



THE HANFORD SITE

Laser Scanning: An innovative approach to mitigate risk in tank farms - 23023

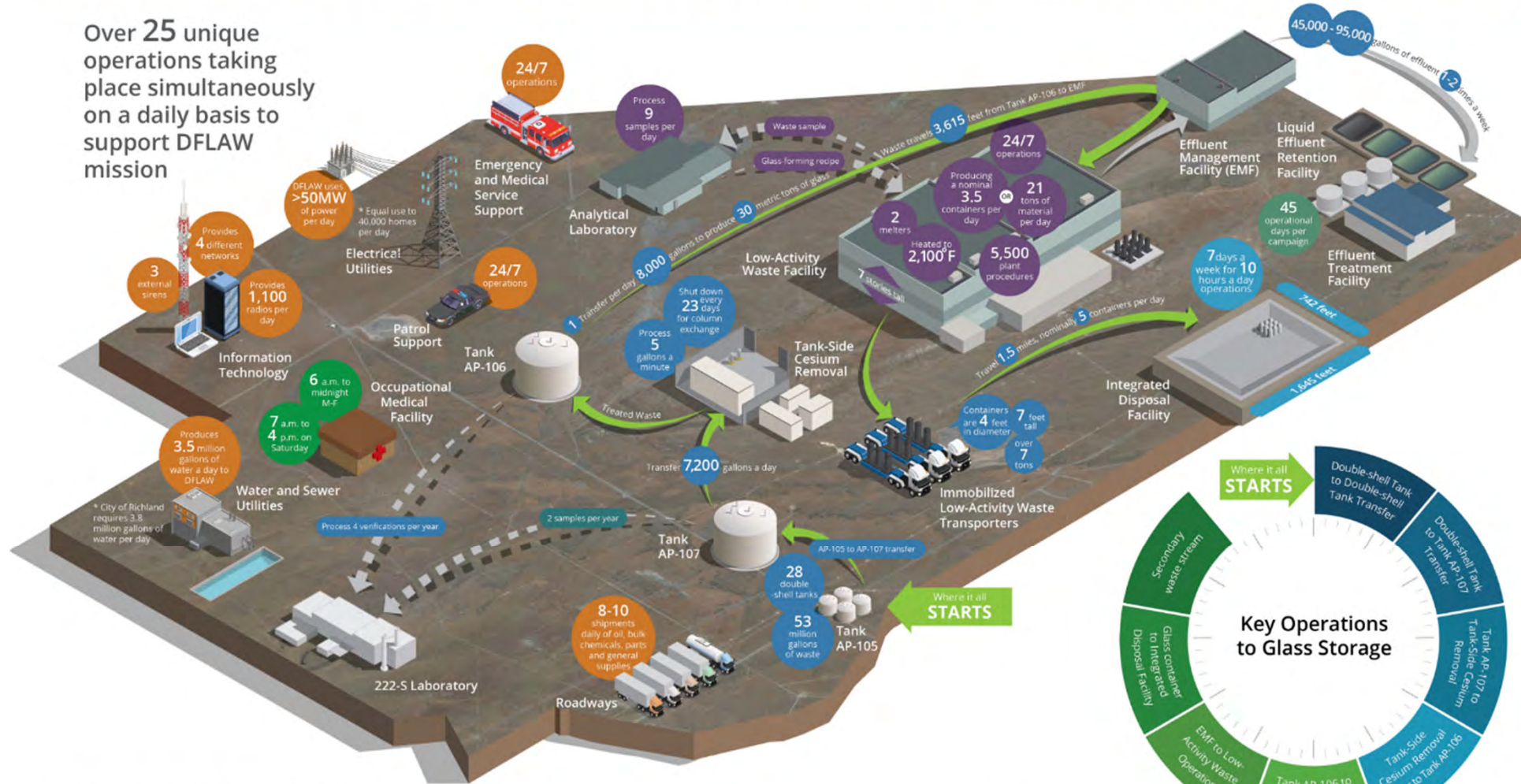
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Washington River Protection Solutions LLC

March 2, 2023

Day in the Life of Direct-Feed Low-Activity Waste (DFLAW)



Over 25 unique operations taking place simultaneously on a daily basis to support DFLAW mission



