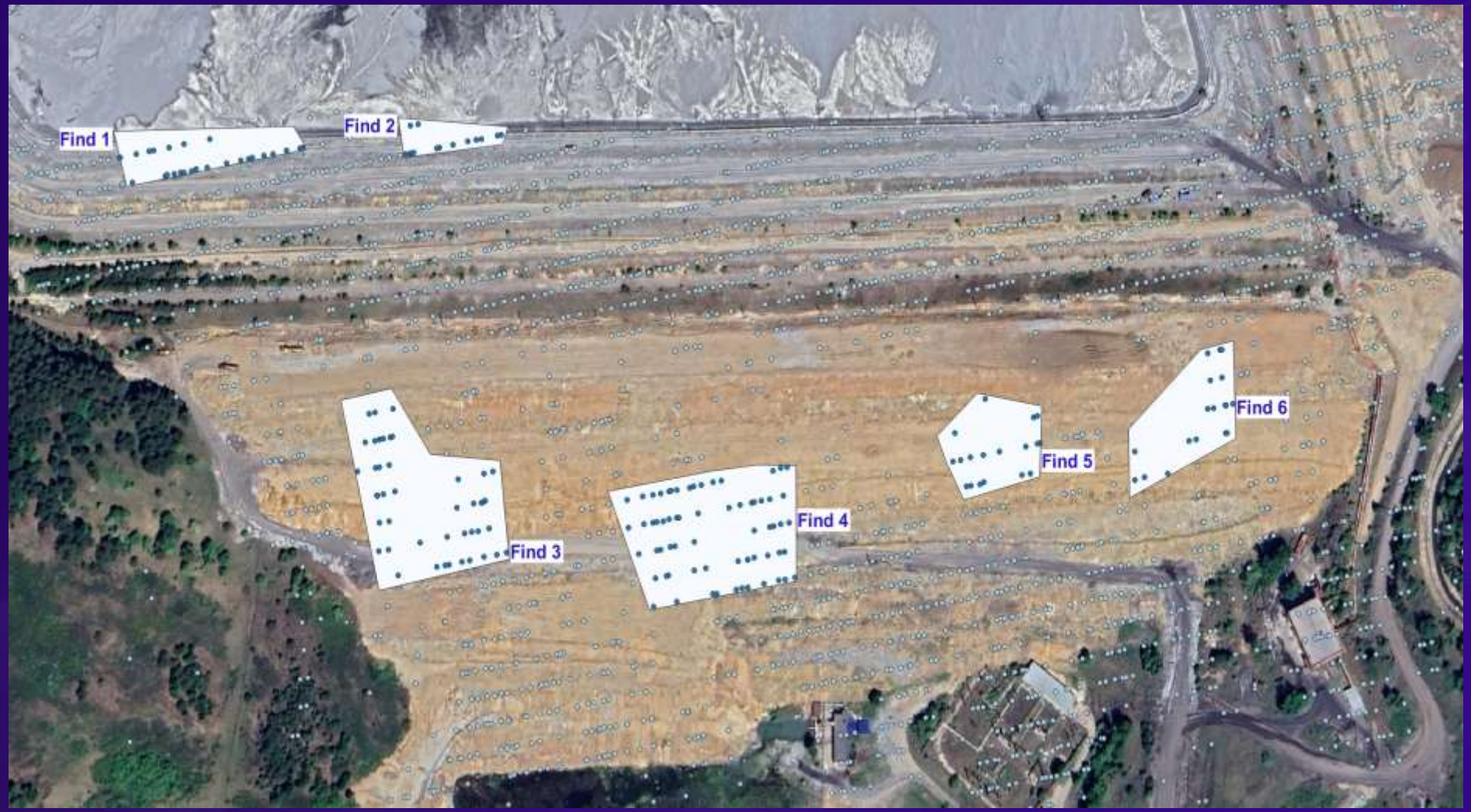
Analysis: World Mine Tailings Failures (WMTF)

