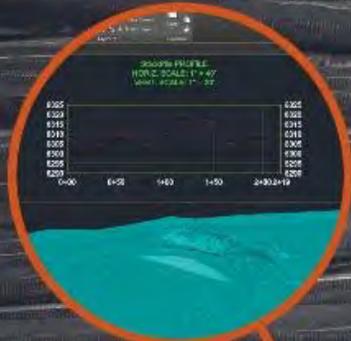
A large industrial drone with six rotors and a camera is flying in the upper left quadrant of the image. The background is a vast, open landscape with a winding river, rolling hills, and a cloudy sky. The text is overlaid on the right side of the image.

Unmanned Aerial Systems (UAS) Operation: The Difference between Toys and Tools



24th Annual Mine Design,
Operations & Closure Conference
May 2016

Trihydro established our Unmanned Aerial Systems (UAS) program to:



Provide high value data to our clients



Offer a safer way to collect data on high-risk sites

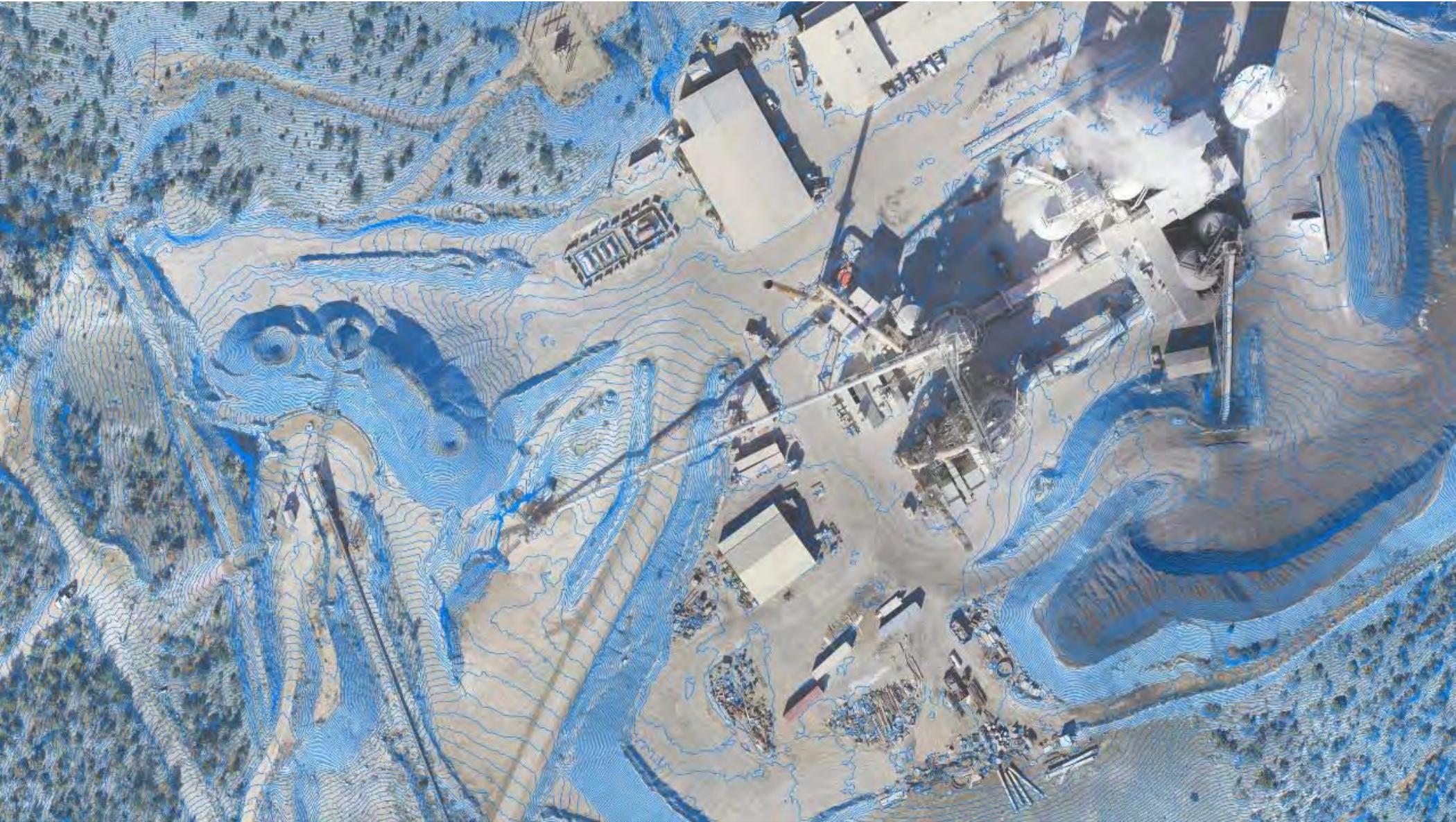


Encourage innovation inside and outside Trihydro



Provide new opportunities for employees





So you are going to use or provide UAS services...

