

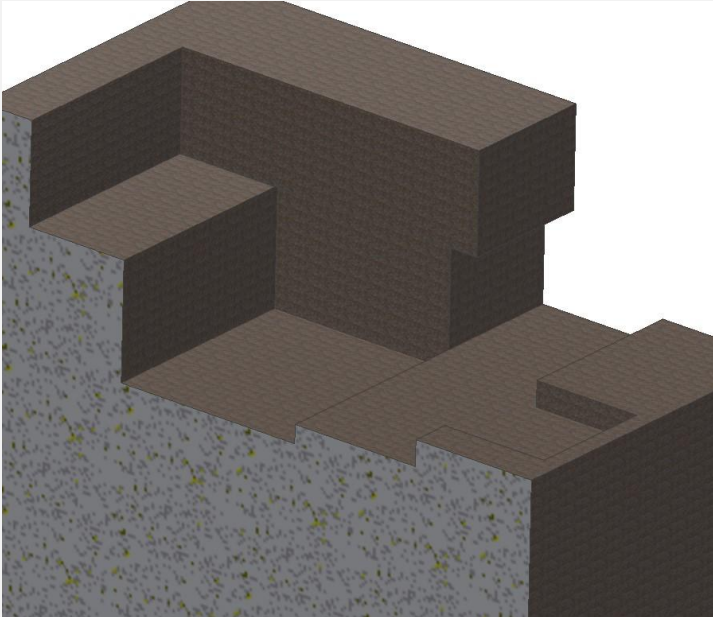
Tanami Stage Methodology



*TOTAL ENGINEERING SOLUTIONS FOR
INSTALLATION, CONSTRUCTION, AND
MAINTENANCE*

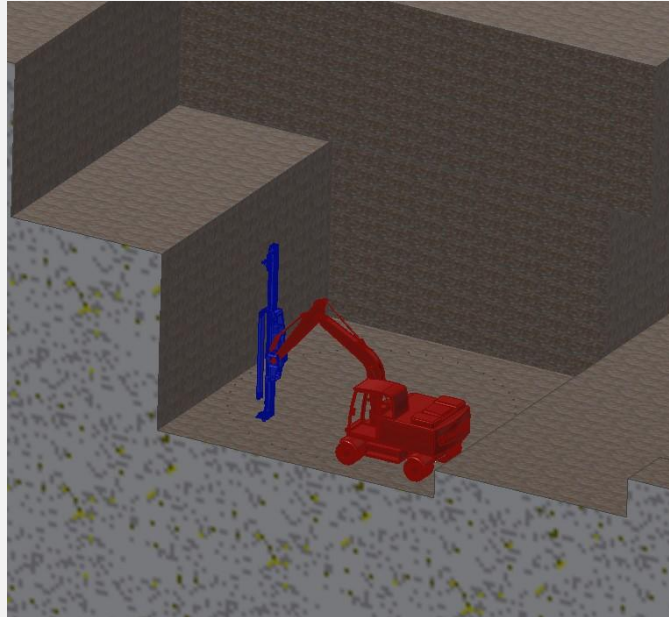


Fine Ore Silo

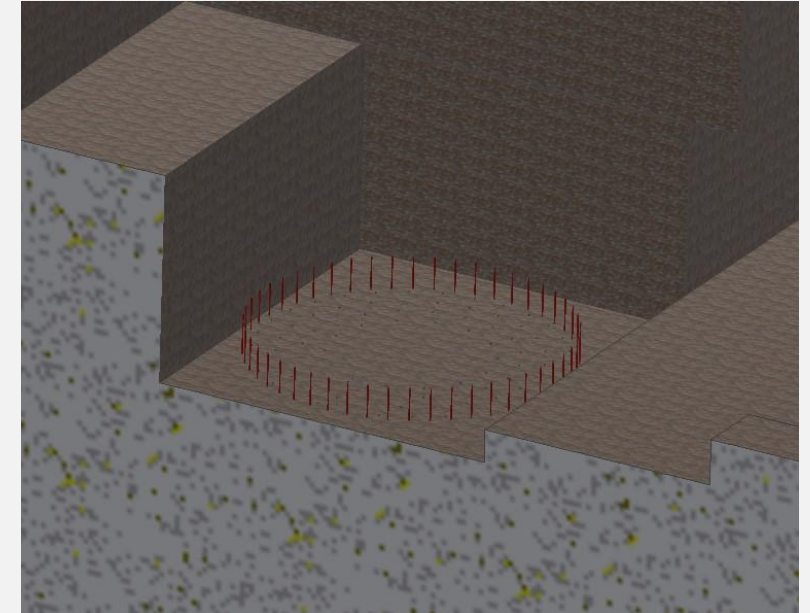


Collar possible 1000 Deep, scratch back to find rock, 200mm blinding based on required RL or base of collar, TOC RL.

High spots in blinding above RL need to be knocked down.

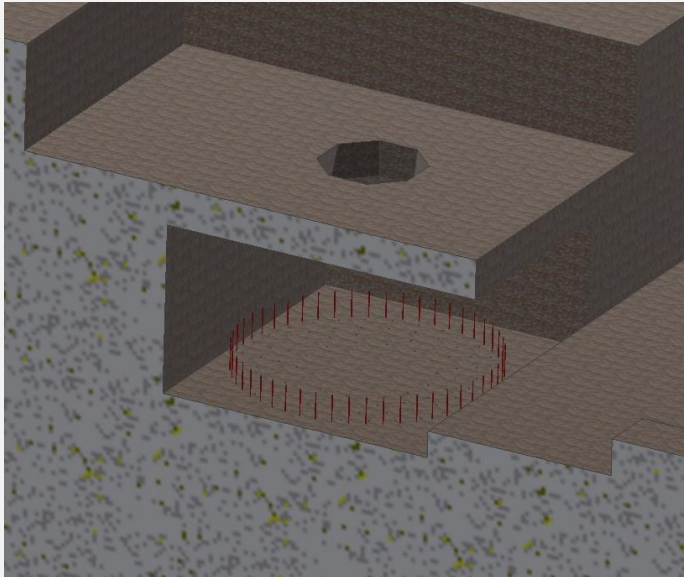


Curtain Bolts Drilled

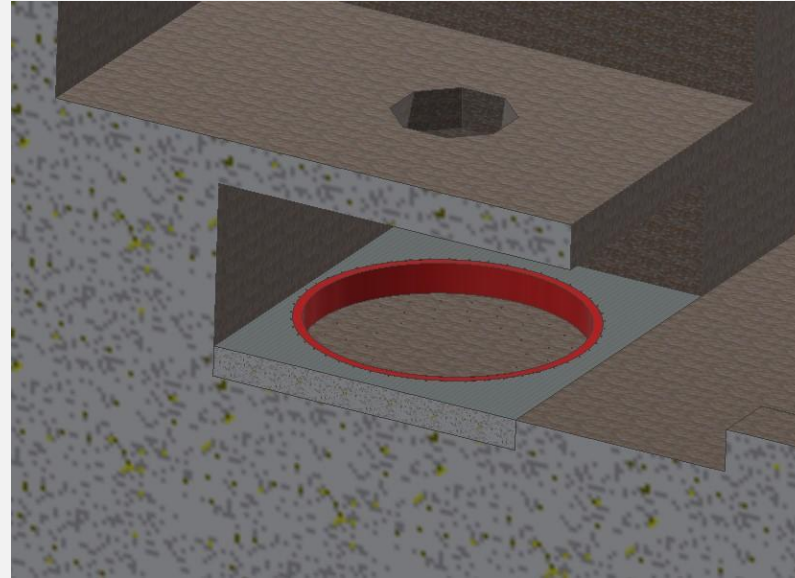


Curtain 9m Bolts & 45 deg 2.4m anchor bolts Installed

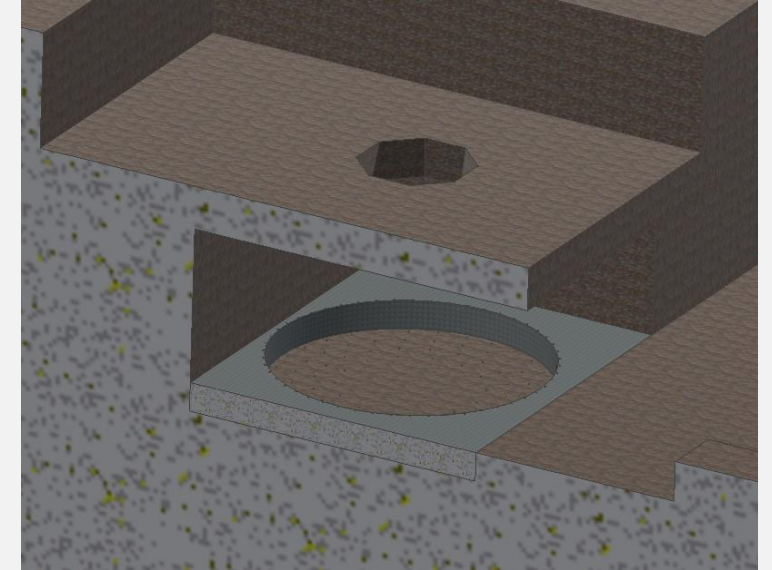
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Over Cast Formed & Poured
(Strand Jack Mount Area)