Ridder TSF – Macro Overview

Site B – North Dam
Find 7

Site A – South Dam
Finds 1, 2, 3, 4, 5, 6

Site A - South Dam Detailed Overview
Finds 1 - 6



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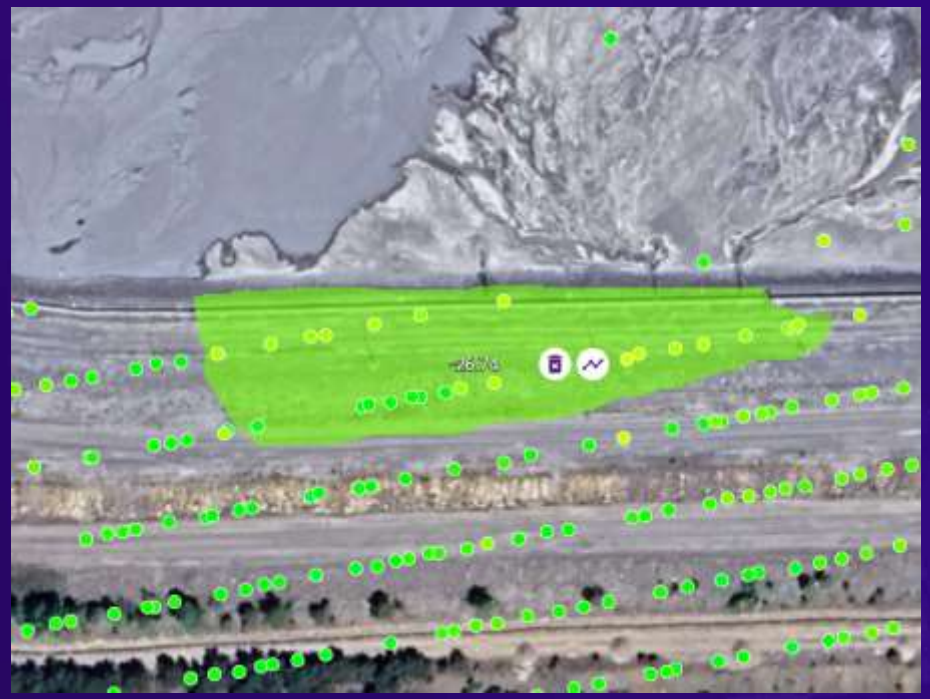
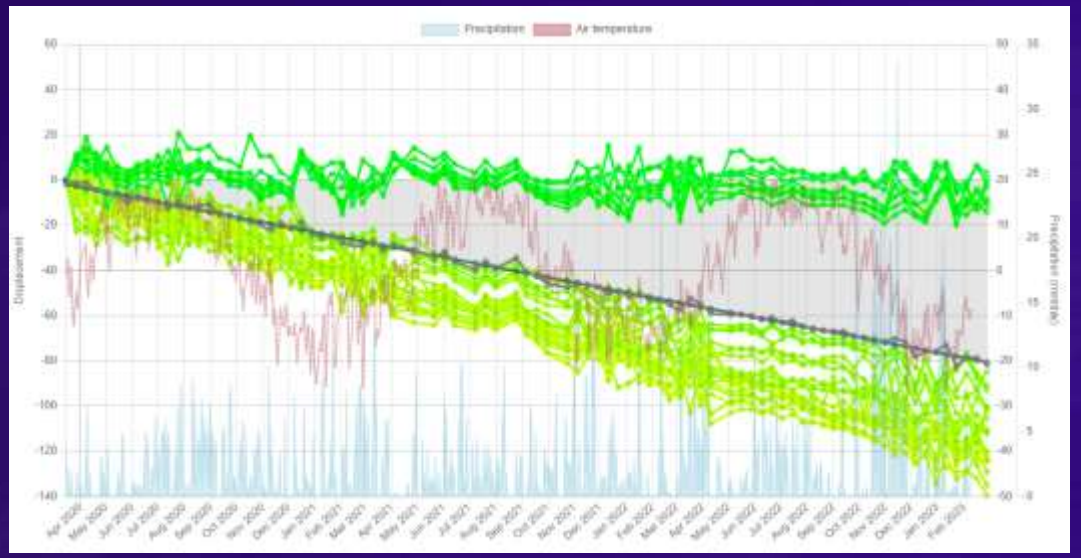
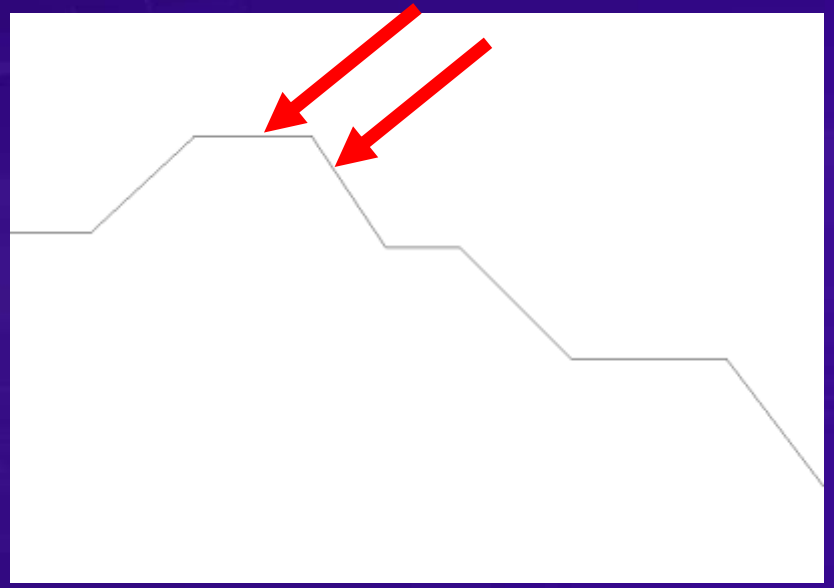