- ✓ FAA Section 333 Exemption (specific to UAV)
 - ✓ Operations and Maintenance Program
 - ✓ Pilot (minimum sport pilot certificate)
 - ✓ Trained Observer
 - ✓ Licensed Technical Professionals
- 



Why Does it Matter?







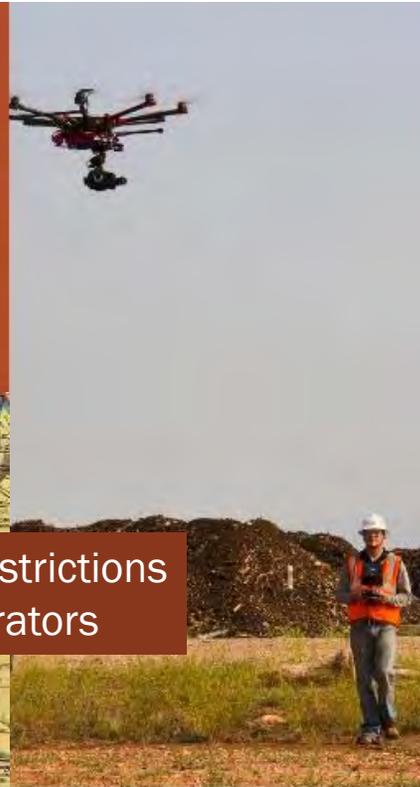
Oh yeah...
Got UAV Liability
Insurance?





Not for that...
for THIS!