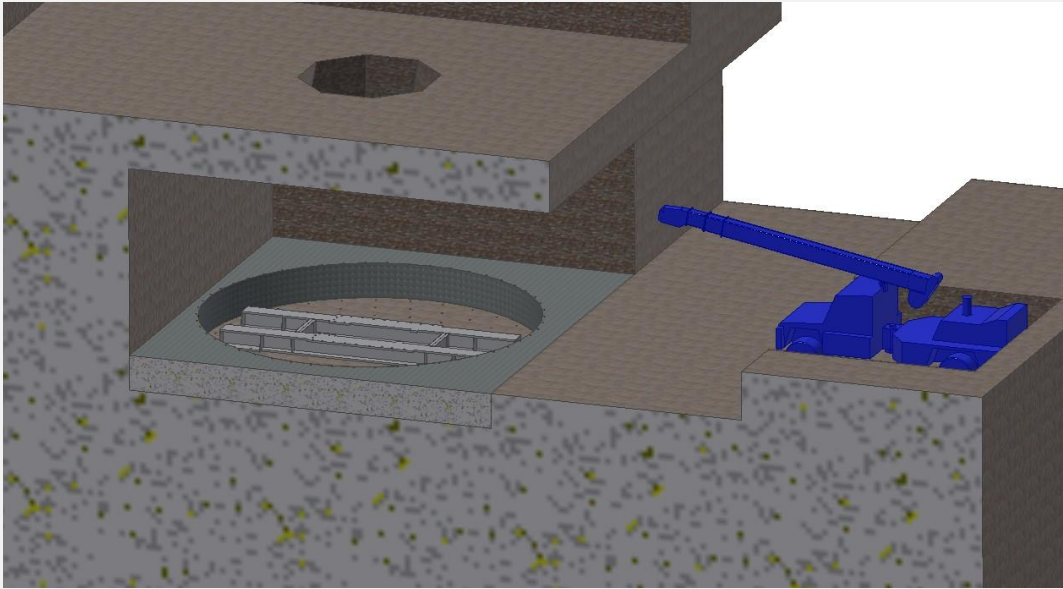


Collar formed and poured

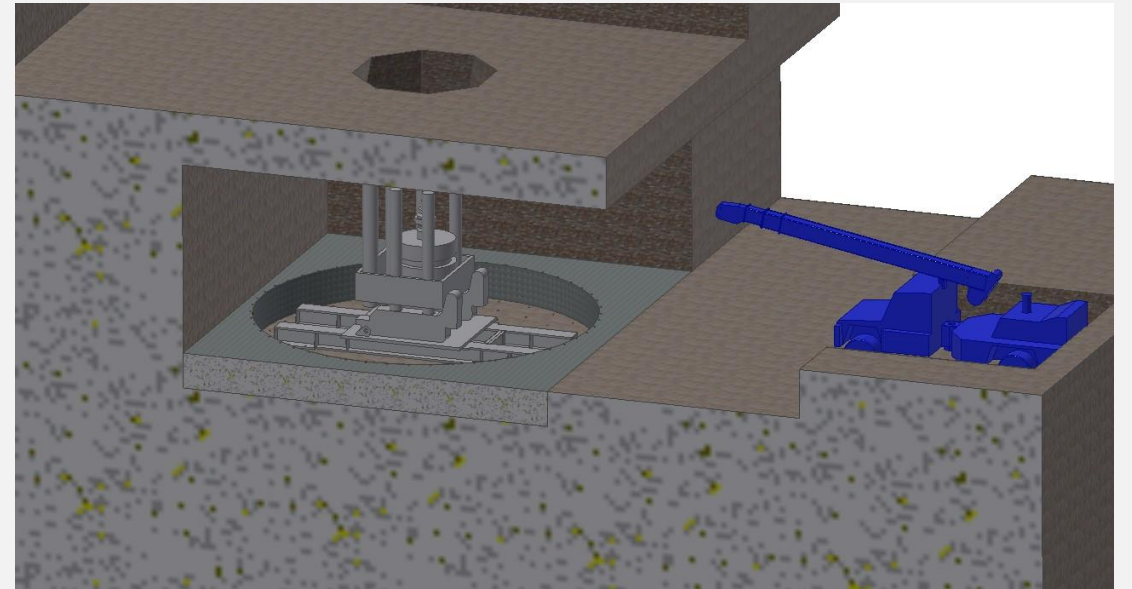


Collar form work removed & cover
removed. Note This is the stage
when the overcast & walls are built

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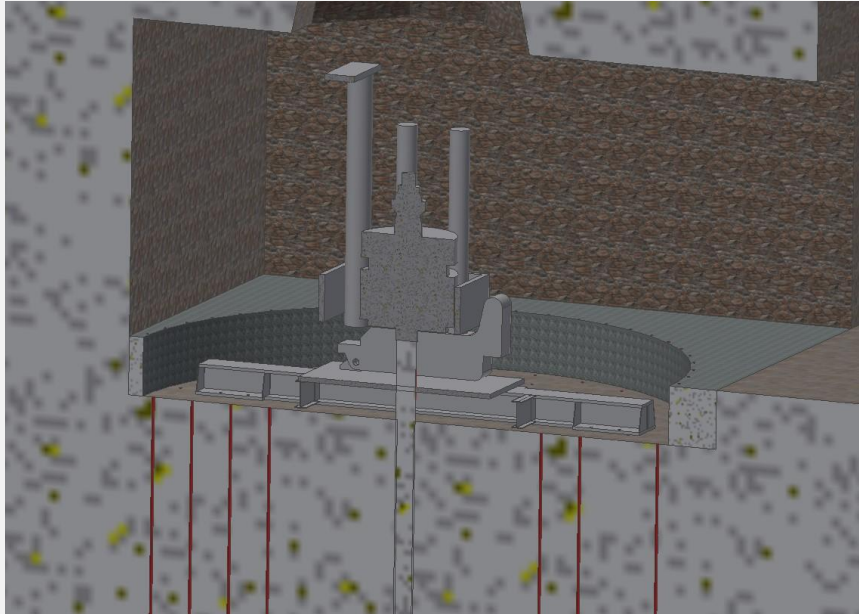