Site A, South Dam - Find 1 in Detail

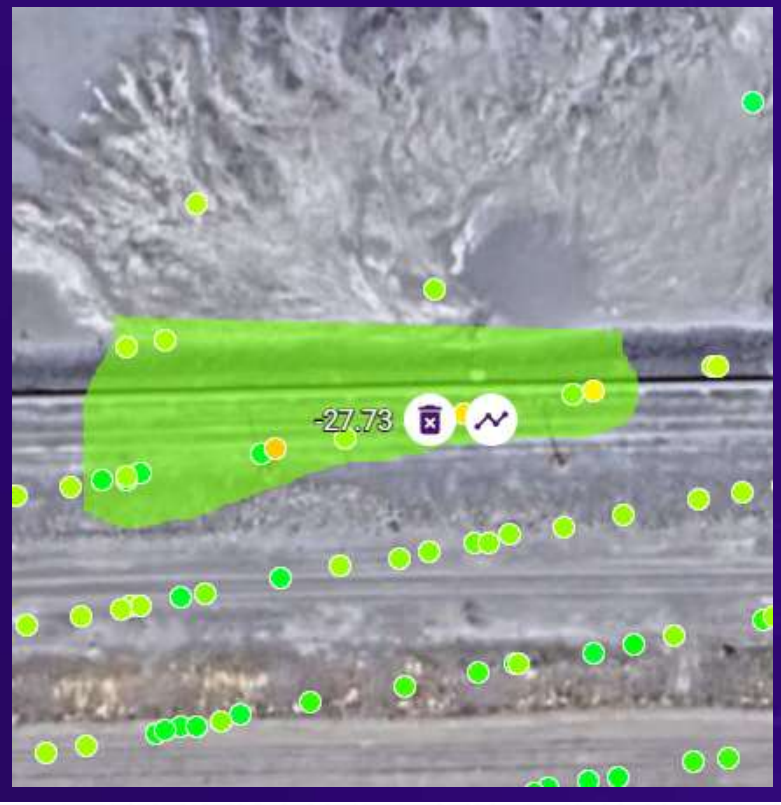
Section deformation up to 44 mm/year



44 mm/y

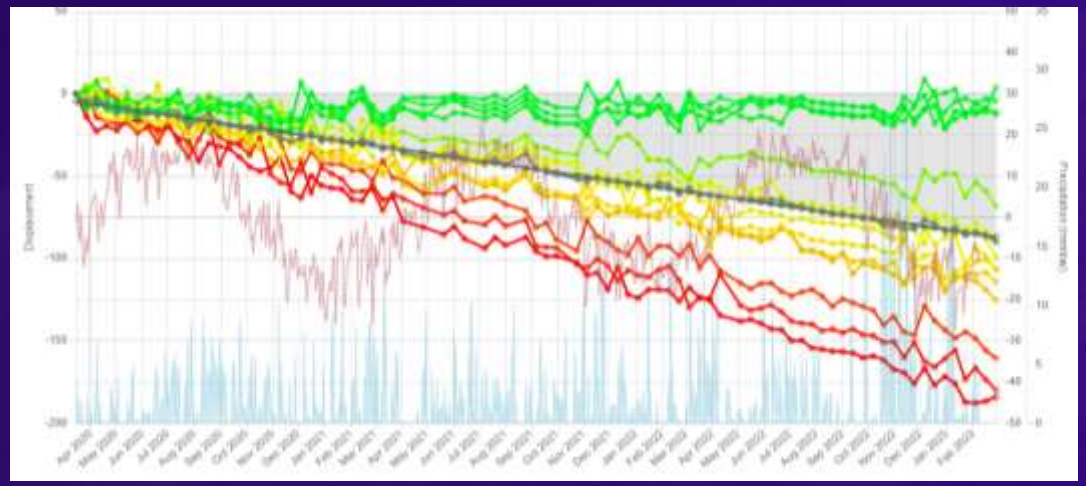


*The shape and the angle of the slope are illustrative and may differ from the actual slope profile

