



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**



COMMUNITY FORUM | March 17, 2022

Carlsbad Field Office/Waste Isolation Pilot Plant

Reinhard Knerr, U.S. DOE, Carlsbad Field Office Manager
Sean Dunagan, NWP President & Project Manager



2022 WIPP PROGRESS UPDATE

Sean Dunagan

NWP President & Project Manager

- Shipments received in FY22: **83**
 - Loaded miles in FY22: **78,156**
-
- Total shipments received: **13,054**
 - Total loaded miles traveled since: **15,609,780**
 - Total CH waste containers emplaced: **264,601**
 - Total RH waste canisters emplaced: **719**
 - Shielded containers emplaced: **56** (included in total RH)



- Completed Panel 8 mining to create additional waste disposal space
- Continued multiple infrastructure upgrades
- Initiated routine operation of the 700-C ventilation in January 2022
- Completed 97 major and minor maintenance projects during a two-month-long outage





Numerous General Plant Projects (GPP) are underway to upgrade WIPP infrastructure and plant systems

- WIPP was built in the late 1980's. At this point, many systems are the near end of their planned service life and need to be updated

FY22 Projects Include

- Updates to Fiber Optic lines
- Site Electrical Substations
- Facility Refurbishment, Upgrade & Modernization

Crews perform routine maintenance on the underground beacon system in the WIPP repository