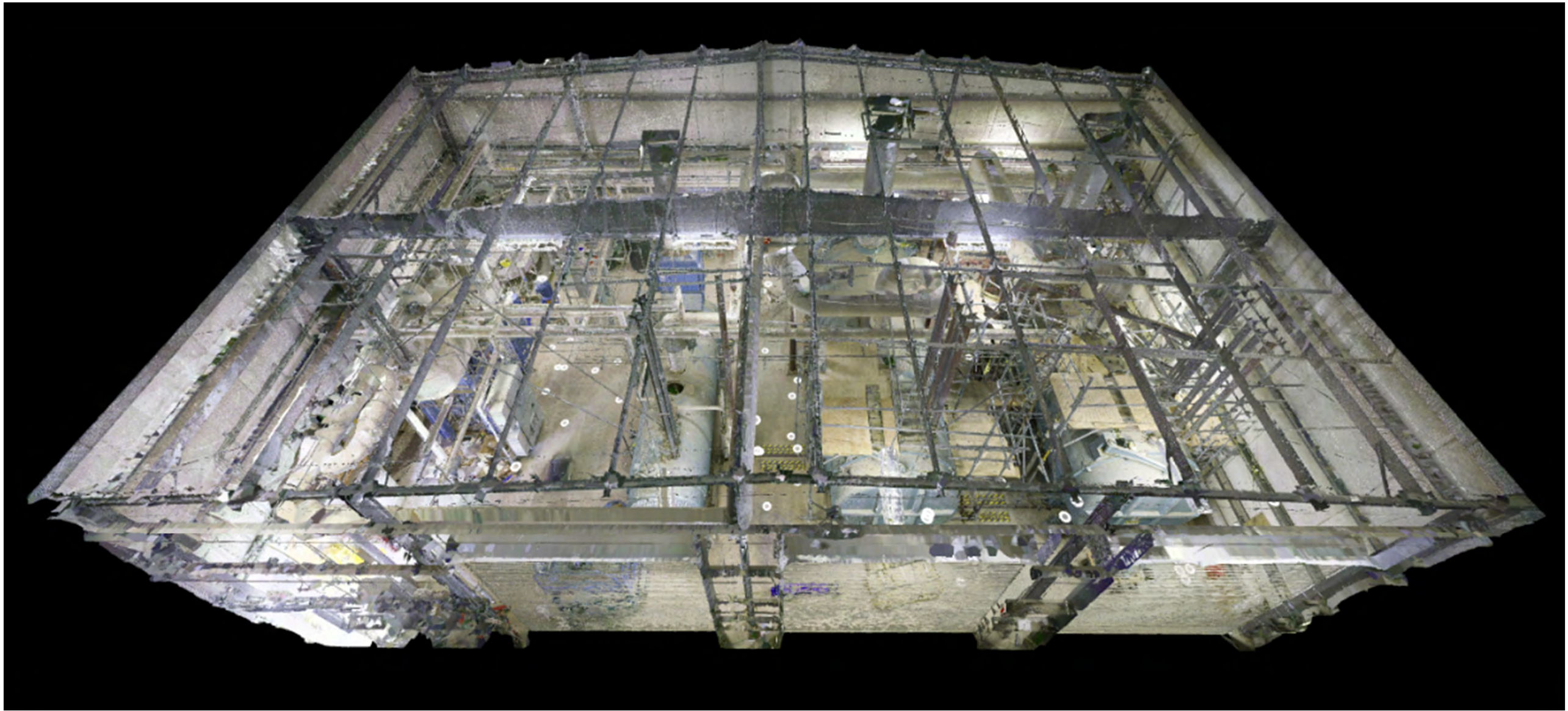
NOTE: Nominal values are depicted and will fluctuate throughout operations