Raise Bore Support Beams installed

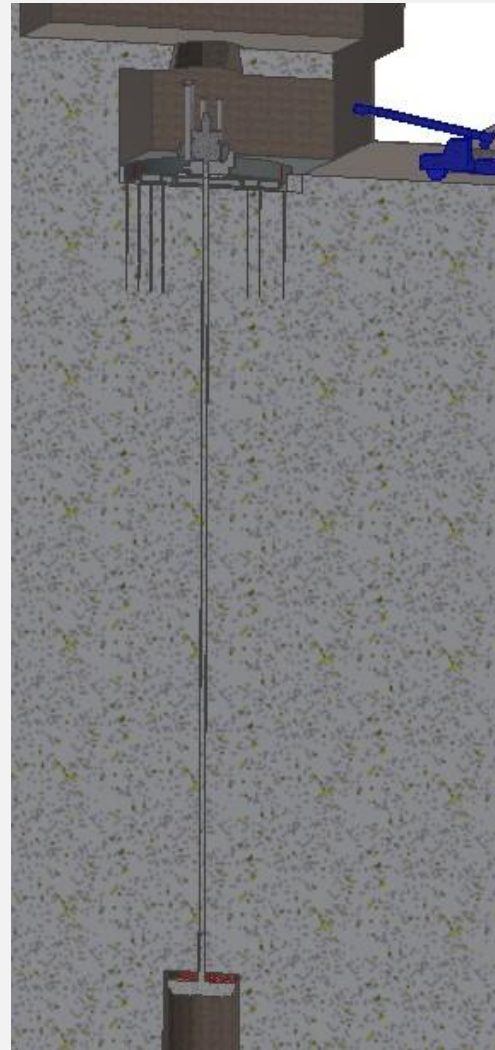


Raise Bore Rig Installed

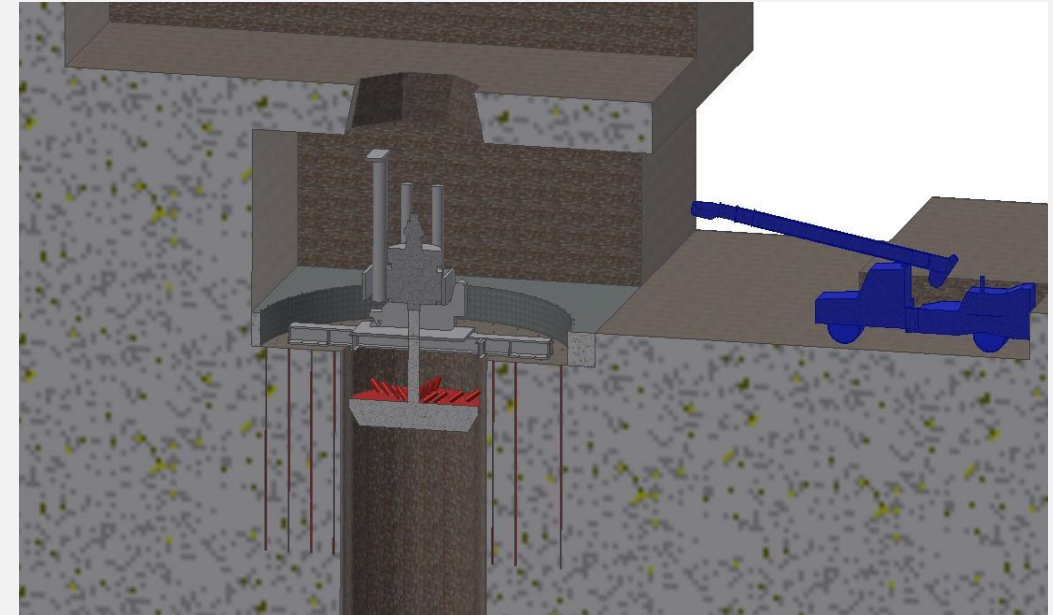
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Sink Pilot Bore

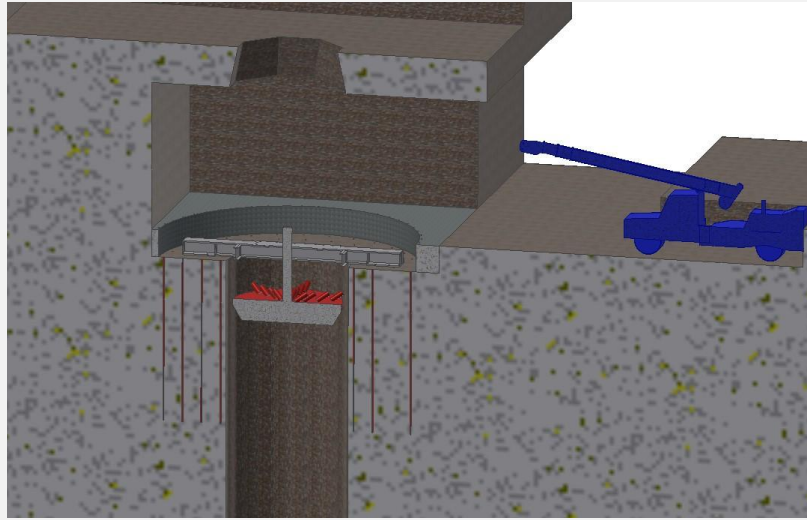


Reaming Operation

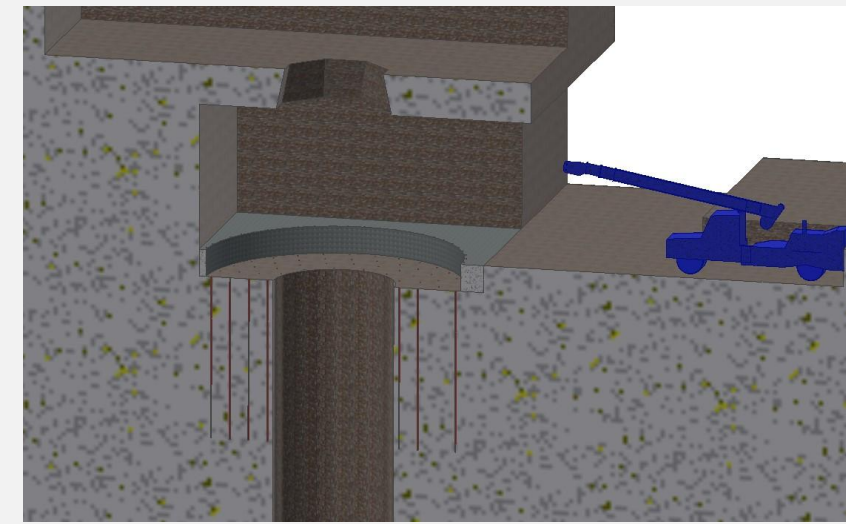
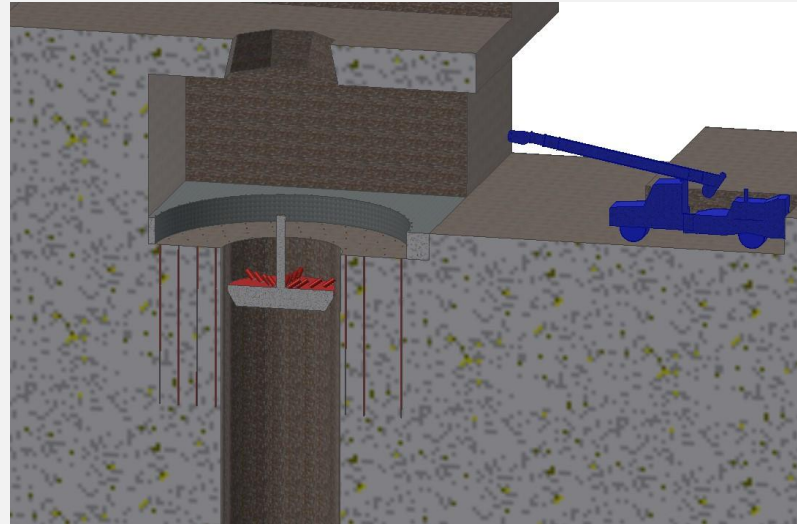


Reaming Complete

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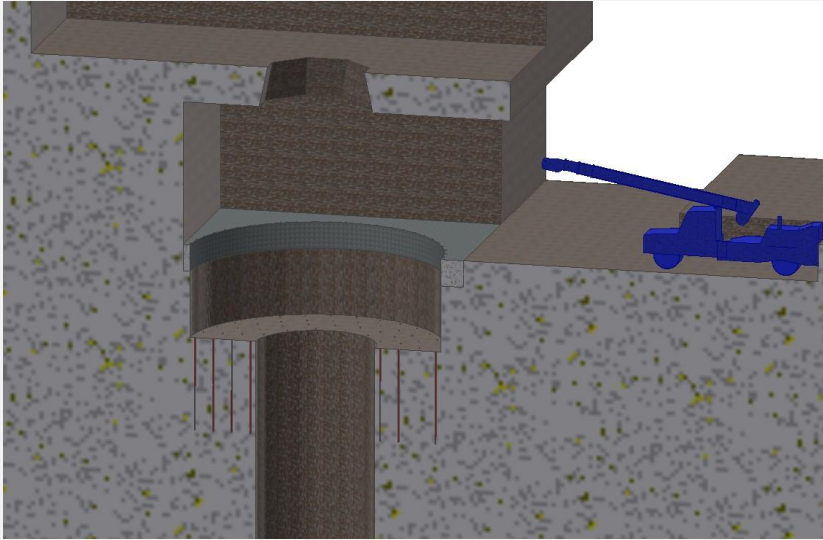