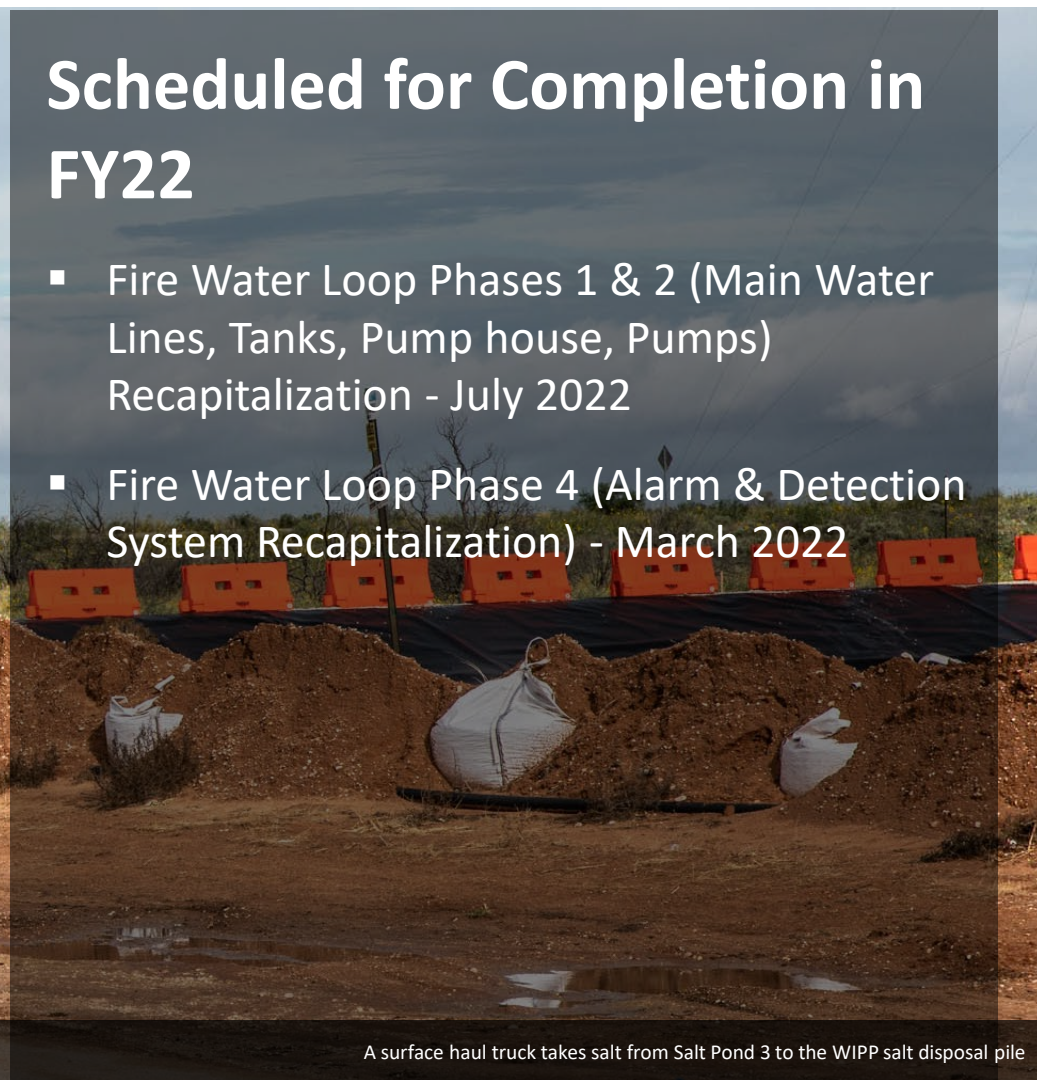
Completed Thus far in FY22

- **Salt Pond 3 Salt Removal (Cleanup):**
 - Completed November 26, 2021
- **Surface Electrical Substations 1 & 3 Replacements:**
 - Substation 1 & 3 fabrication complete
 - Substation 1 & 3 passed the Factory Acceptance Test
 - Substation 1 & 3 delivered to the WIPP Site. Staged and ready for training
- **Refurbishment of the headframe for the Salt Shaft**



Scheduled for Completion in FY22

- Fire Water Loop Phases 1 & 2 (Main Water Lines, Tanks, Pump house, Pumps) Recapitalization - July 2022