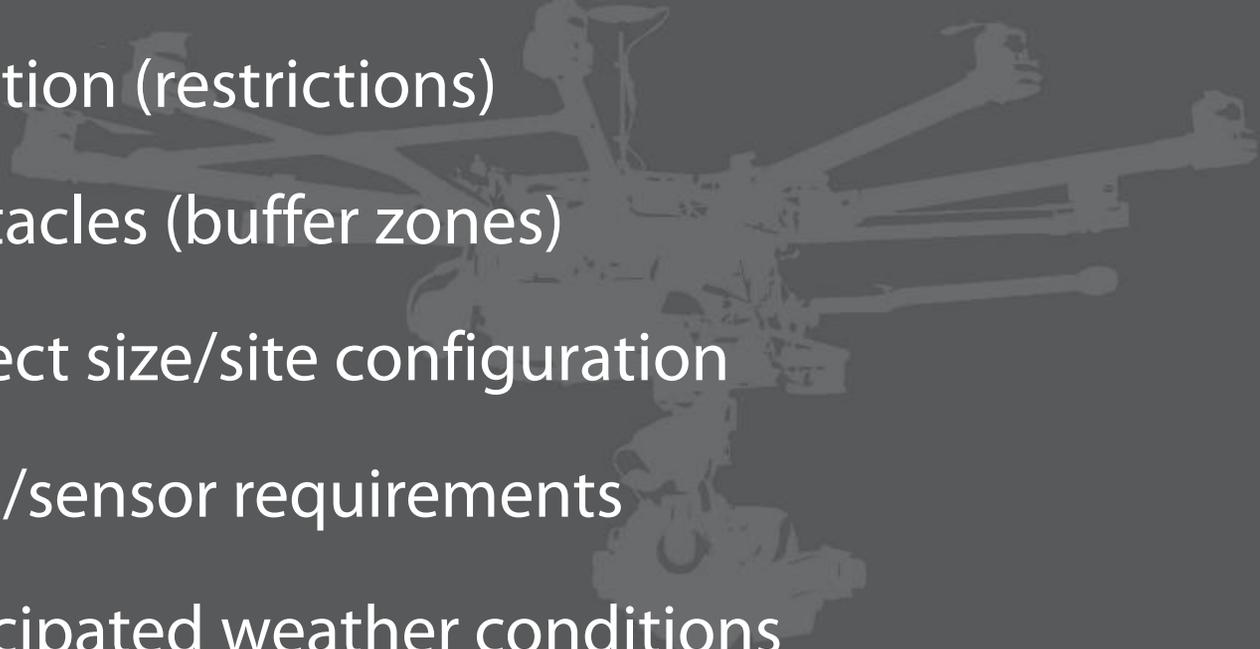


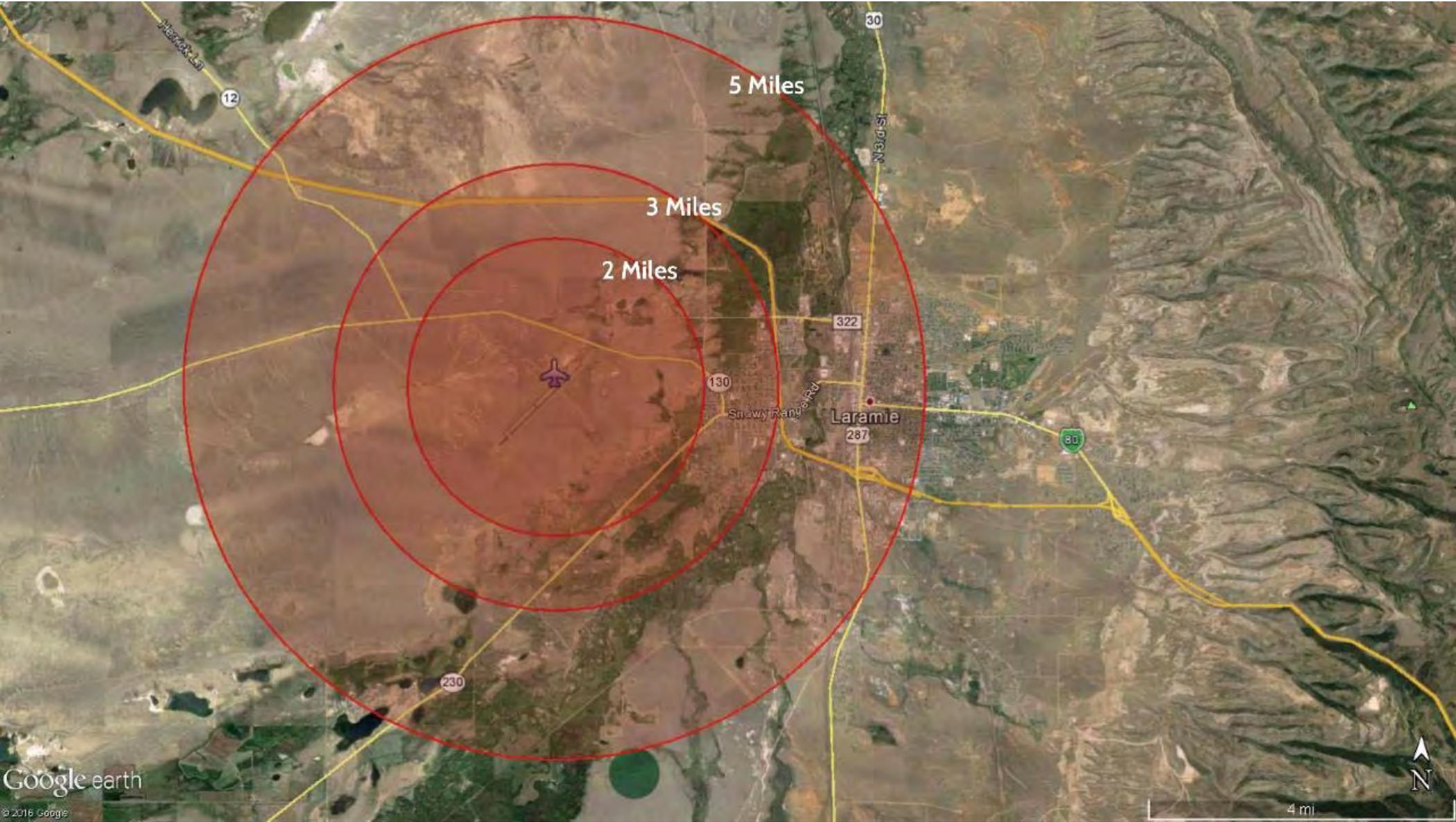


The FAA places the following restrictions on all commercial UAS operators



Project Evaluation

- Location (restrictions)
 - Obstacles (buffer zones)
 - Project size/site configuration
 - Data/sensor requirements
 - Anticipated weather conditions
 - Budget (min. 2-person crew)
- 



5 Miles

3 Miles

2 Miles

Laramie

Google earth

© 2016 Google

4 mi



dji
Current point flight time: 00:00:00
Total flight time: 00:00:00
Total estimated time of one way: 00:34:40
Total distance of one way: 10.704km

To Home(M):0.0
To Target(M):0.0
Altitude(M):0.0
H.Speed(M/S):0.0
V.Speed(M/S):0.0
MotorVoltage(V):0.0



dji EDITOR

Editing Mission

- 0
- 1
- 2
- 3
- 4
- 5

1.Way point properties

Latitude	46.3262687700966
Longitude	-111.6205536711
Altitude	80
TurnMode	Adaptive_Bank_Turn
Forward_Flight_Speed	8
HeadingDegree	360
HoldTime	3

Latitude
Latitude of the selected way point.