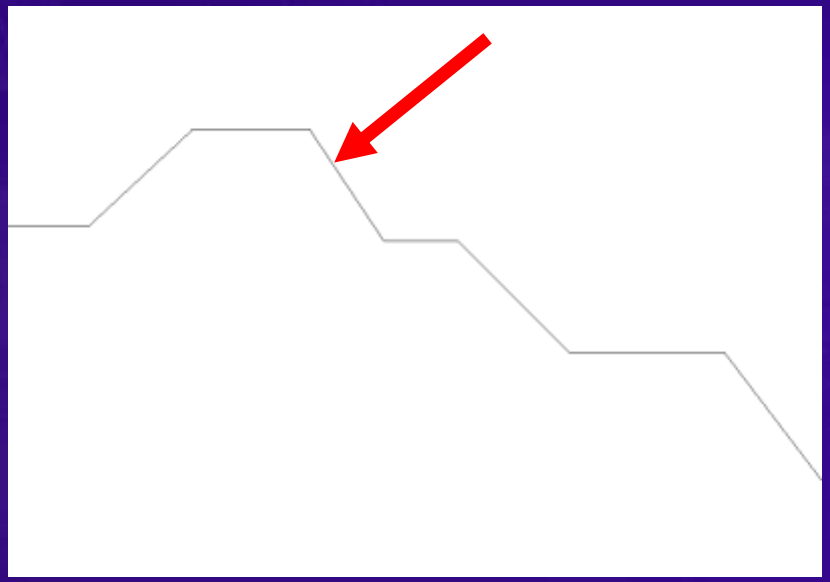


Site A, South Dam - Find 2 in Detail

Section deformation up to 61 mm/year



61 mm/y



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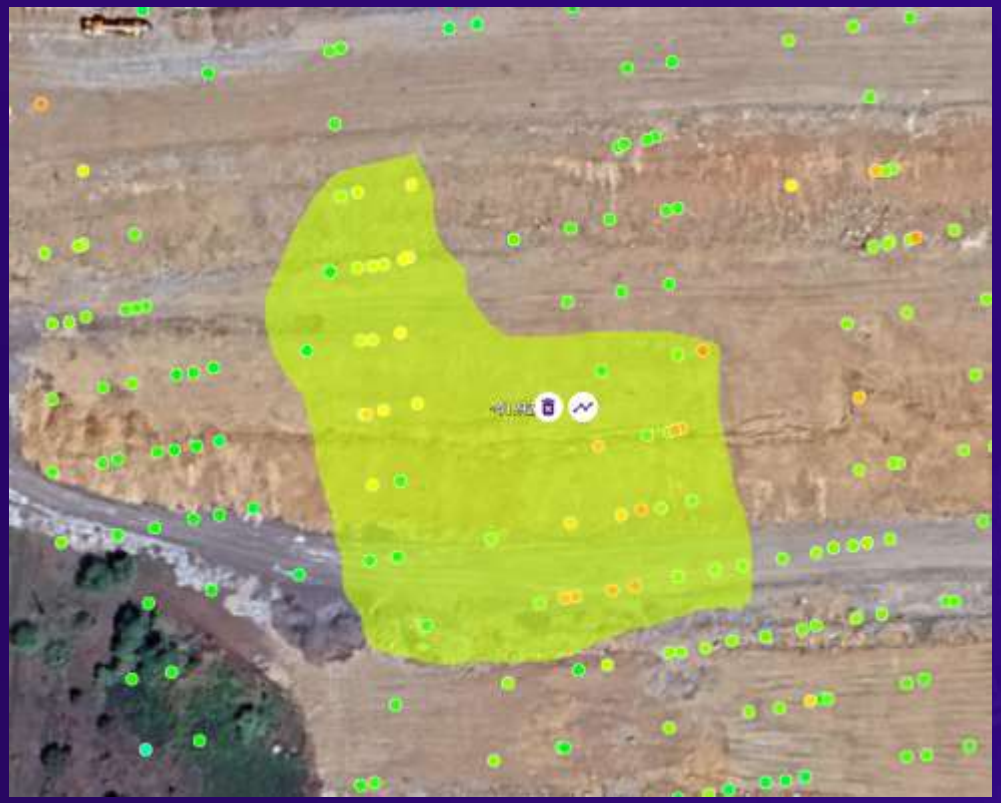
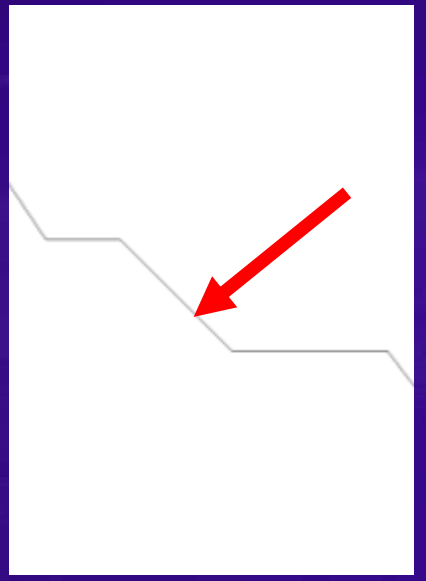