- Fire Water Loop Phase 4 (Alarm & Detection System Recapitalization) - March 2022



A surface haul truck takes salt from Salt Pond 3 to the WIPP salt disposal pile

Mining done by the contractor as a part of the Utility Shaft project

MINING TO THE WEST



Mining done by WIPP mining crews

- Began mining to the West for Panels 11 and 12
- 258 linear feet mined in S850
- 48 liner feet mined in S700

Plans for FY22

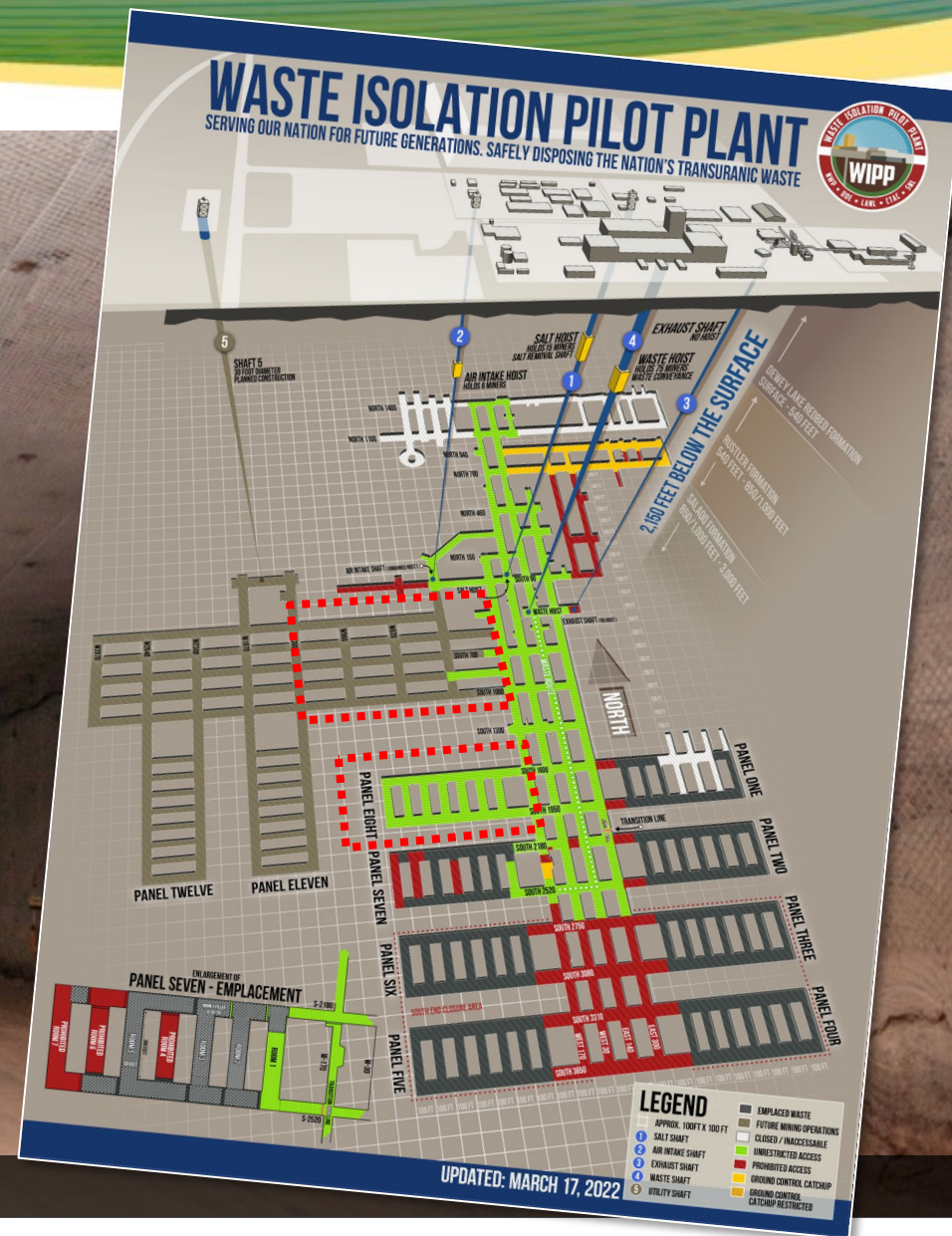
- Outfitting and Certification of Panel 8 is scheduled to be completed by May 2022
- Currently emplacing in Room 1 of Panel 7
- Emplacement in Panel 7 projected to be complete in the summer 2022