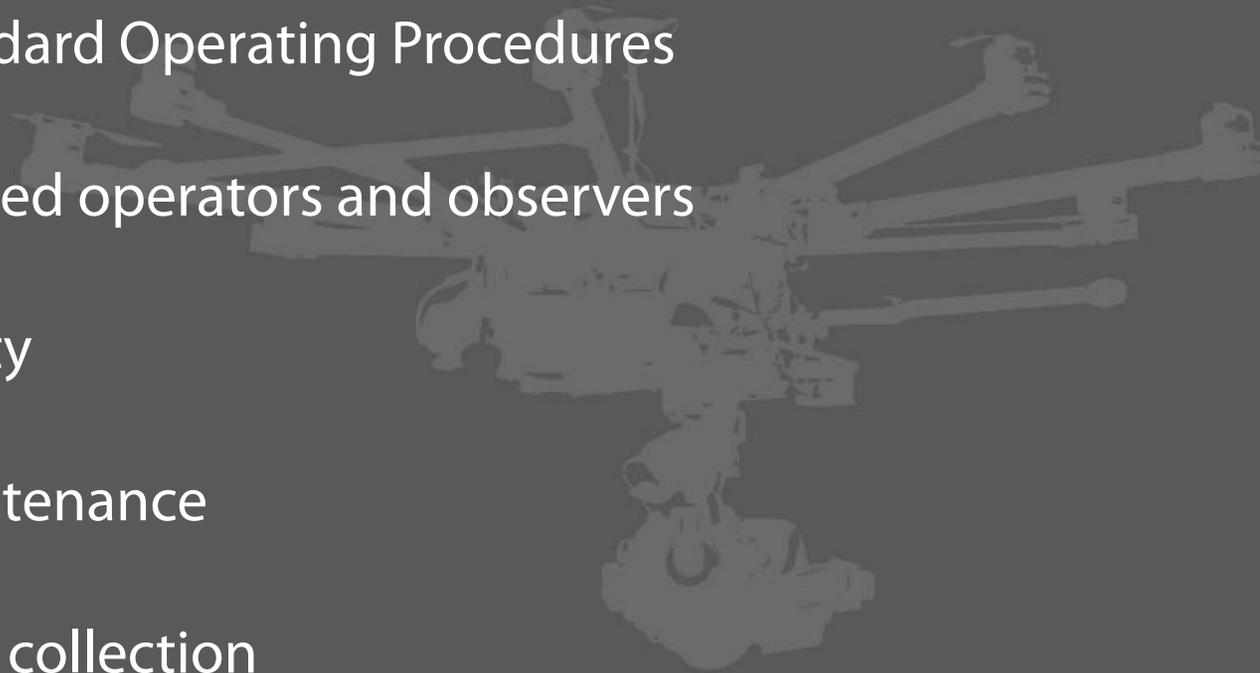
+ - CLEAR SAVE OPEN

+1 -10 -1 -10

CANCEL UPLOAD GO

Project Operations

- Standard Operating Procedures
- Trained operators and observers
- Safety
- Maintenance
- Data collection
- Processing