Site A, South Dam - Find 3 in Detail

Section deformation up to 69 mm/year



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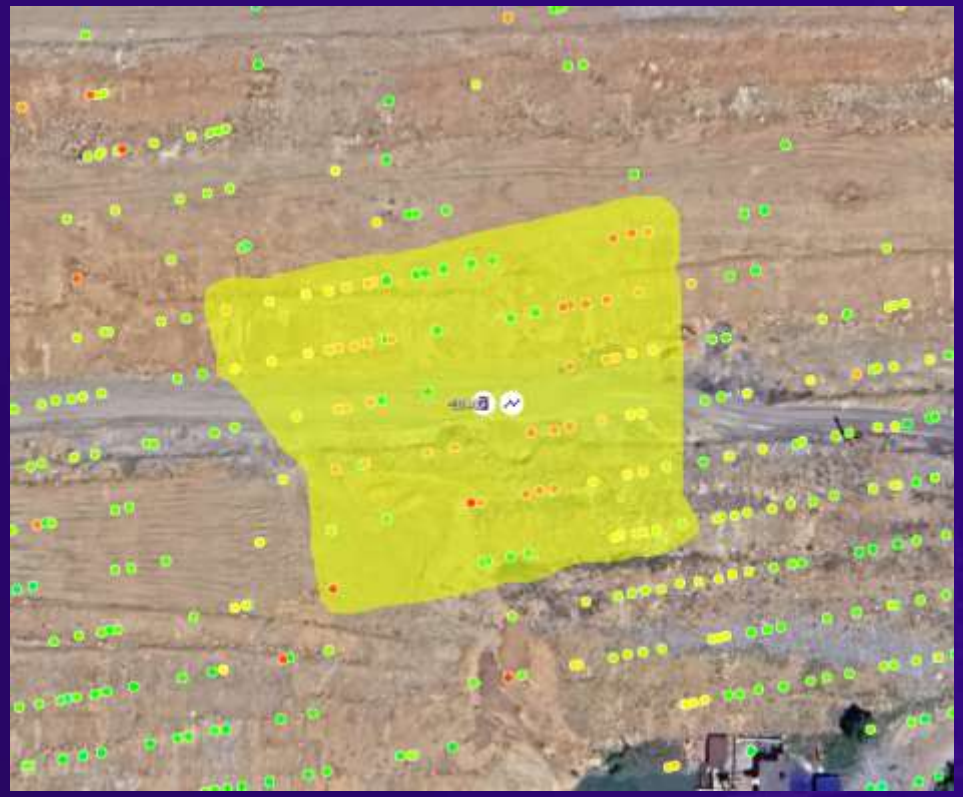
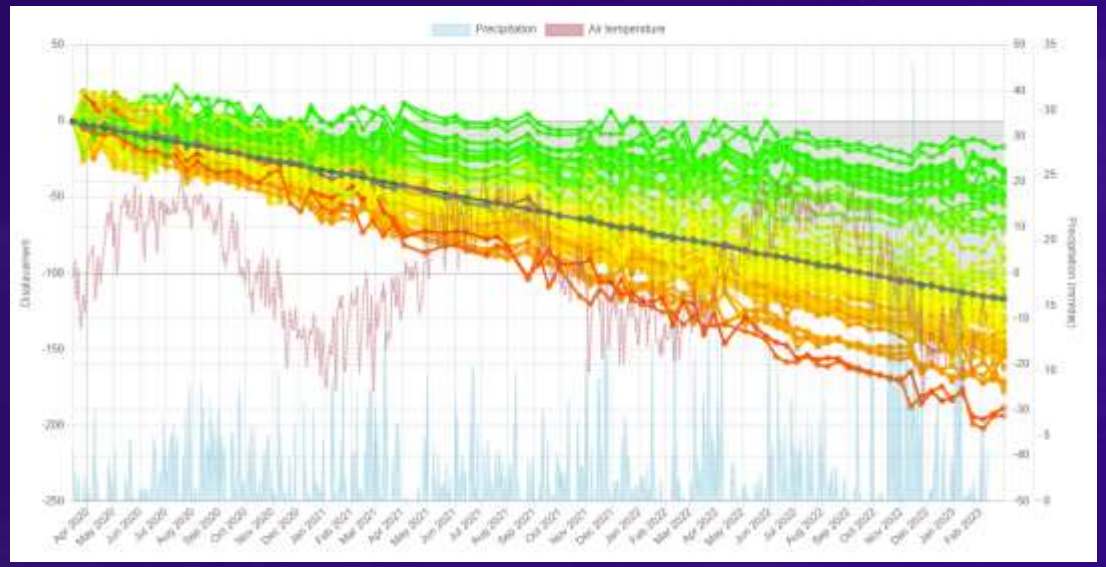
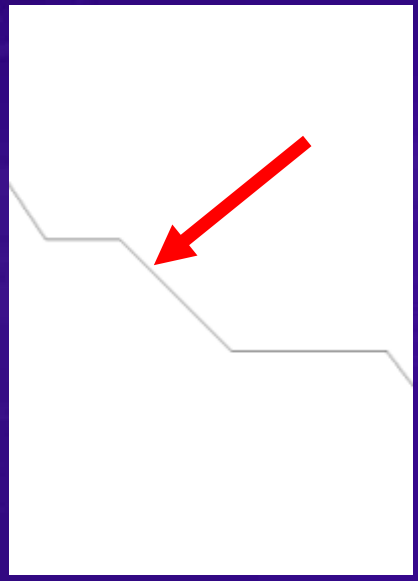