The view looking down one of the seven emplacement rooms in panel 8



NEAR TERM OPERATIONAL GOALS

- Replacement of Surface Substation 3
- Begin emplacement of TRU waste in panel 8
- Mining 3 west access drifts with a target of 50% completion in CY22
- Procurement of additional battery-electric equipment for WIPP underground. Five new pieces of equipment are scheduled for delivery in Q1 and Q2 of 2022

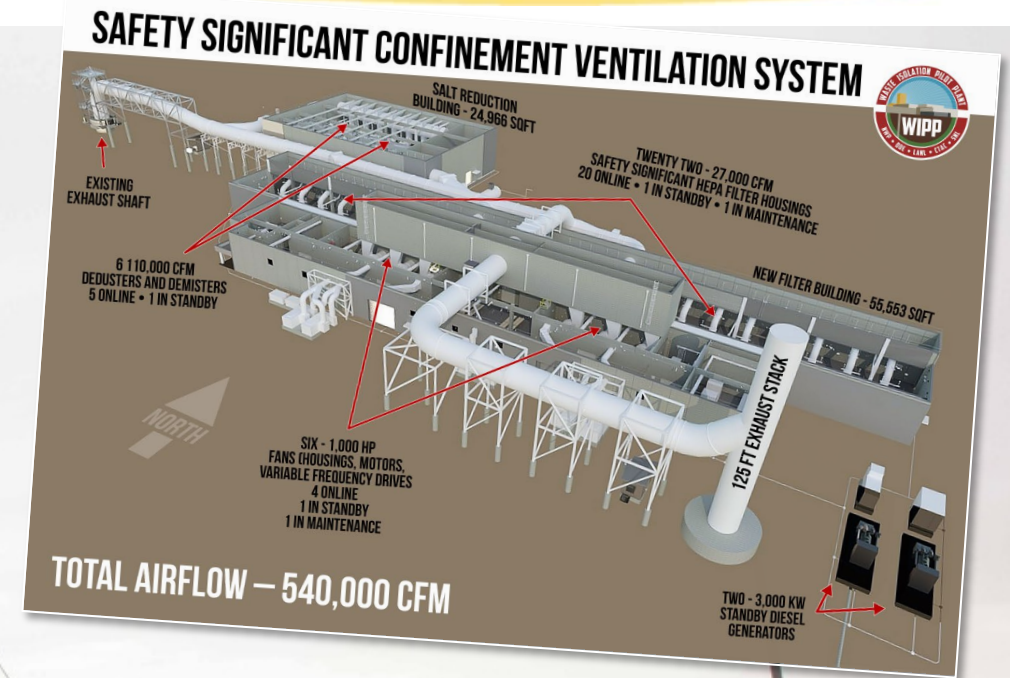


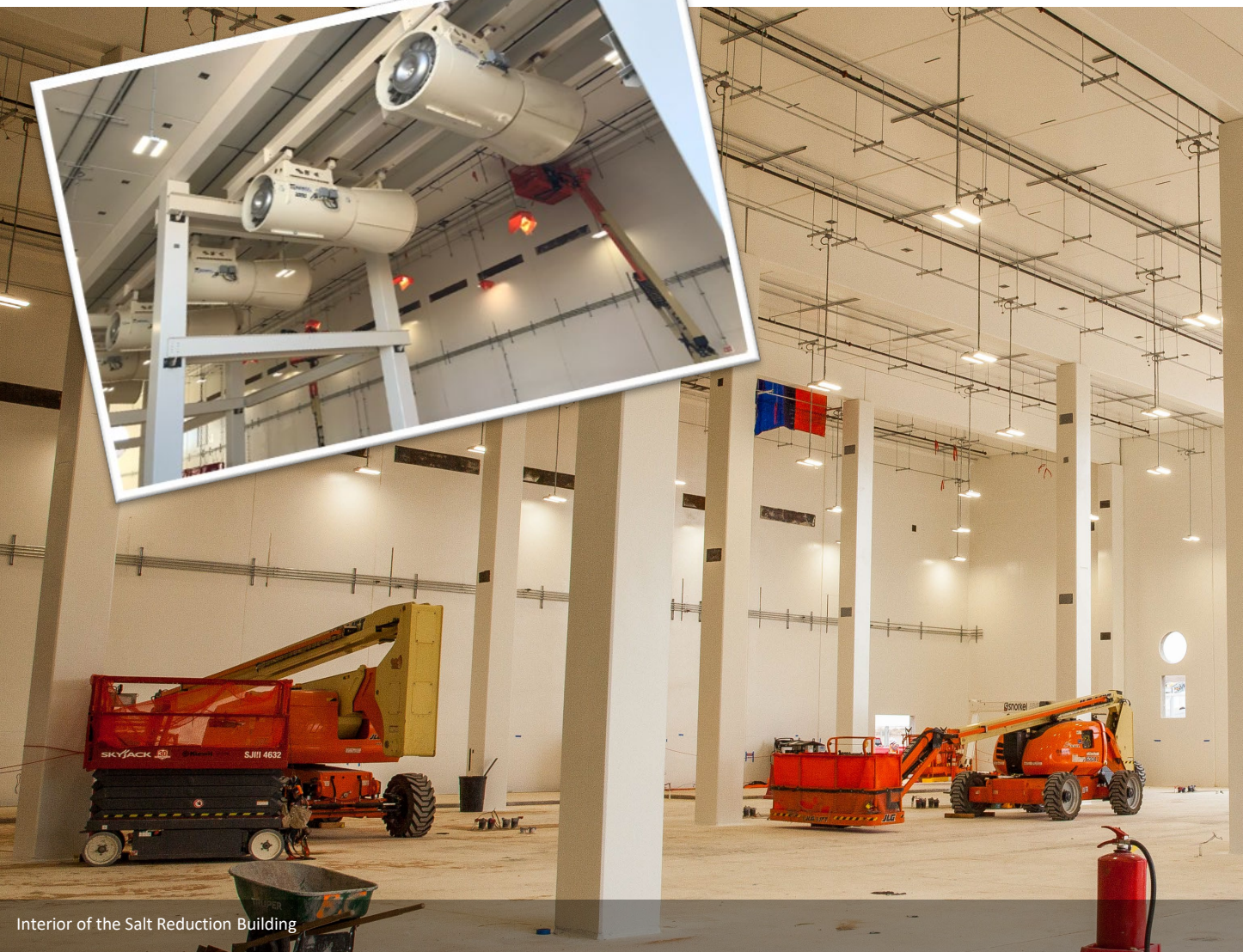
A tour visits the newly mined Panel 8 in the WIPP repository

FY2022 PROGRESS ON THE SAFETY SIGNIFICANT CONFINEMENT VENTILATION SYSTEM (SSCVS)

The SSCVS Project will increase high efficiency filtered air (HEPA) to the WIPP underground, increasing worker safety throughout the mine.

- SSCVS Project is ~57% complete
 - Salt Reduction Building is ~51% complete
 - New Filter Building is ~52% complete





Interior of the Salt Reduction Building

FY2022 Accomplishments

- Completed construction of interior concrete masonry walls
- Interior painting completed
- Installation of interior electrical (lighting, receptacles) and exterior lighting nearing completion

- 1 of 6 deduster units installed

Long Lead Equipment (LLE):

- Turbofans and silencers have been installed on structural steel support located on the ceiling of the SRB

Goals in FY2022

- Complete installation of Internal utility systems
 - Lights
 - Electrical
 - Utilities
 - and fire protection
- Initiate installation of major systems
 - Fans
 - Salt Reduction Units
 - Dedusters
 - Demisters
 - Booster Fans