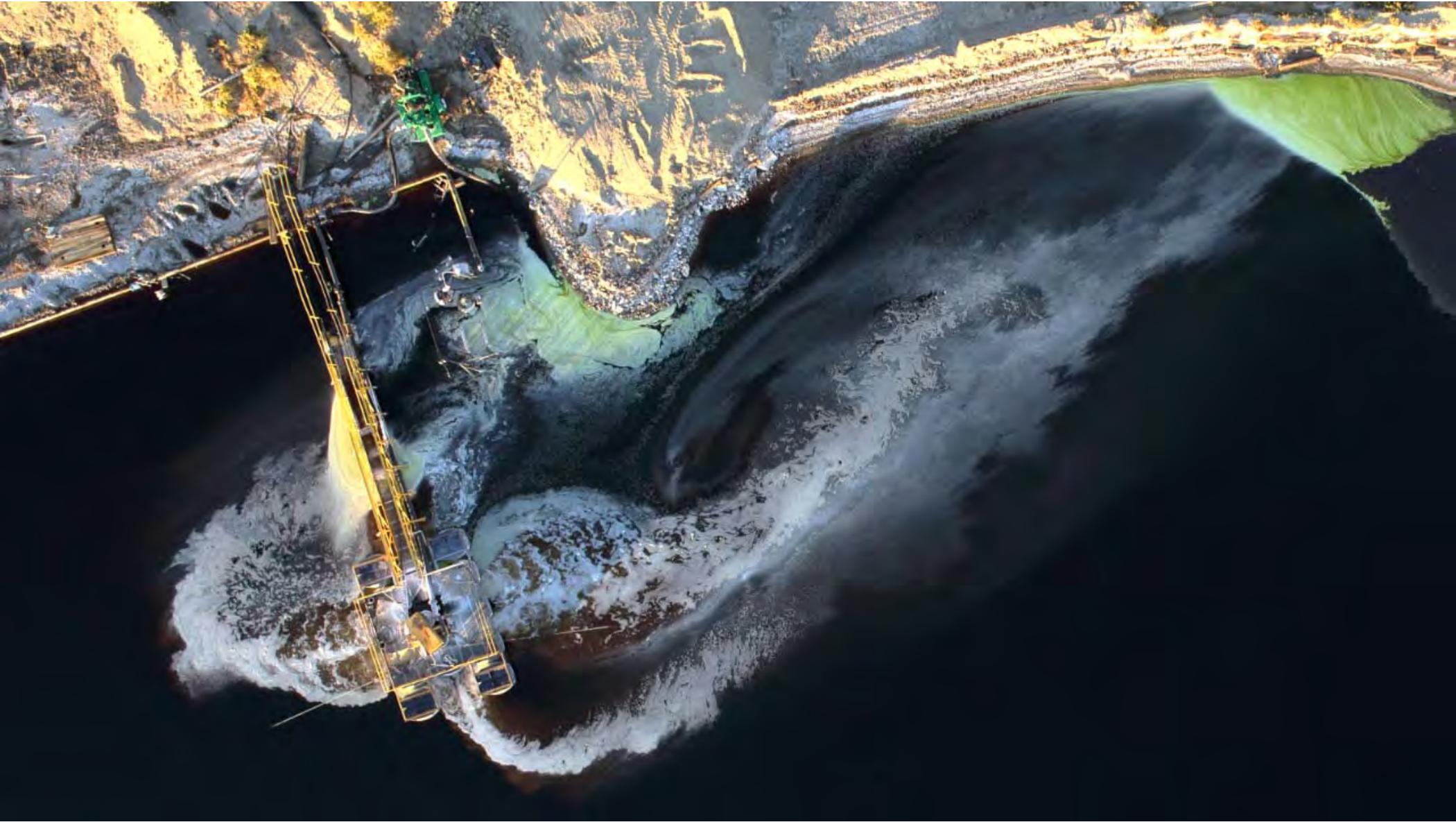




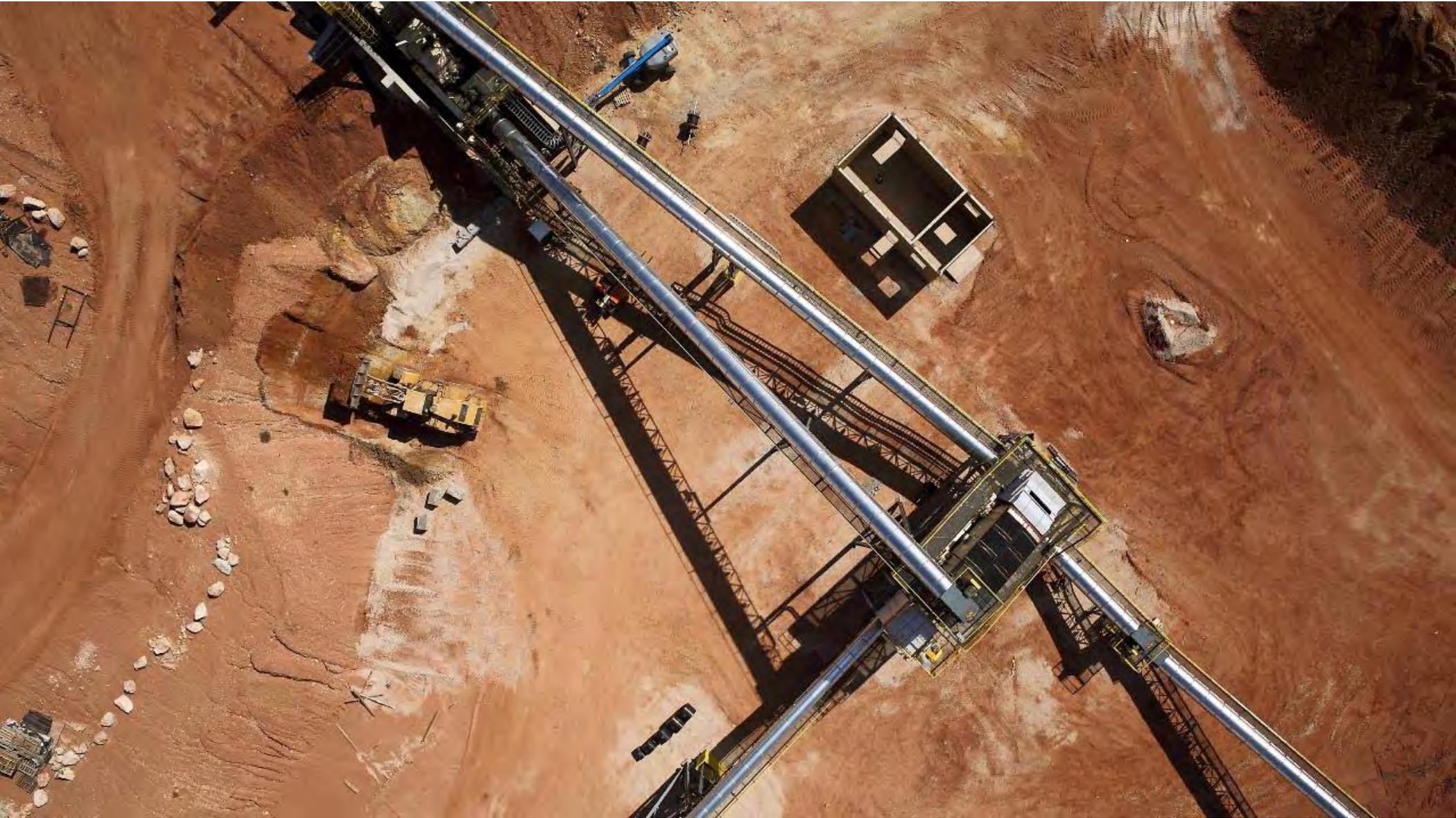