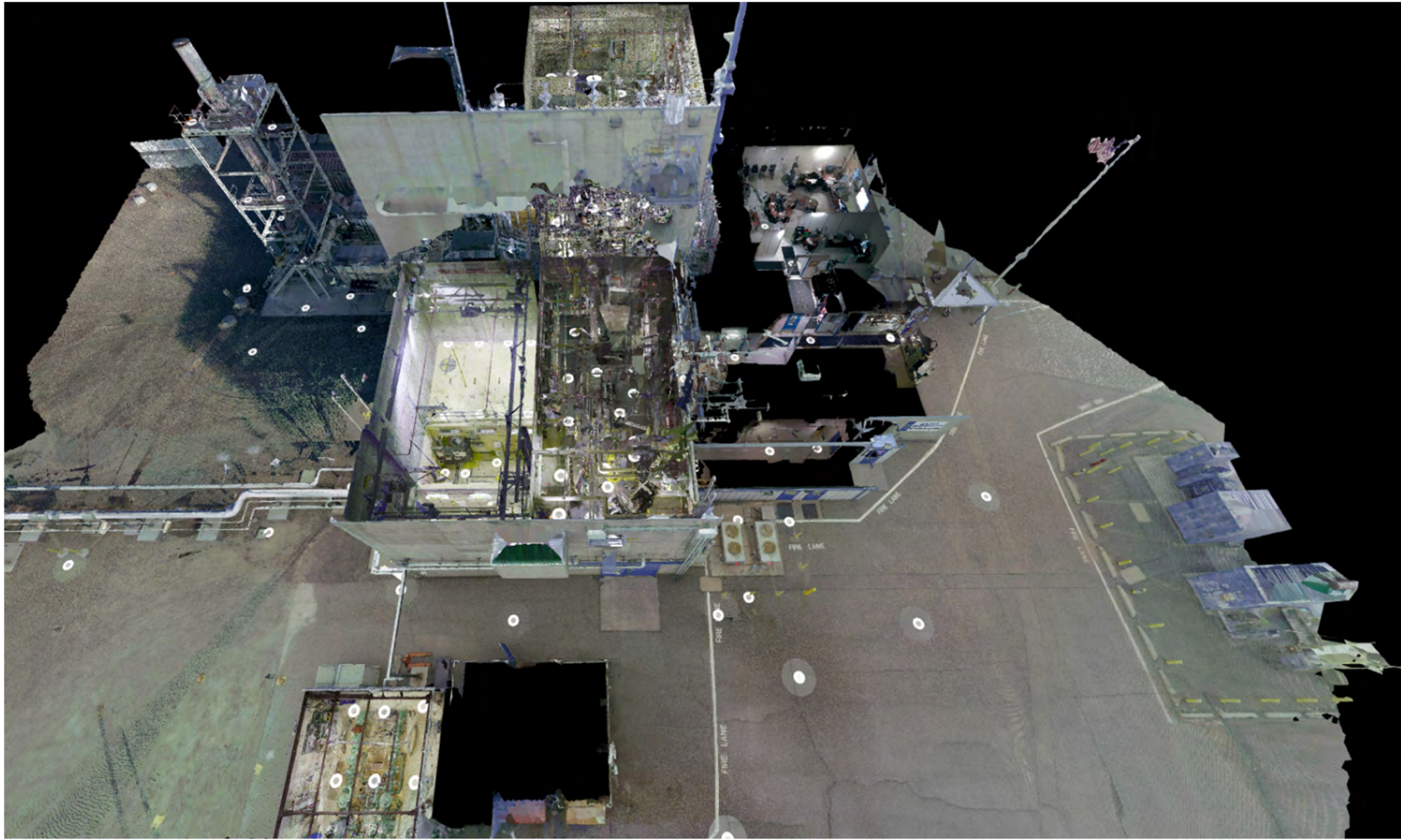
- Tank Farms
- 222-S Laboratory
- Waste Treatment and Immobilization Plant
- Effluent Treatment Facility
- Disposal Operations
- Infrastructure Services
- Occupational Medicine