Demobilise Borer

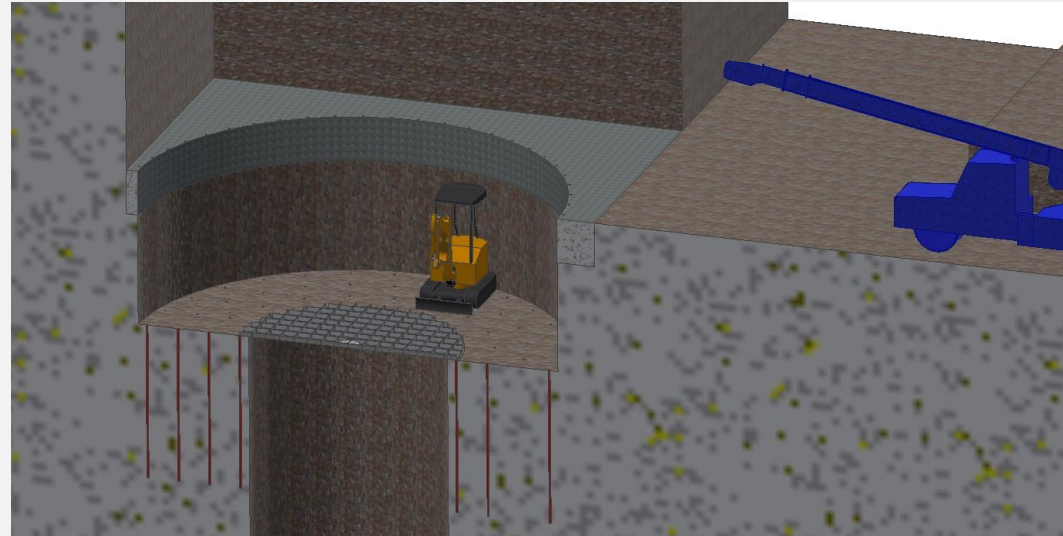


Drill of blast holes detail required,
machine reaching 9m from edge of
brow with the excavator and depth
constraints

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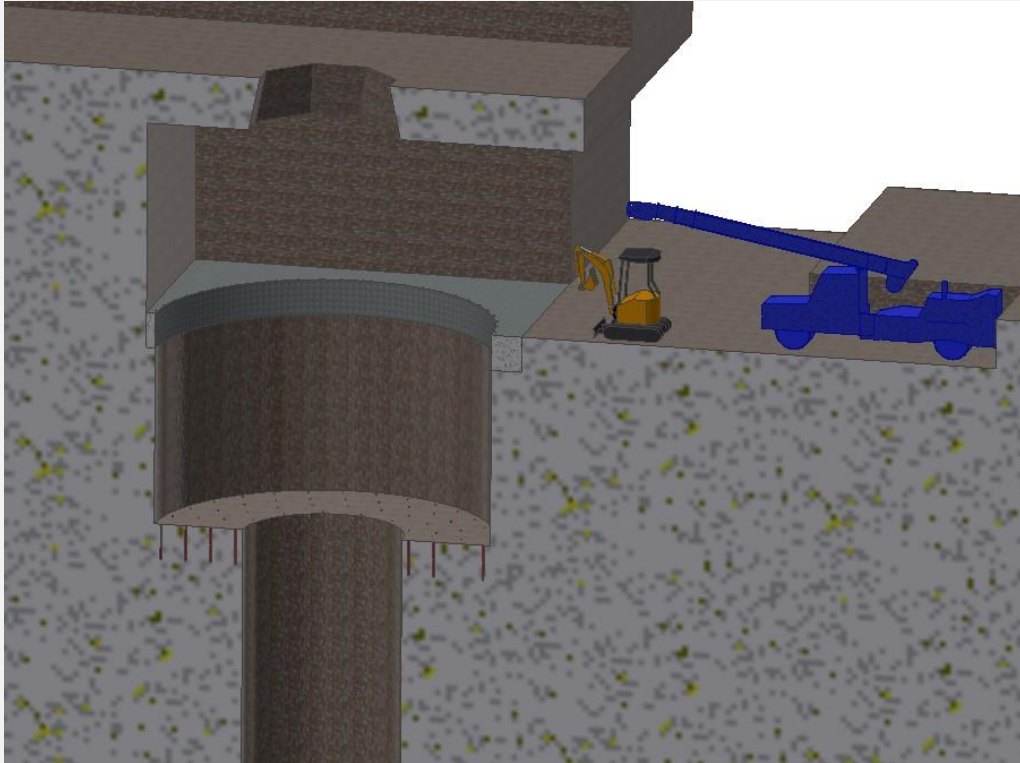


First Blast, 6m, blast pattern will force most materials down open bore.
Note. Grizzly from stage will be utilised whenever persons are working on the bench c/w 100% hook up.
Ground support walls undertaken.
Drill blast holes full depth



Muck remaining blast rubble / materials through the Grizzly down pilot bore.

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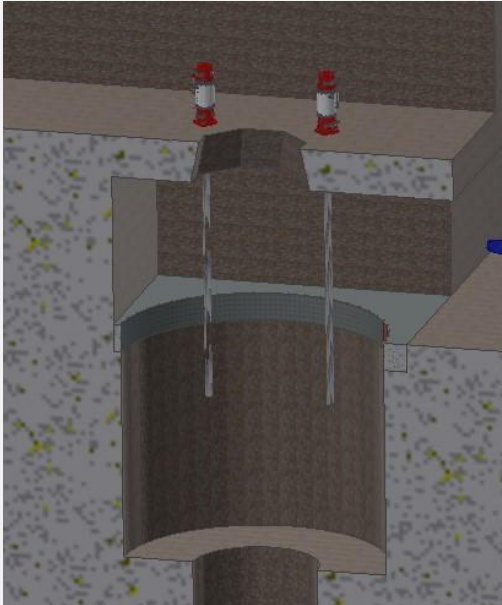
Second 6m & Third 6m Blast

Note. Grizzly from stage will be utilised whenever persons are working on the bench c/w 100% hook up. Ground Support at 2.5 each

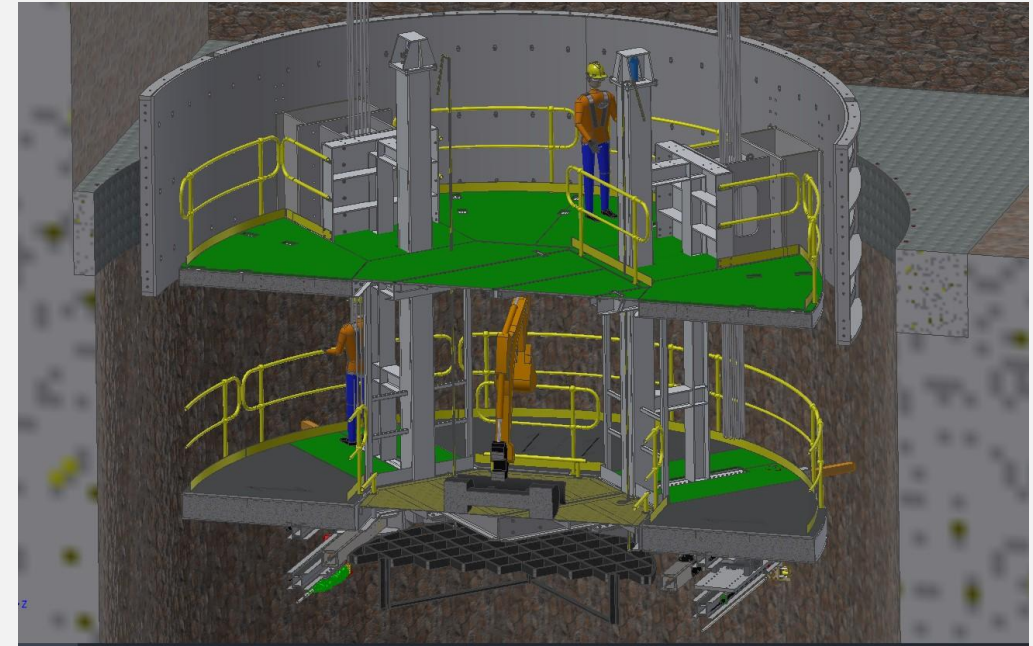
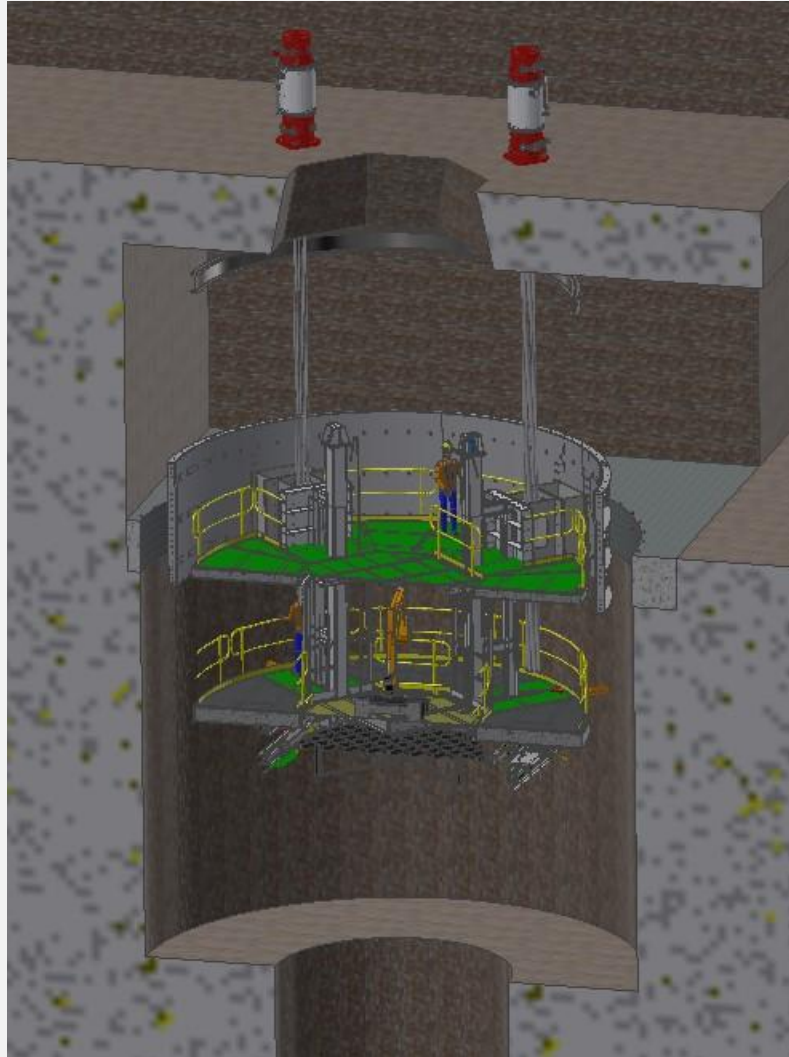