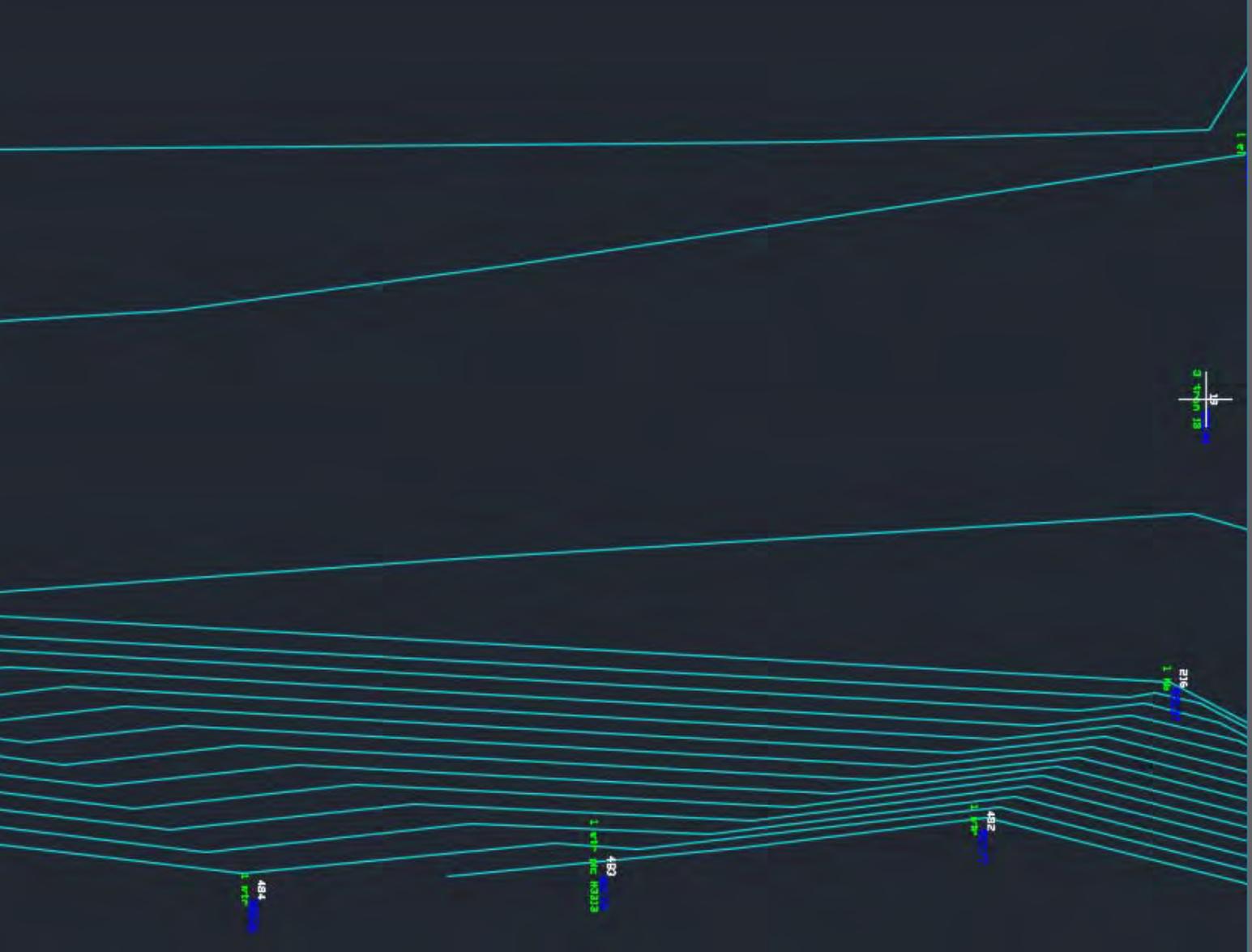




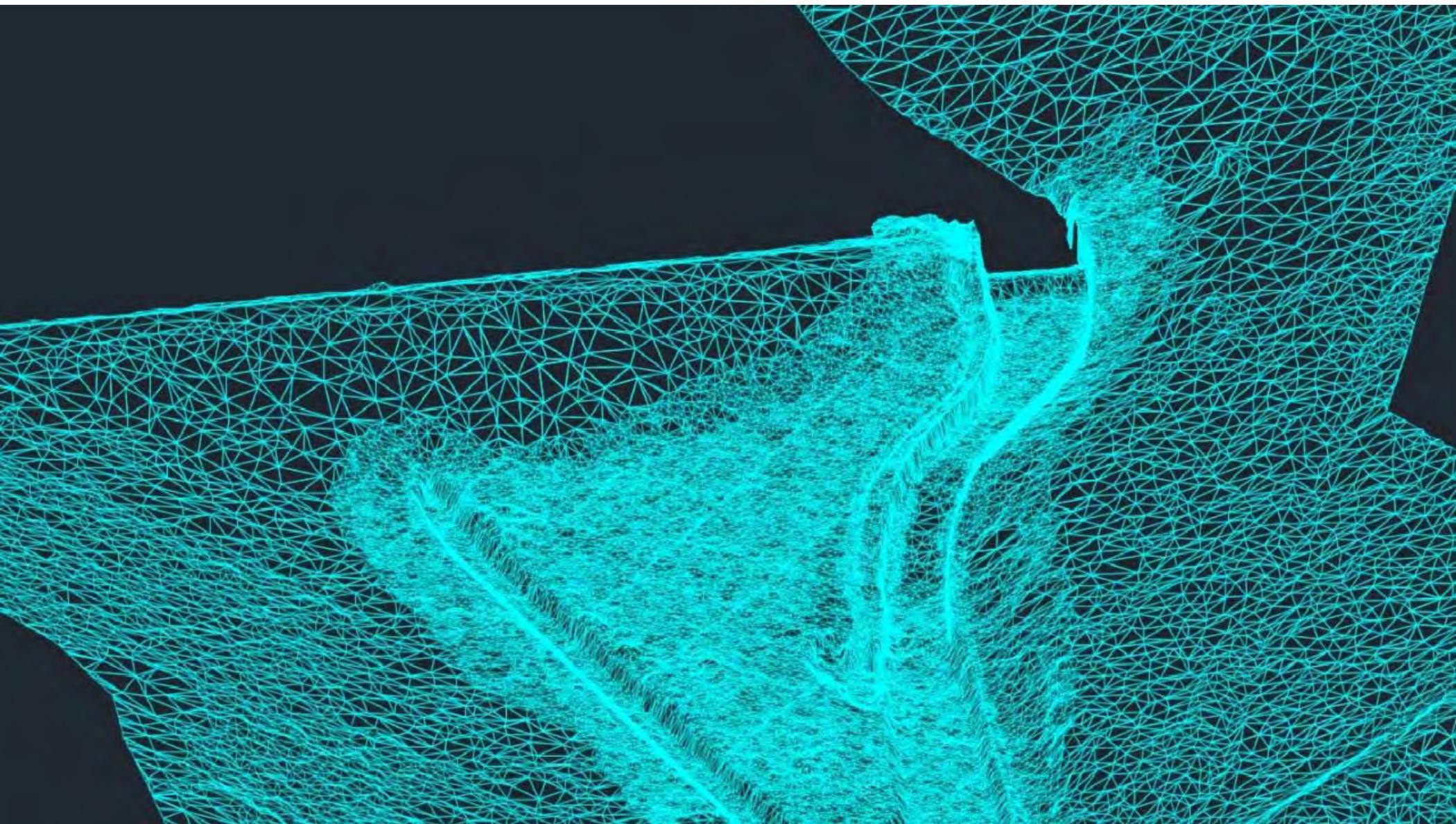