Site A, South Dam – Find 4 in Detail

Section deformation up to 69 mm/year





69 mm/y

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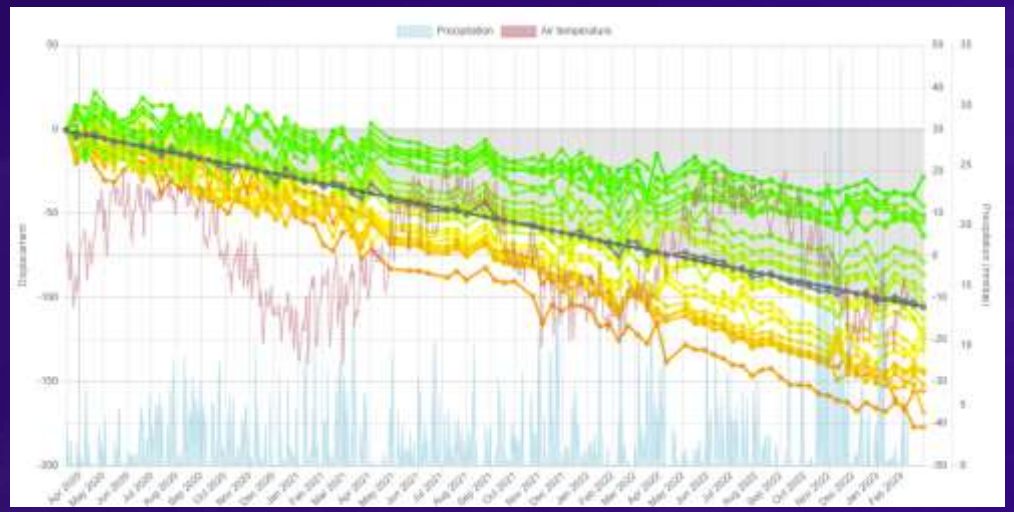
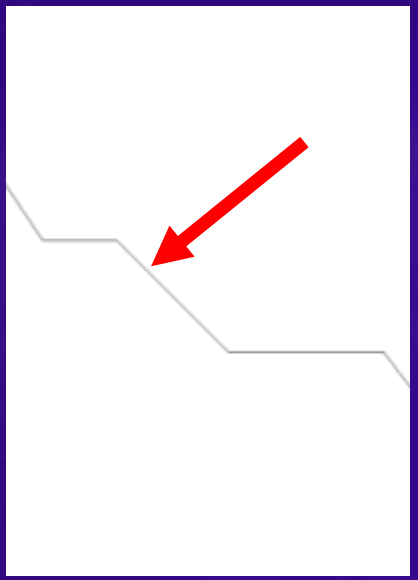
Site A, South Dam – Find 5 in Detail