Muck remaining blast rubble / materials through the Grizzly down shaft. Access by man basket. Note: Electrical excavator and personnel will be lifted into place via Mobile Plant

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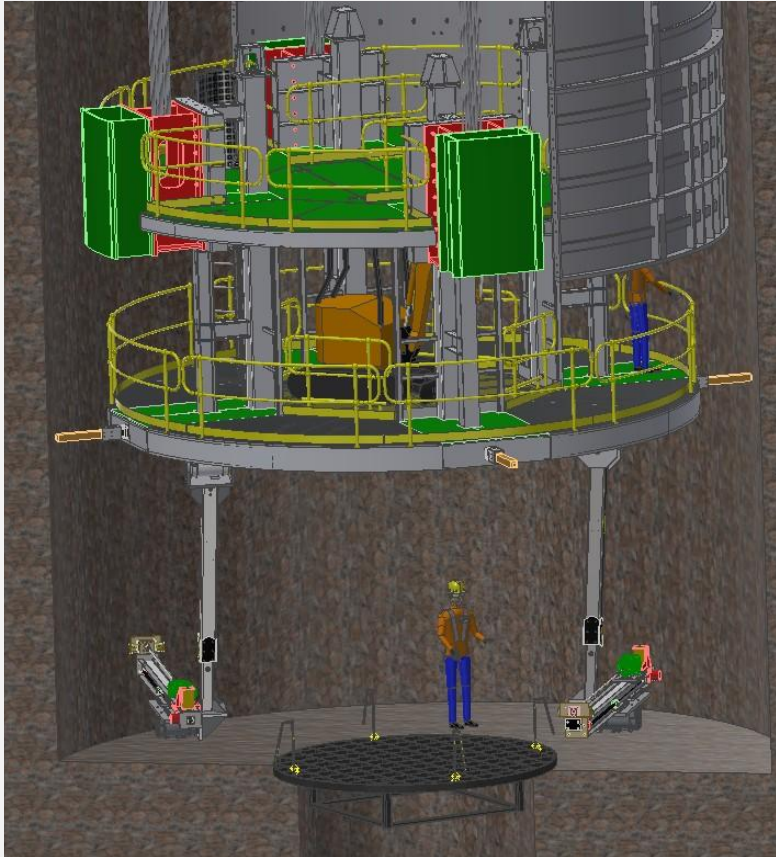


Strand Jacks Installed onto overcast.
Note: Strand Jacks will be laced and tensioned only after installation of the stage.

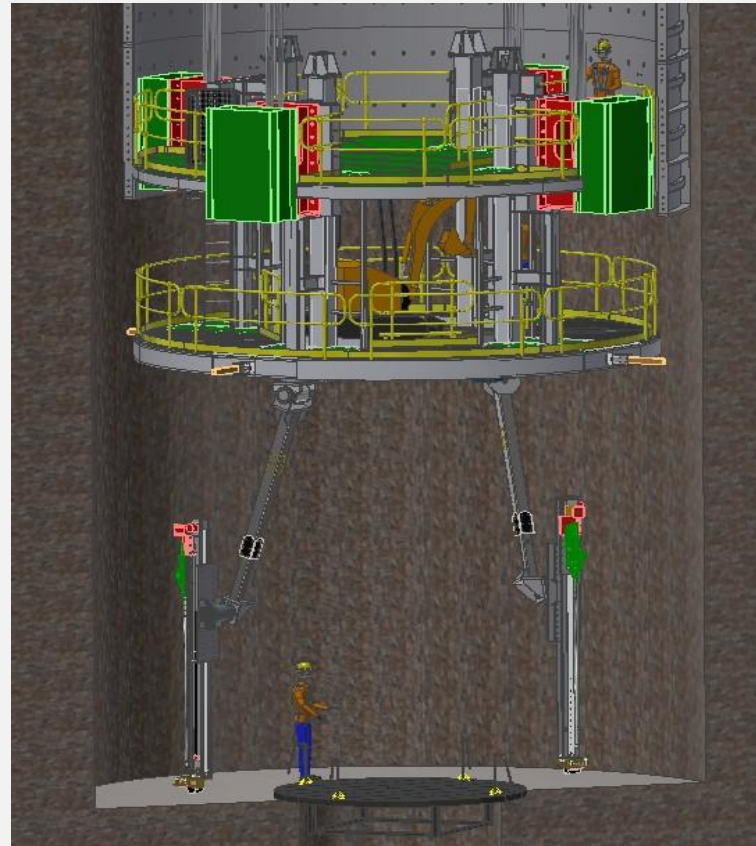


Install Stage & First Can.
Note: Grizzly Section will be lowered into place first with the midsection stage installed second, top section installed third.

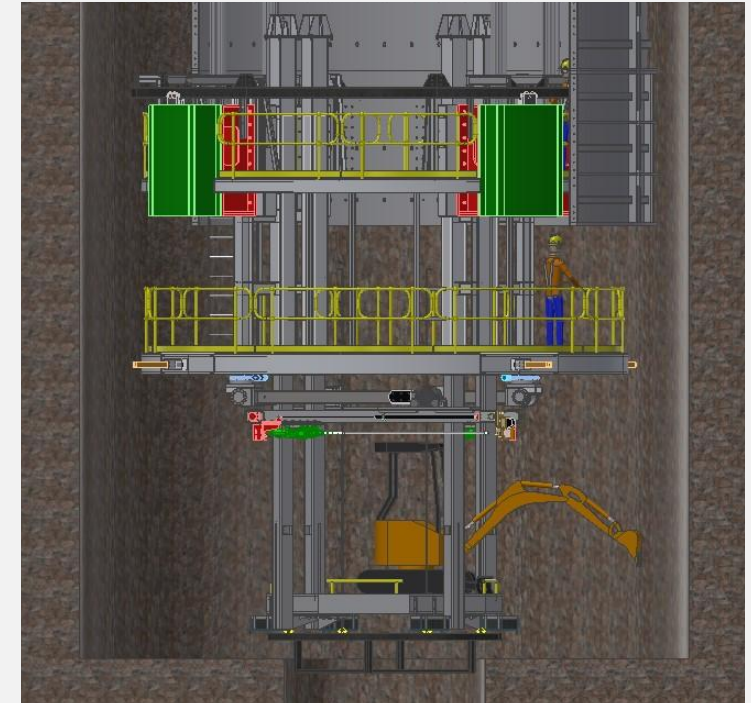
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Prior to advancing the unfired bench downwards, a ring of 25 - 1.8 m friction bolts will be installed approximately 300 mm above the shaft strip floor. While the plates of this ring of bolts may suffer some “firing damage”, the ground support they provide will ensure that immediately after firing no more than 2.7 m of the unsecured wall is exposed.