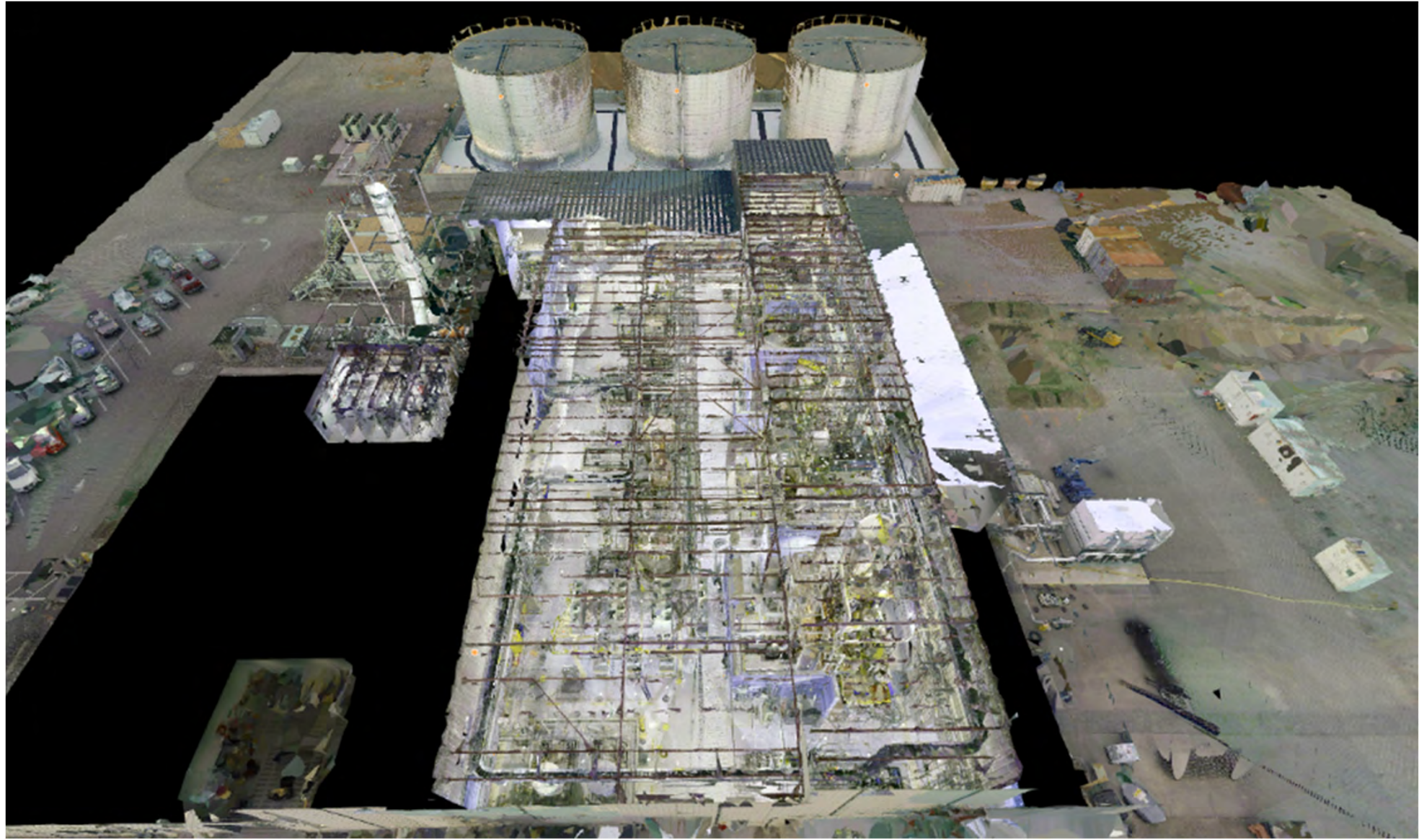


- Introduction
- Process description
- Features
- Benefits
- Conclusion

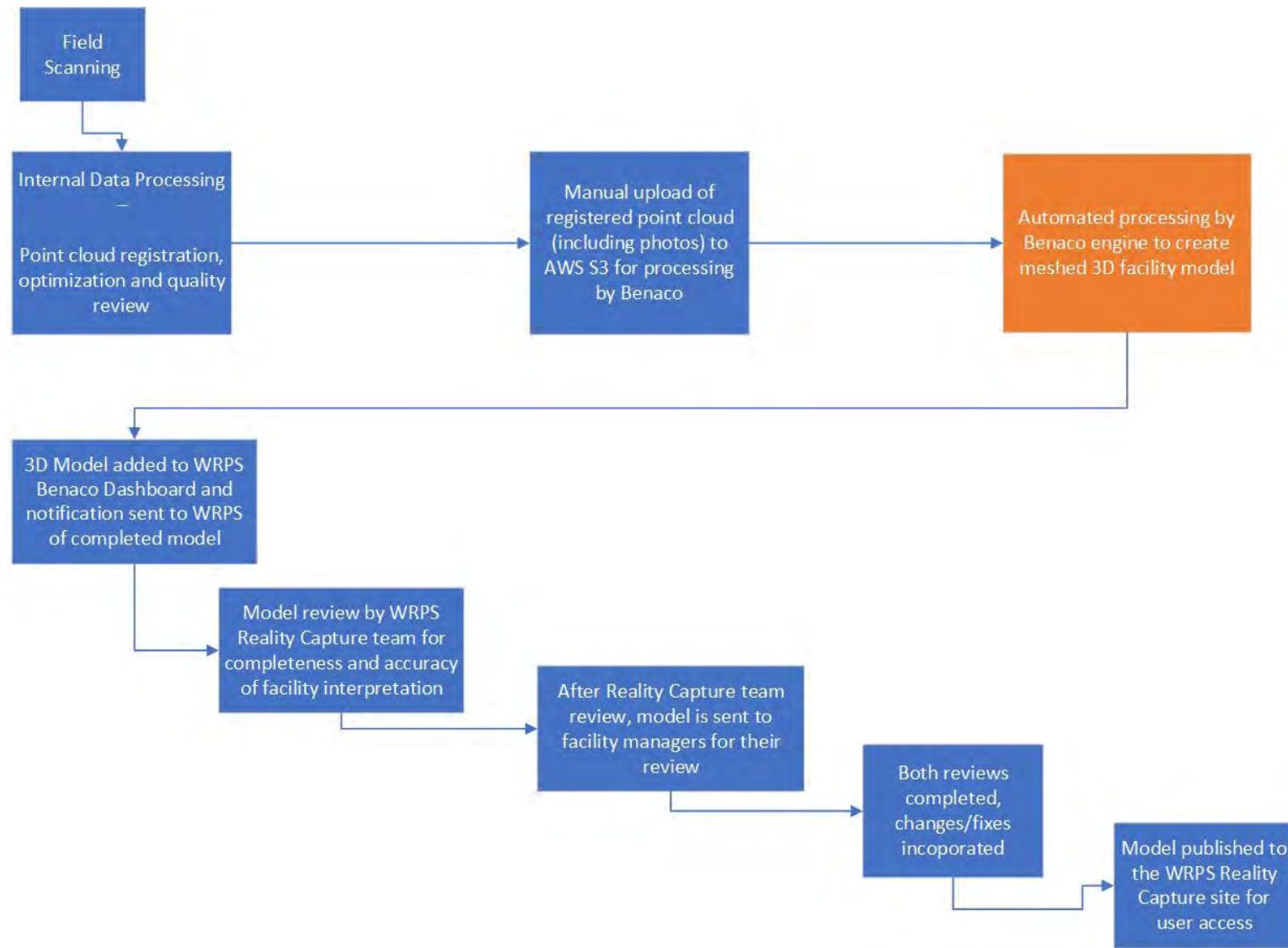
- Washington River Protection Solutions (WRPS) uses laser scanning as a tool to perform work and create 3D models
 - 22 unique models exist at time paper was published
- Laser scanning has created work efficiency; employees are able to view facilities without ever leaving their office
- Embraces ALARA approach by minimizing time in potentially radiological areas
- The reduction of entries into tank farms or facilities that require qualifications due to potential radiological exposure is mitigated
- 3D models assist with pre-job briefings and work-planning efforts







- Request for 3D model
 - Perform laser scan in field
 - Register data
 - Integrate 360° photos into model to create a more dense product
 - Upload data to third party to finalize model and host
 - Notify requestor of availability of model



- Model clones
- Guided tours
- Highlights of precise locations
- Levels
- Points of Interest (POI)
- Measurement tool

Welcome to this Benaco-powered virtual tour of the 242-A Evaporator!

NOTE This tour is to be used for informational purposes only!





To look around, left click and **drag** the mouse; and scroll to zoom in and out.

In the Overview/Floorplan mode, right click and **drag** to rotate the model.

To move, **click** into the desired direction, or on one of the white circular floor markers.