Section deformation up to 55 mm/year





55 mm/y

*The shape and the angle of the slope are illustrative and may differ from the actual slope profile

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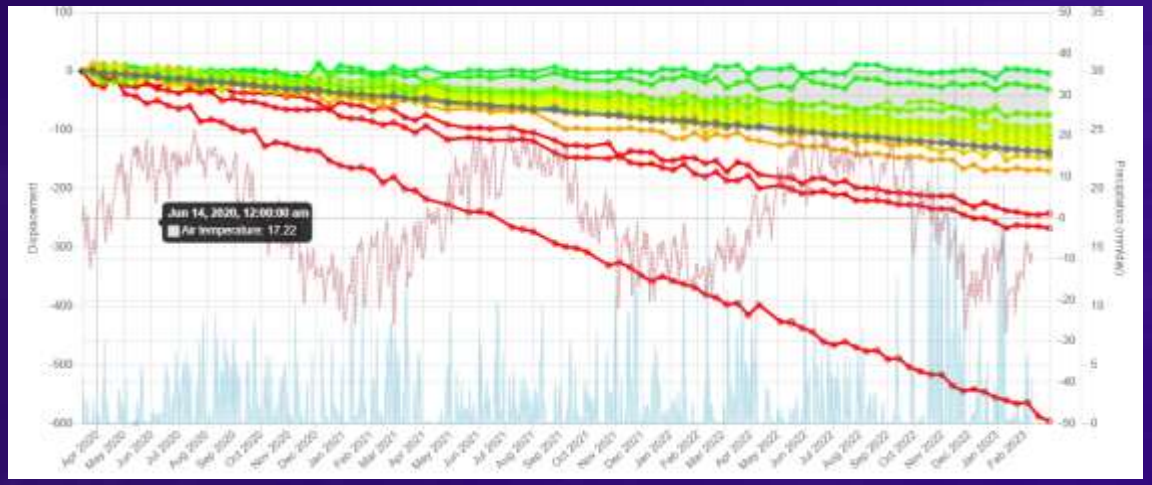
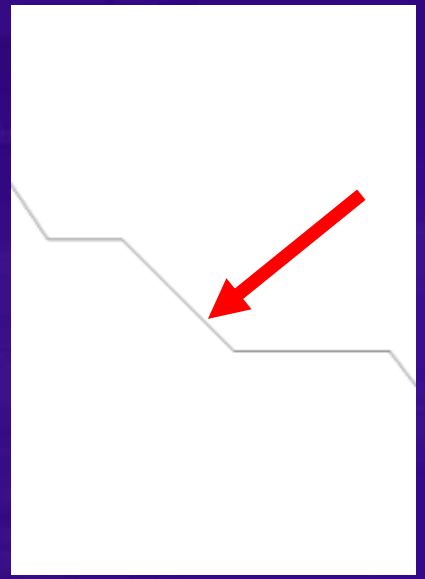
Site A, South Dam - Find 6 in Detail