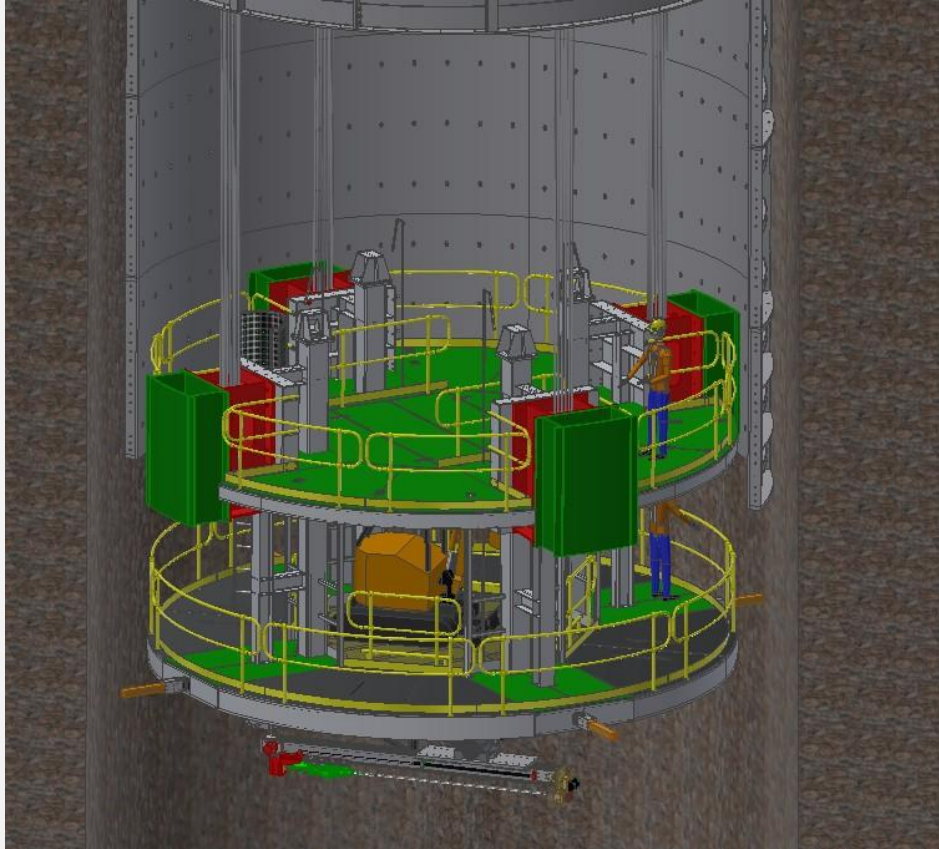


Drill of blast pattern and bolting into shelf and shaft wall.
Note: Grizzley will be in place during this operation. Control of Hydraulic functions via DCV by operators from the shelf utilising 100% Hook up.

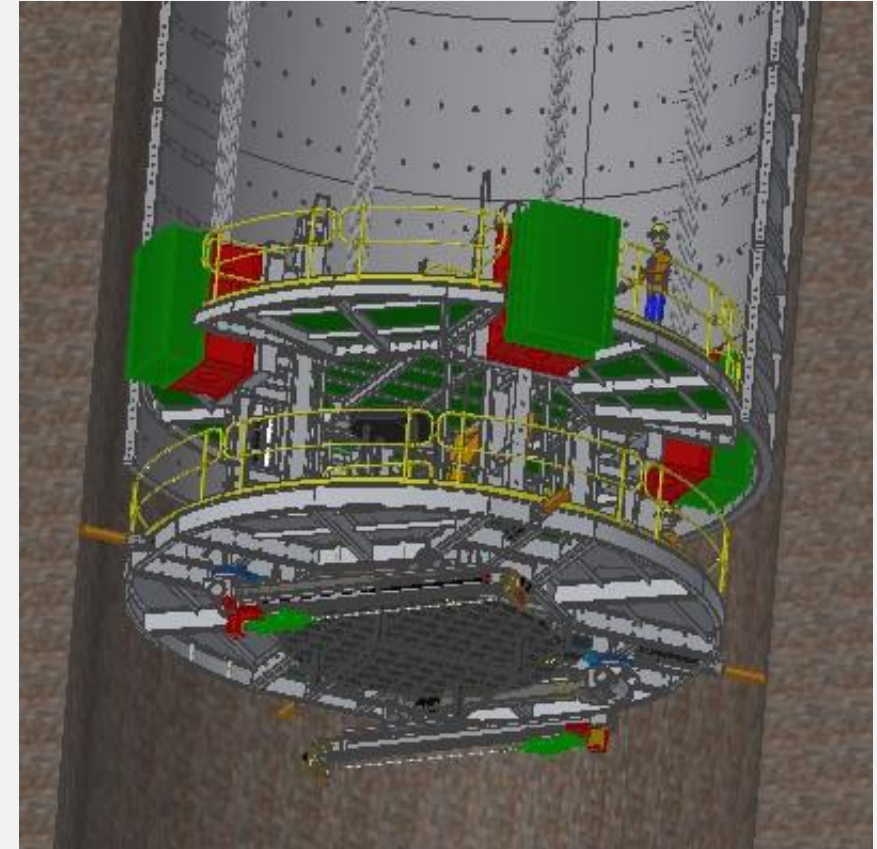


Operator Access to shelf via excavator hydraulic platform.

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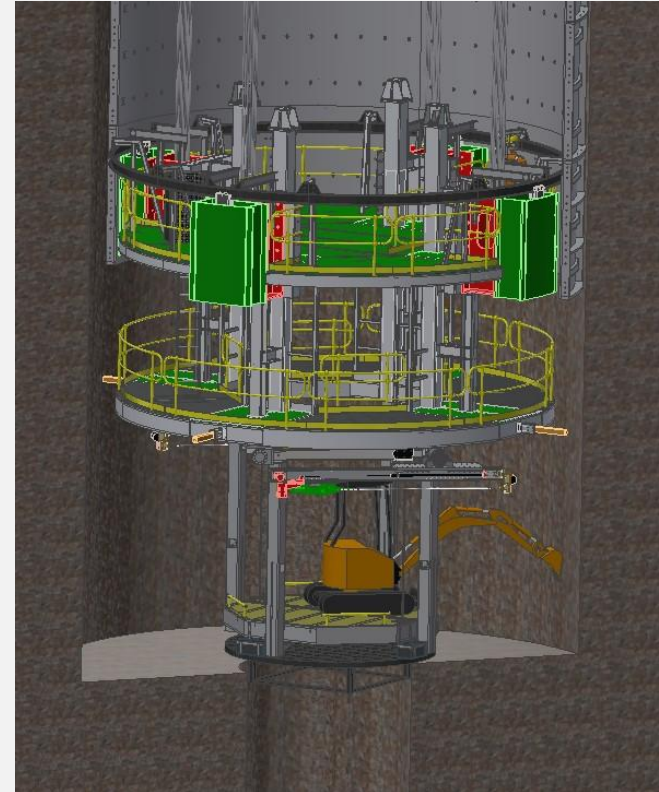
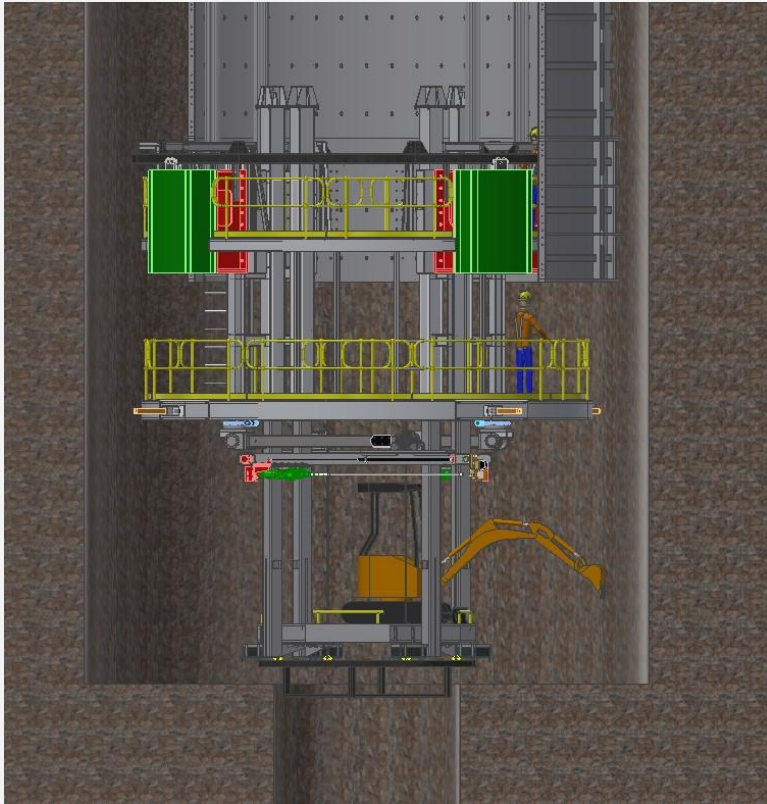