FY2022 Accomplishments

- New Filter Building (NFB) support structures and decking complete for elevated slab (plenum roof) placement
- 111 of 117 wall pours complete
- Long Lead Equipment (LLE):
 - 6 of 6 fan units are fabricated
 - 4 of 6 fan units have been tested and are preparing for shipment



Goals in FY2022

- Complete structural construction of the New Filter Building (NFB)
 - Shear walls complete
 - Precast roof panels installed
- Complete interior painting
- Install Fire Protection



Crews install forms for the concrete walls of the New Filter Building



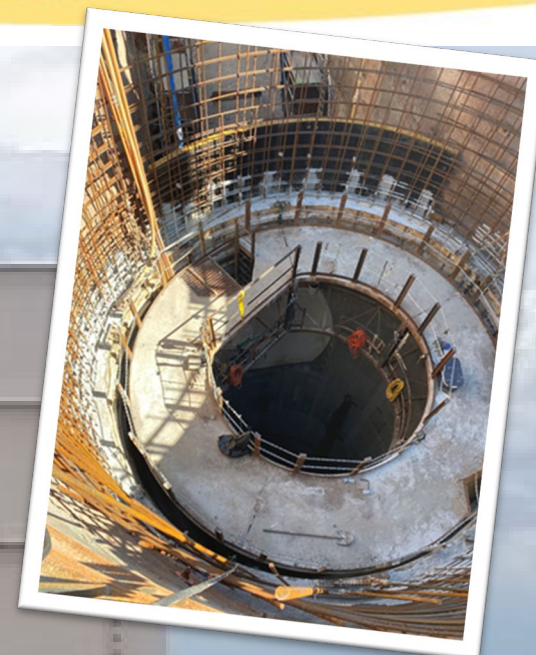
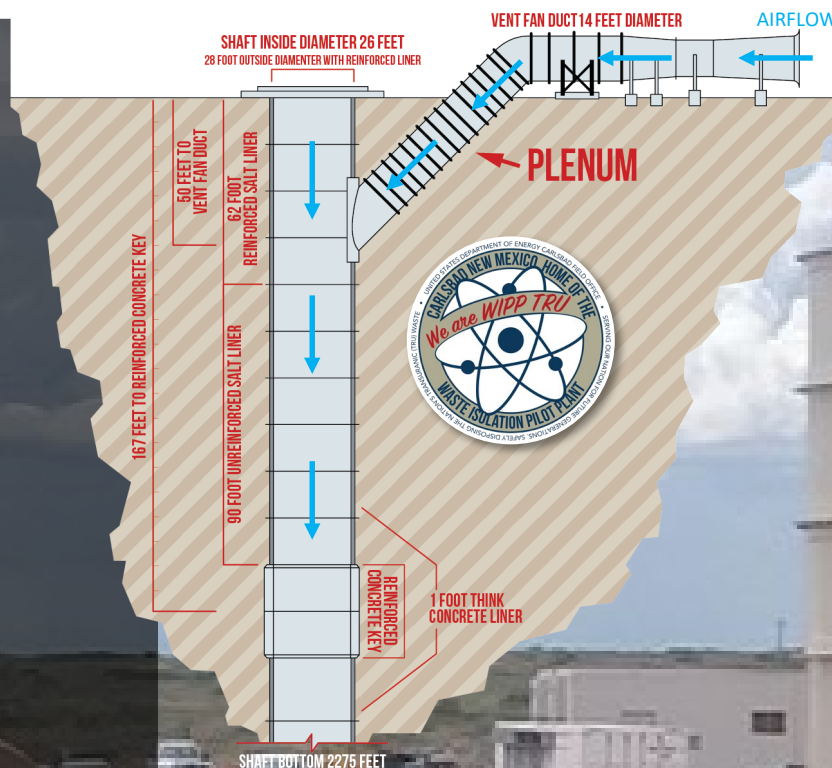
FY2022 Accomplishments Thus Far

- NMED approval of the Class 3 Permit Modification Request that allows resumption of work on US project
- Fire Water Loop completed
- Infrastructure completed
- Installed plenum and related ducting
- Stabilized the Utility Shaft by installing the concrete liner to excavated depth of 116ft
- Installed the Galloway into shaft
- Installed all 6 modules of the headframe
- Commenced the Air Intake Shaft (AIS) Exhaust Shaft construction

FY2022 PROGRESS ON THE UTILITY SHAFT (US)