Section deformation up to 196 mm/year





196 mm/y

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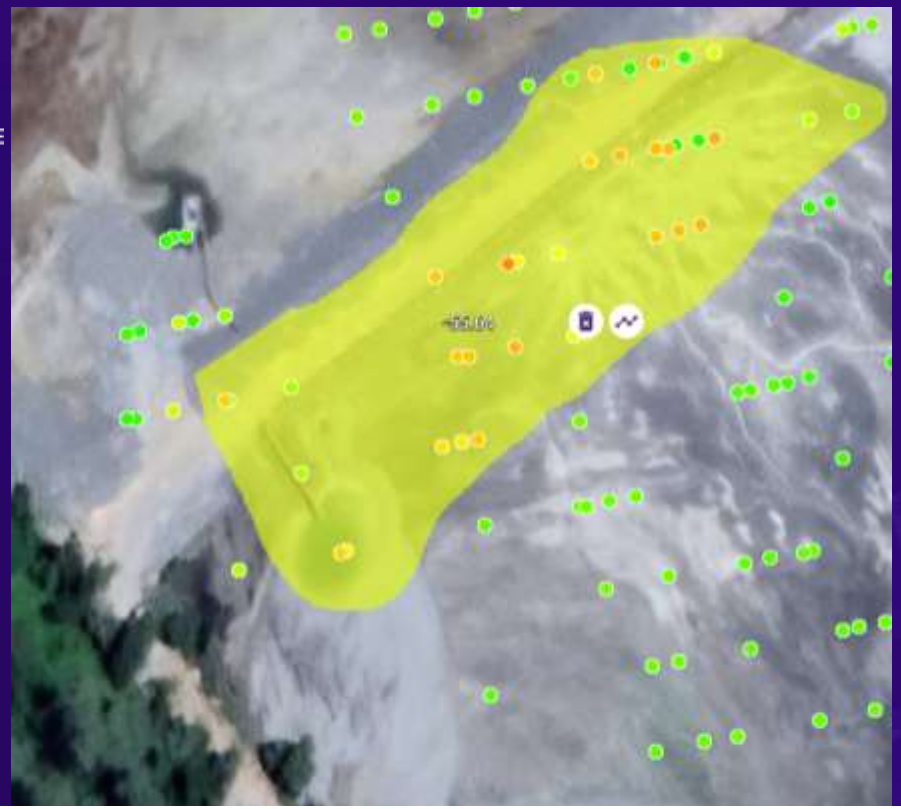
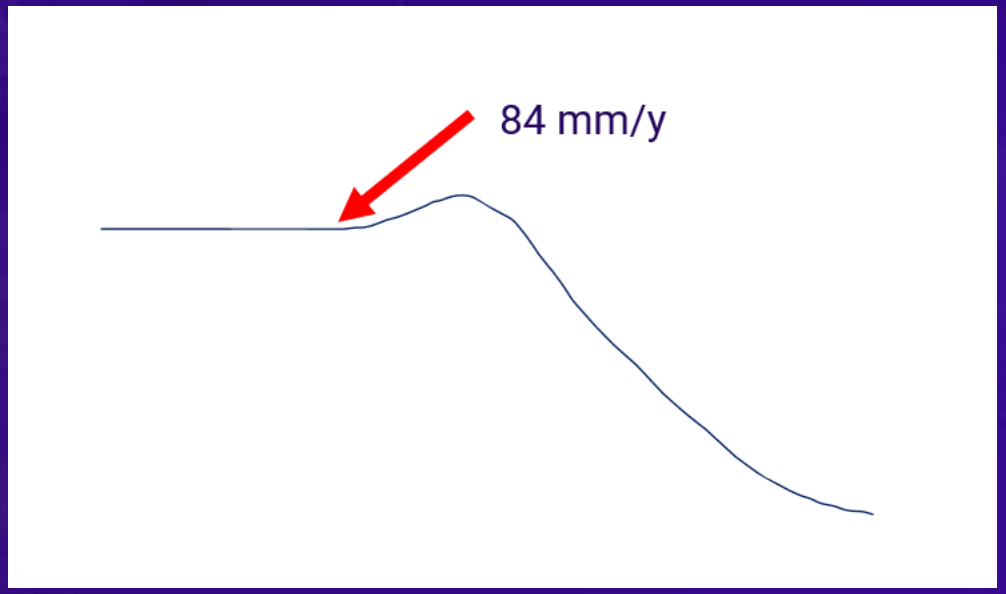
Ridder TSF – Macro Overview

Site B – North Dam
Find 7

Site A – South Dam
Finds 1, 2, 3, 4, 5 ,6



Site B, North Dam Find 7 in Detail: Section deformation up to 84 mm/year



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