Stage and grizzly retracted during blast operations.
Note: No personnel will be on the stage during blast event.



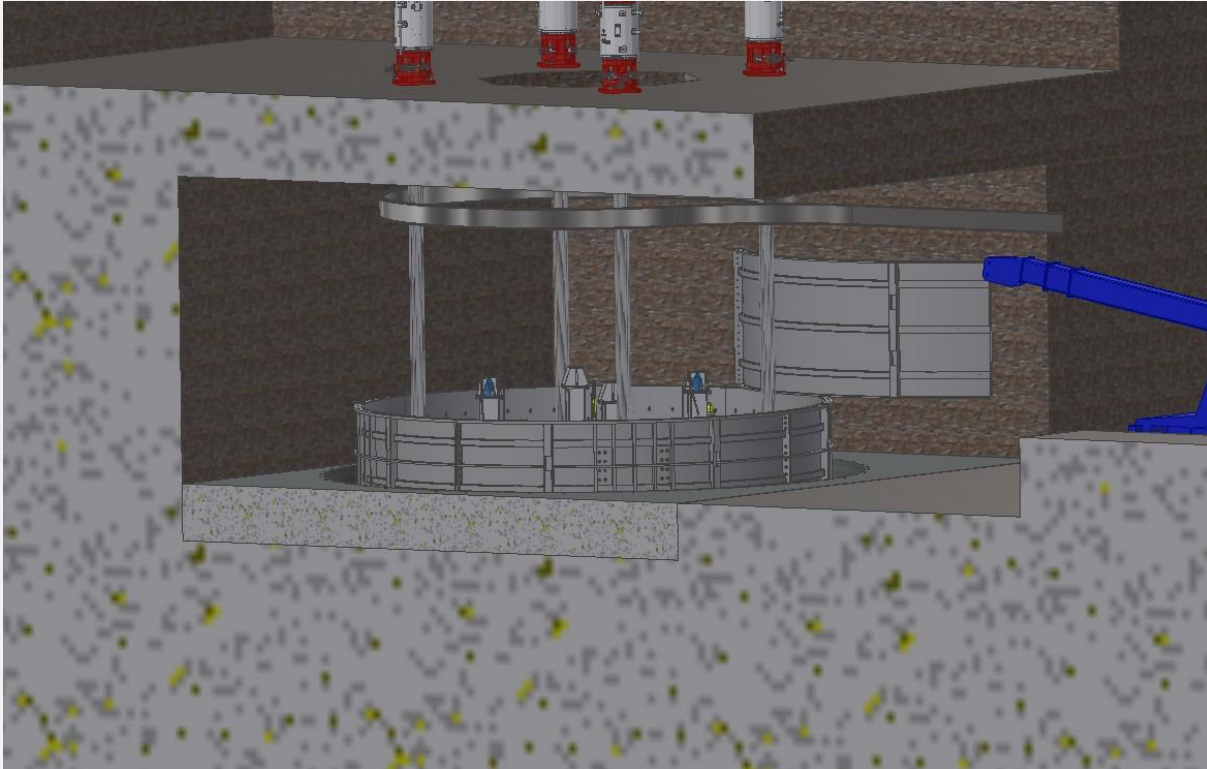
Drill arms collapsed against underside of stage during blast event.

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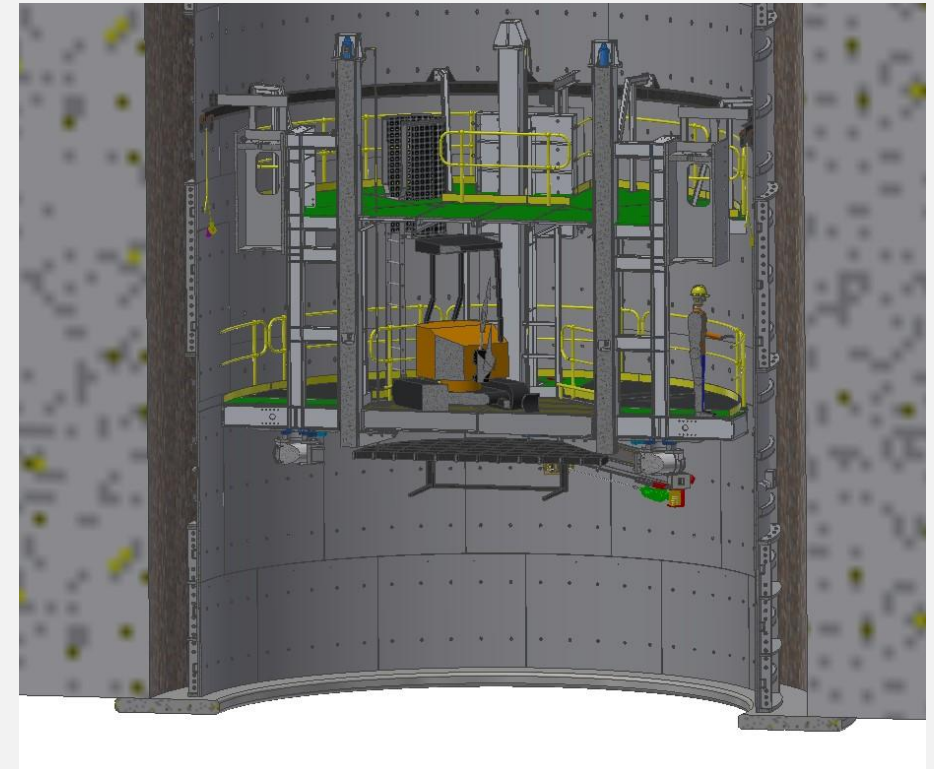


Mucking remaining spoil down shaft.

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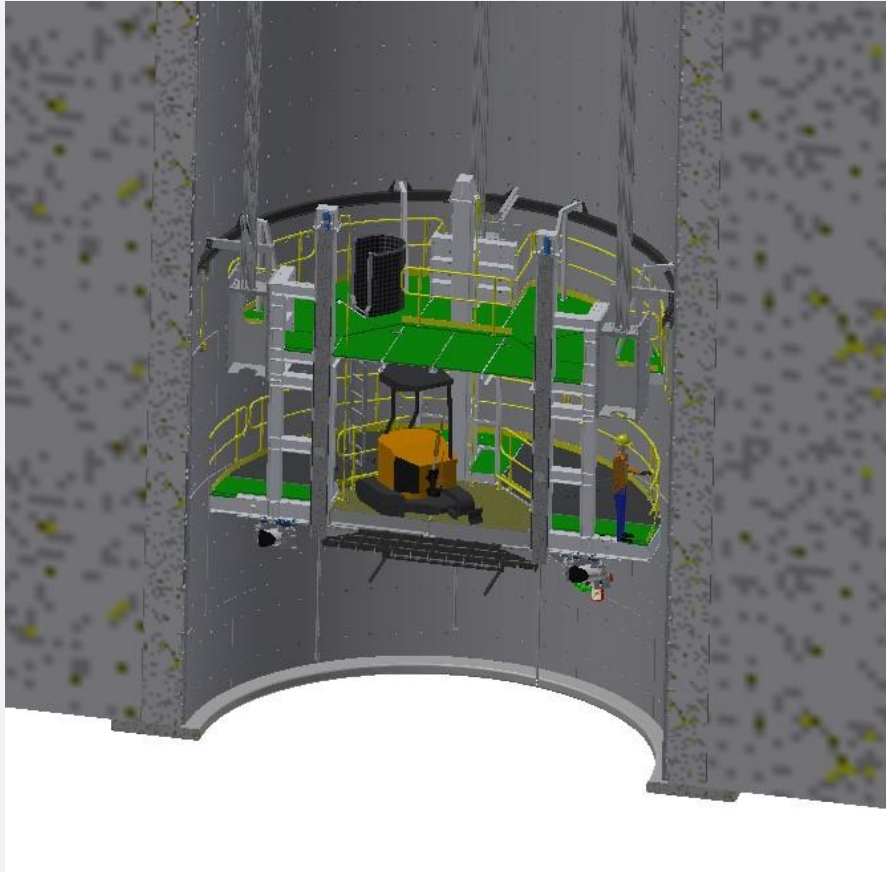