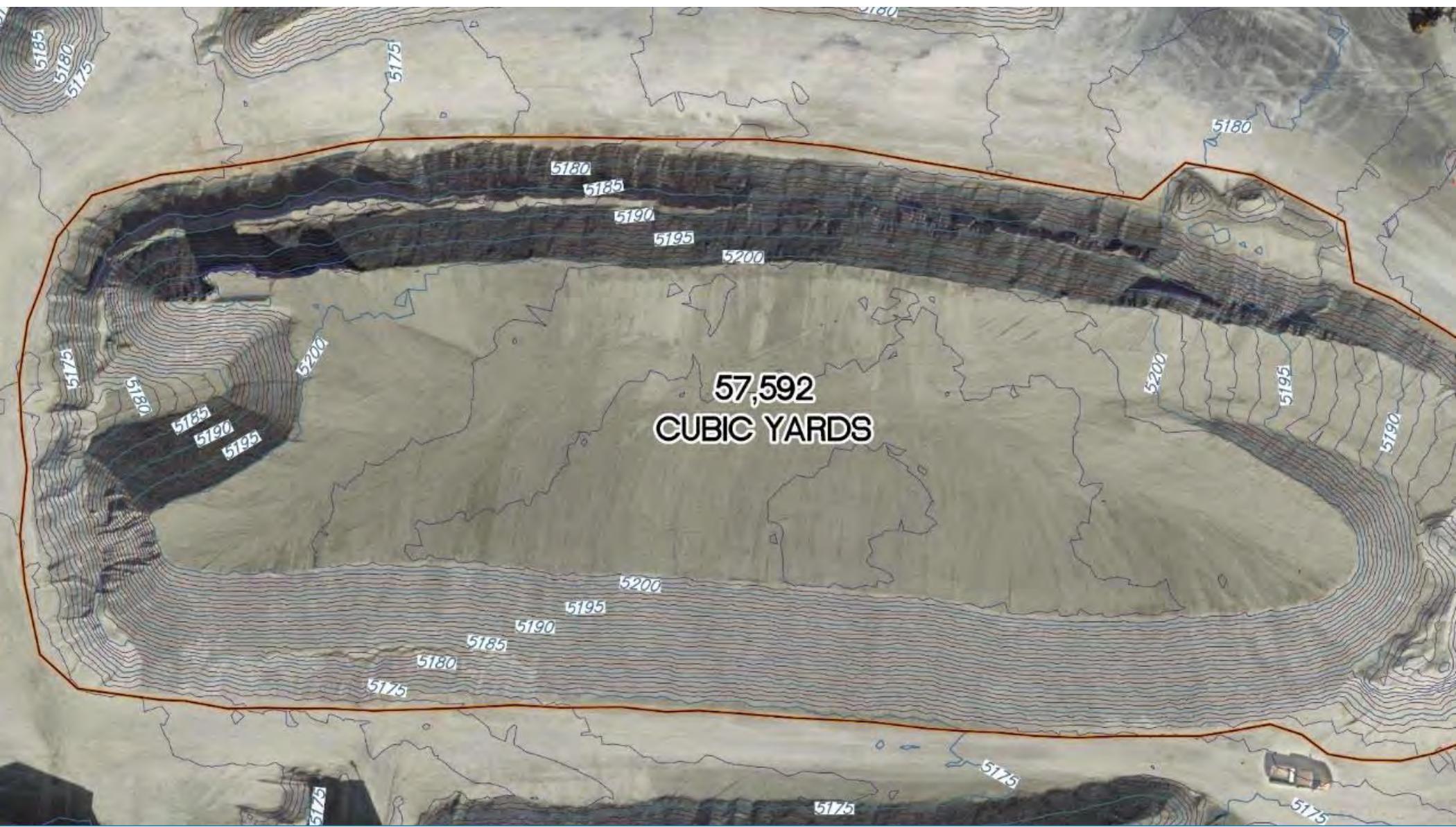






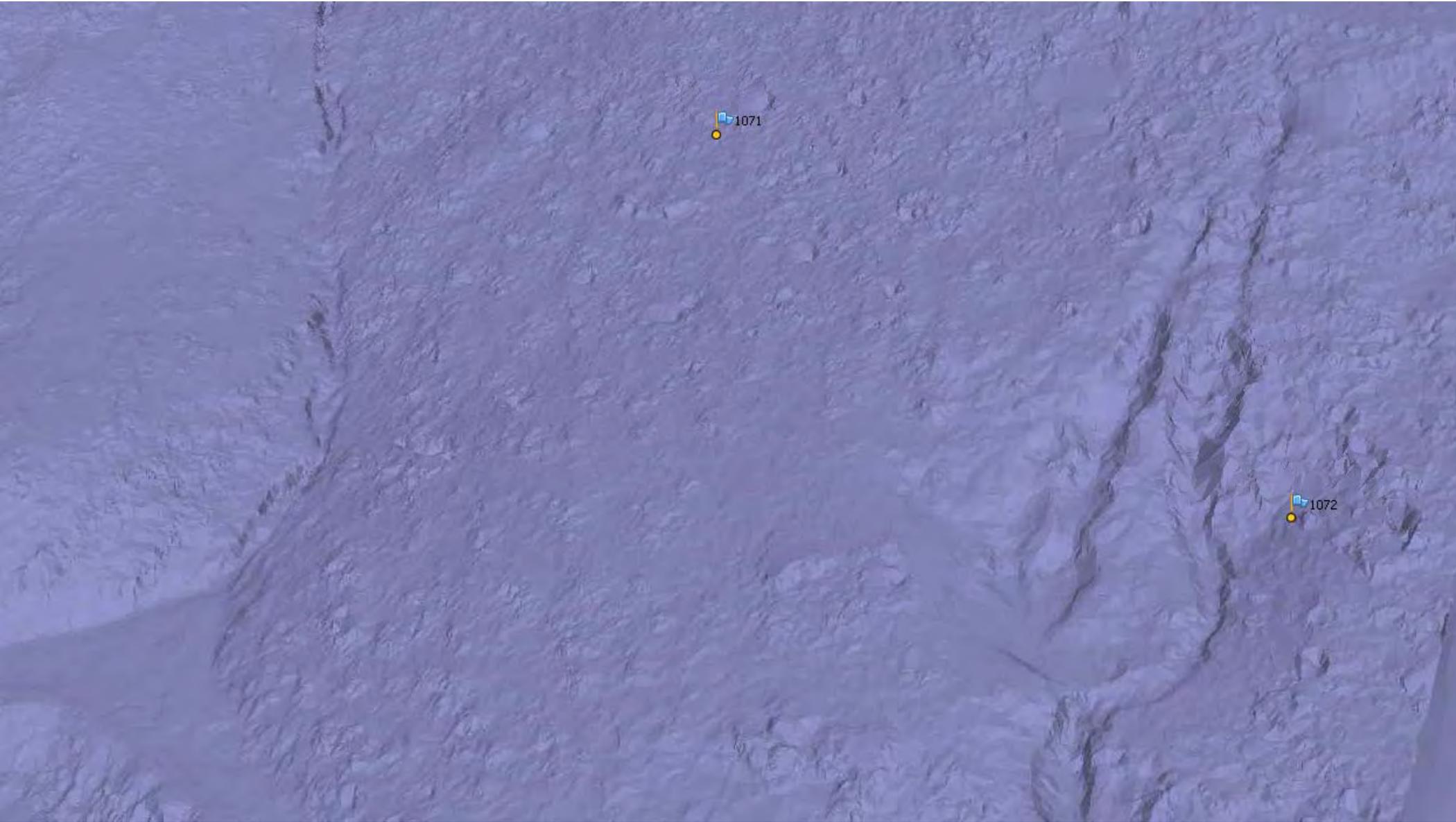






57,592
CUBIC YARDS





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1072