Features & Tools

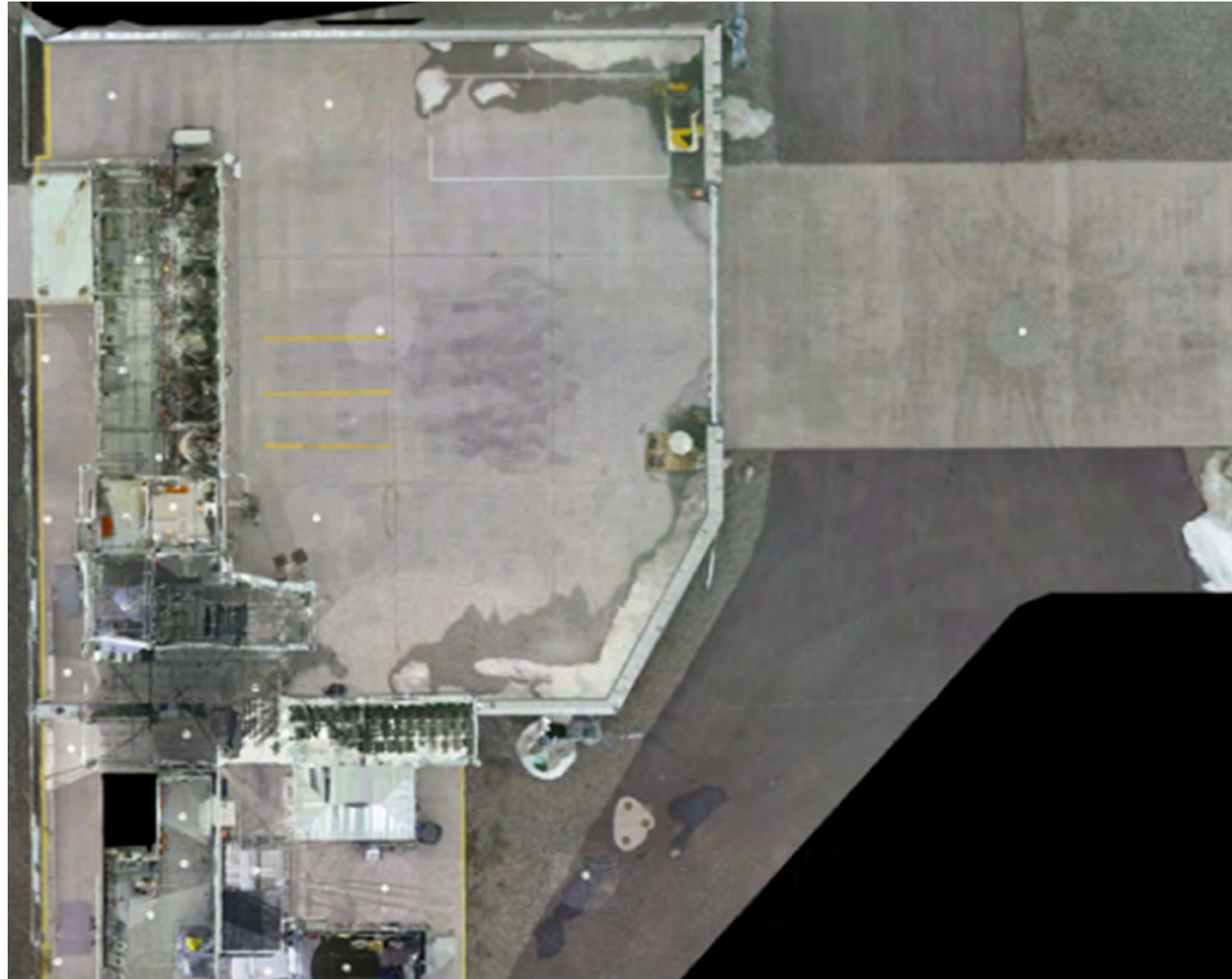
Click on the icons on the right screen side to activate the corresponding functionality:

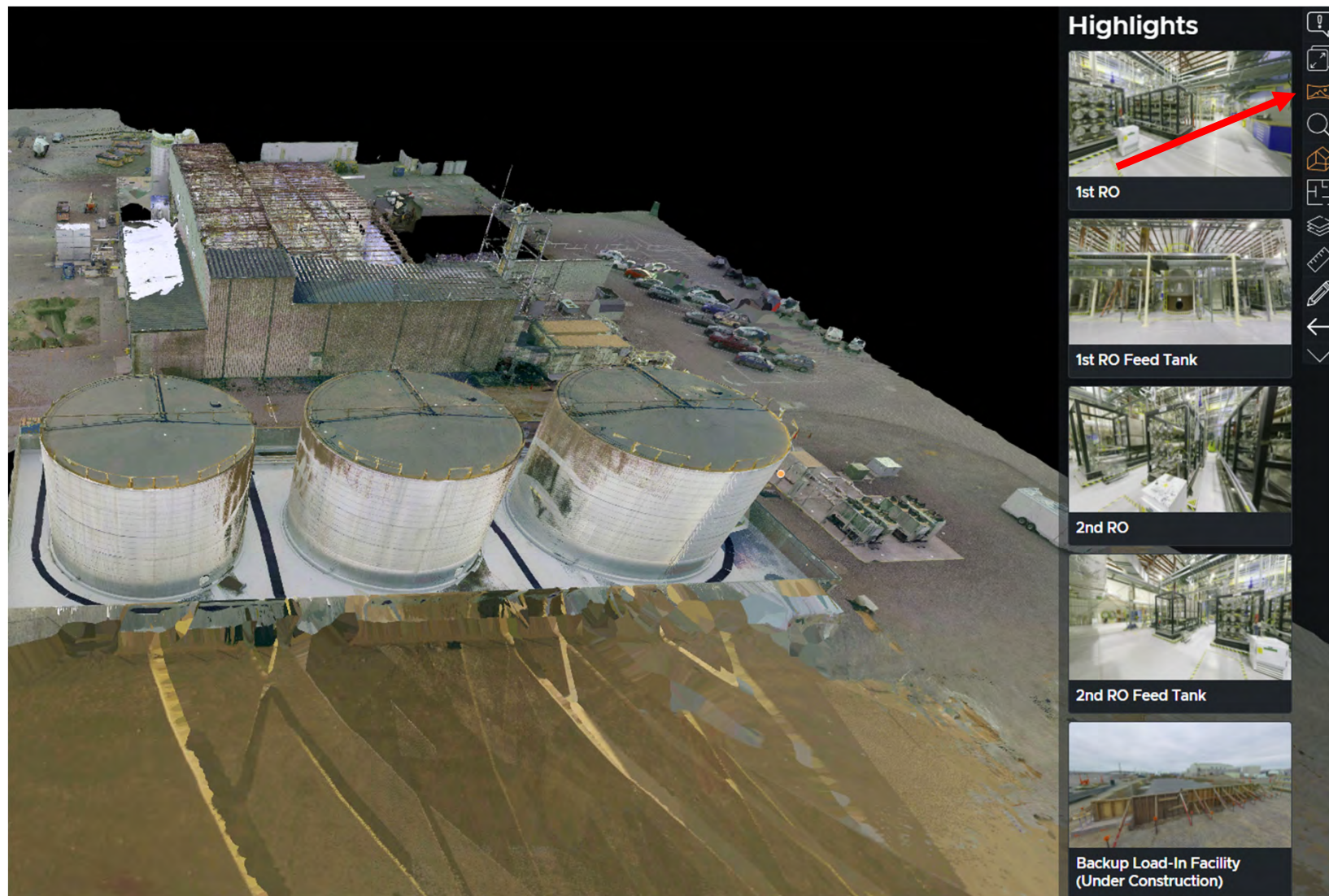
Highlights		Highlights allow the user to quickly navigate to locations snapshotted by the tour owner.
Points of Interests (POIs)		POIs can be equipped with texts, images, links, videos, or arbitrary other content. They can be found quickly using the POI search function.
Overview mode		Overview mode provides a 3D view of the environment for quick navigation.
Floor plan mode		Floor plan mode provides easy orientation, displaying the viewer's current position and orientation in the tour. It also allows semi-transparent image overlays, for example for schematic drawings.