After Each blast event, walls are bolted and shelf is mucked, stage is manoeuvred into a position where the next can be installed atop the previous.



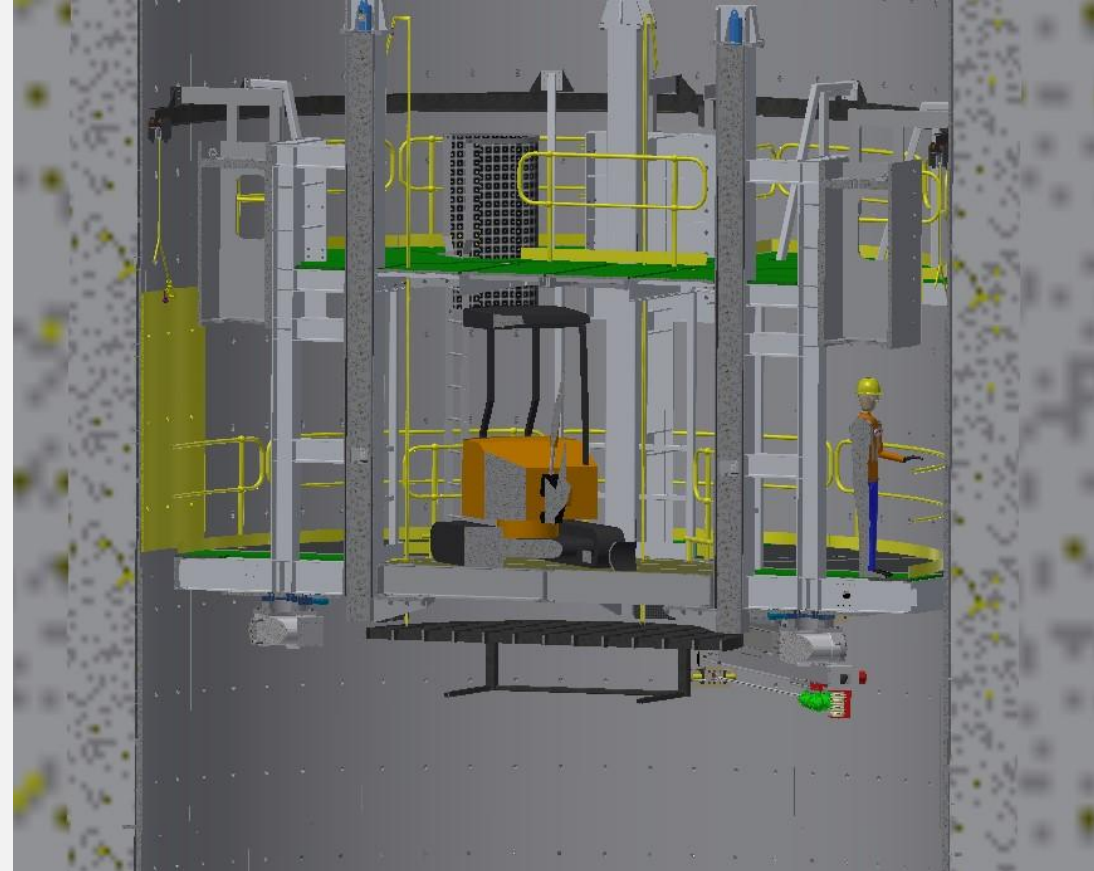
Final Can will rest on Pentise concrete structure in order to seal base ready for grout.

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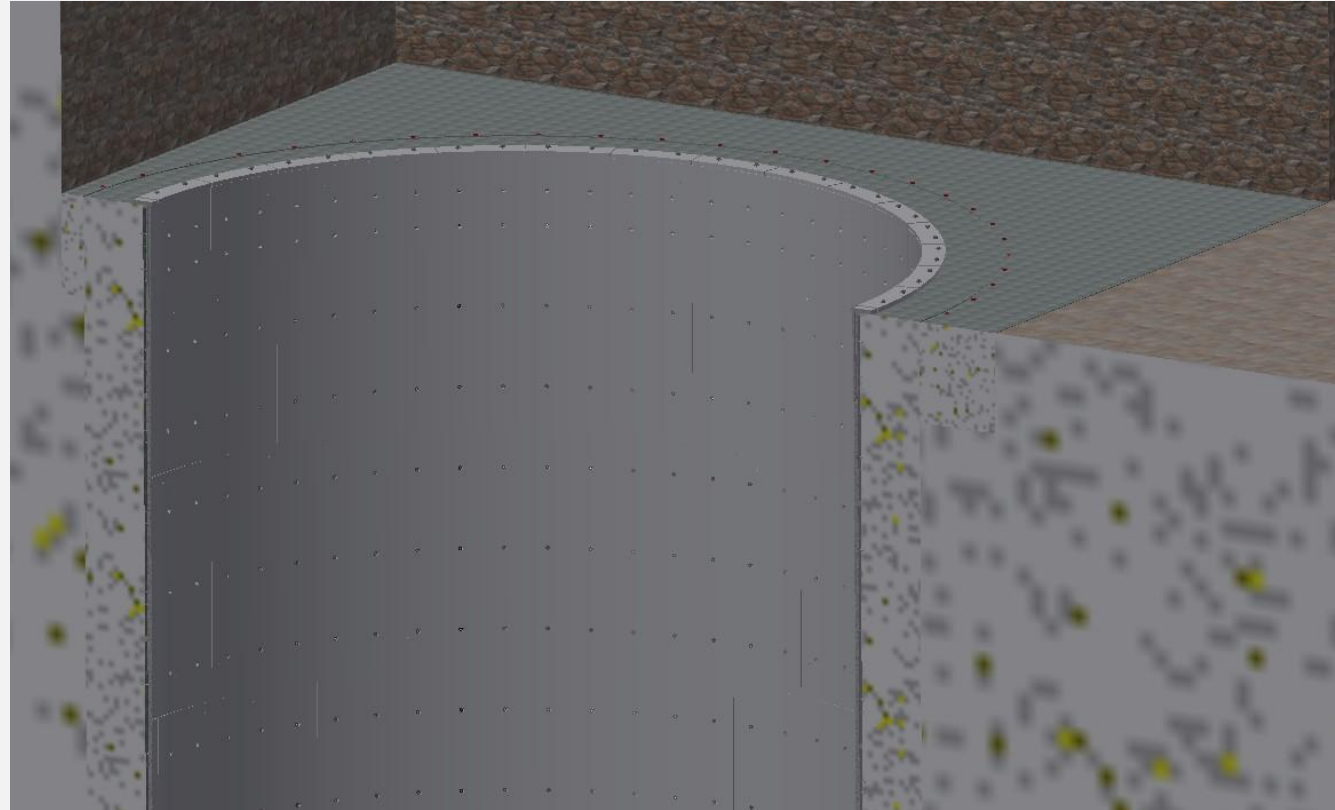
Cans grouted by pour and fill from above.

Note: Grout will not enter wear liner fabricated fastener voids.



Wear liners installed from bottom up. T Bolt fasteners used to attach wear liners to can wall & tensioned. Wear liners will be lifted into place via chain blocks and positioned on the 360 deg circumference monorail atop the stage.

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Finishing pour around top of can ready for final civil works.

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