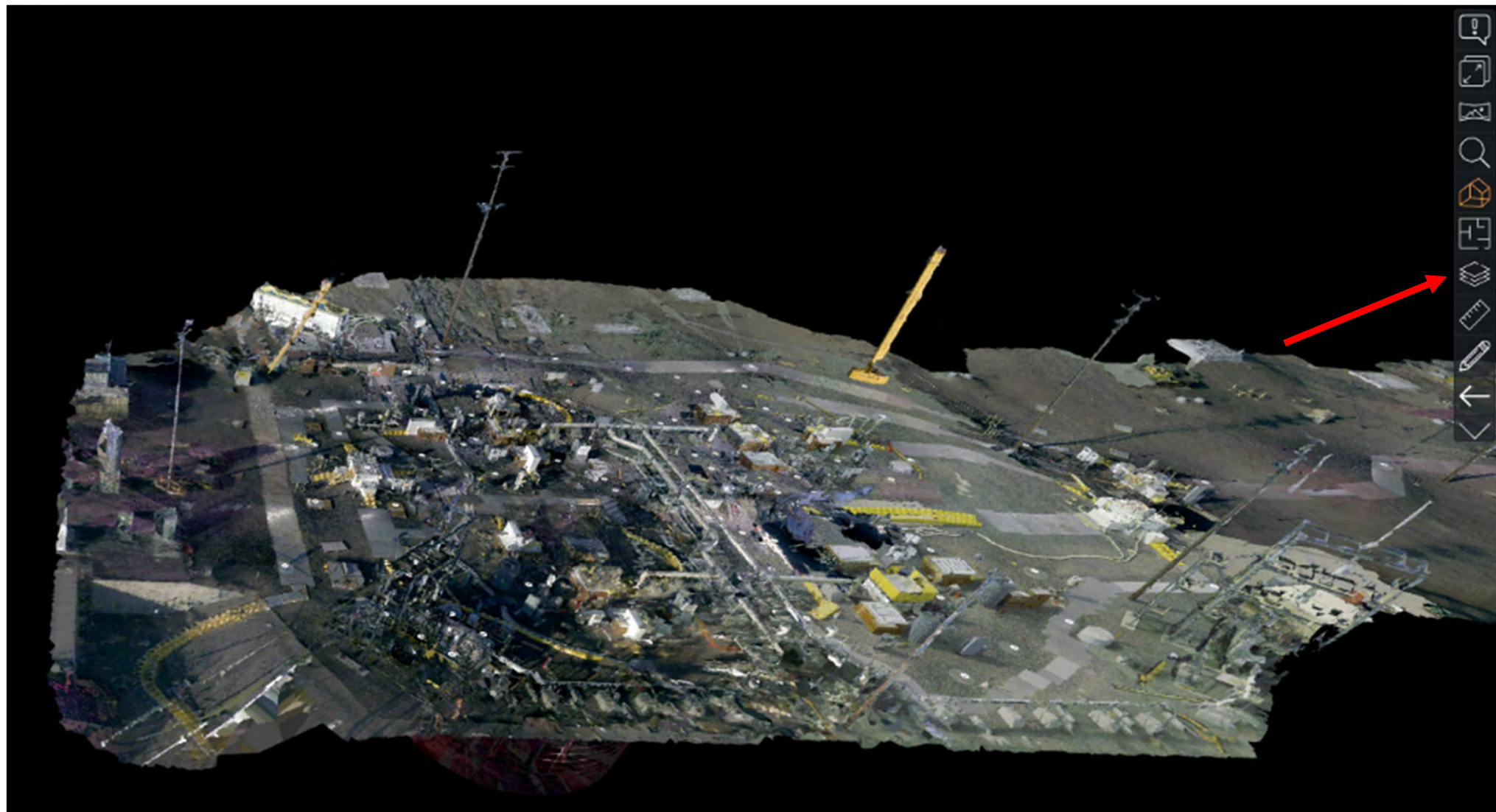
This tour covers the 242-A Evaporator.

Tours can be easily customized and the underlying 3D data is available as well. For any questions, contact [TORealityCapture](#).

[Continue to tour](#)













- Follows ALARA principles
- Cost savings
- Time reduction
- Higher internal value
- Creates synergy



- Laser scanning facilities to create 3D models is an innovative approach and valuable tool
- Plans to create a 3D model of every tank farm, as well as perform updates to existing models as they become outdated
- Average ~800 views per month of our 3D models
- Three models approved for public release:
 - A Farm – <https://benaco.com/view/eef98bf0-1d2f-4303-9776-22250dc80f20>
 - AX Farm – <https://benaco.com/view/077ef77e-4087-42b0-8dd8-45cc41ae3609>
 - Tank-Side Cesium Removal (TSCR) Facility – <https://benaco.com/view/a854ca2d-3378-4f3e-a412-4fdbb4de3c71>
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