Goals in FY2022

- Resume excavation of the Utility Shaft
- Complete procurements for design and fabrication of two large fans to be located on the surface on concrete slabs at the Utility Shaft
- Air Intake Shaft (AIS) Exhaust Shaft: complete structural construction of stack and associated ductwork and plenum





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2022: A LOOK AHEAD

Reinhard Knerr

U.S. Department of Energy,
Carlsbad Field Office Manager



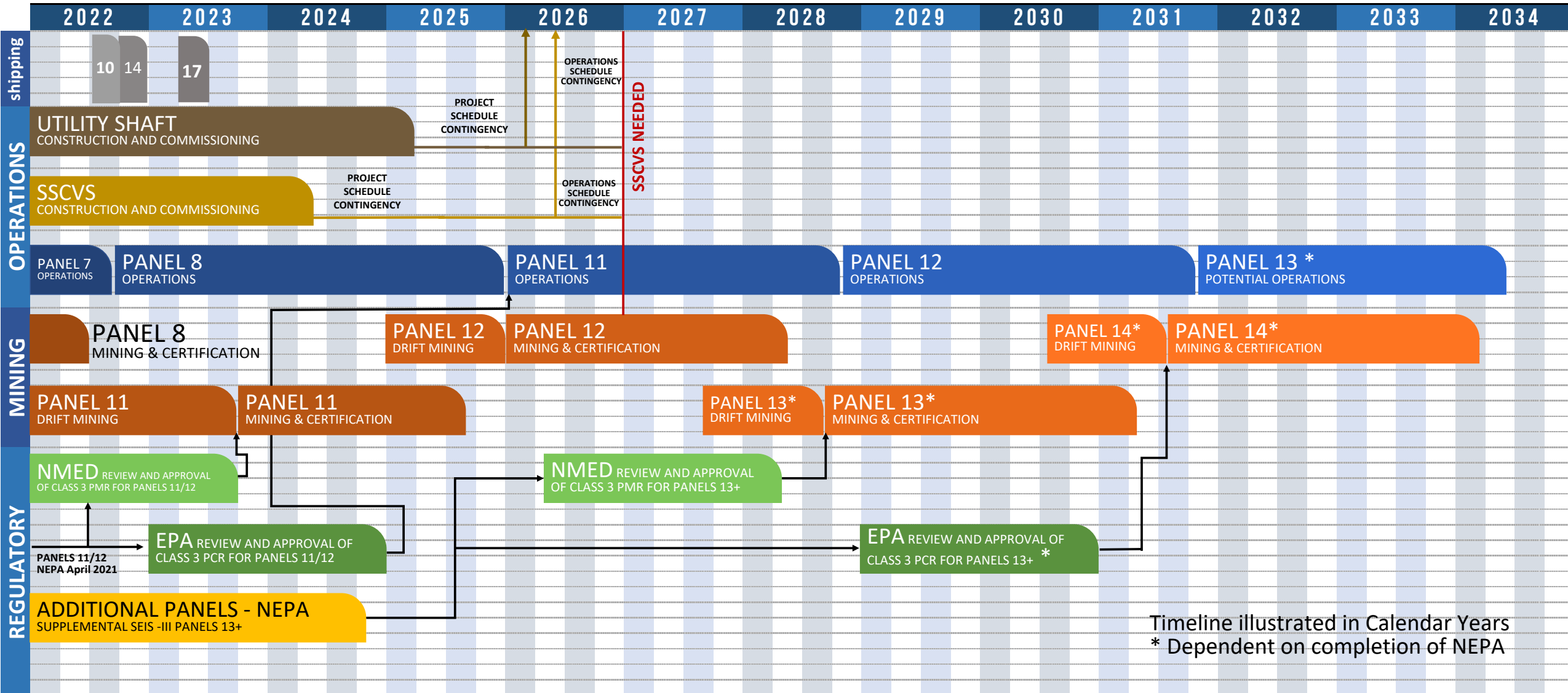
- **M&O – Nuclear Waste Partnership LLC**
 - October 2021 – March 2022; six-month extension through September 2022
 - Competitive procurement activities are in progress
- **WIPP TRANSPORTATION – CAST Specialty Transp. Inc.**
 - June 2017 – May 2022
 - Evaluation is ongoing
- **CTAC – Navarro Research & Engineering Inc.**
 - July 2021 – June 2031
- **DOE TRANSCOM Tech Support Services– Aleut Aerospace Engineering, LLC**
 - July 2019 – July 2024





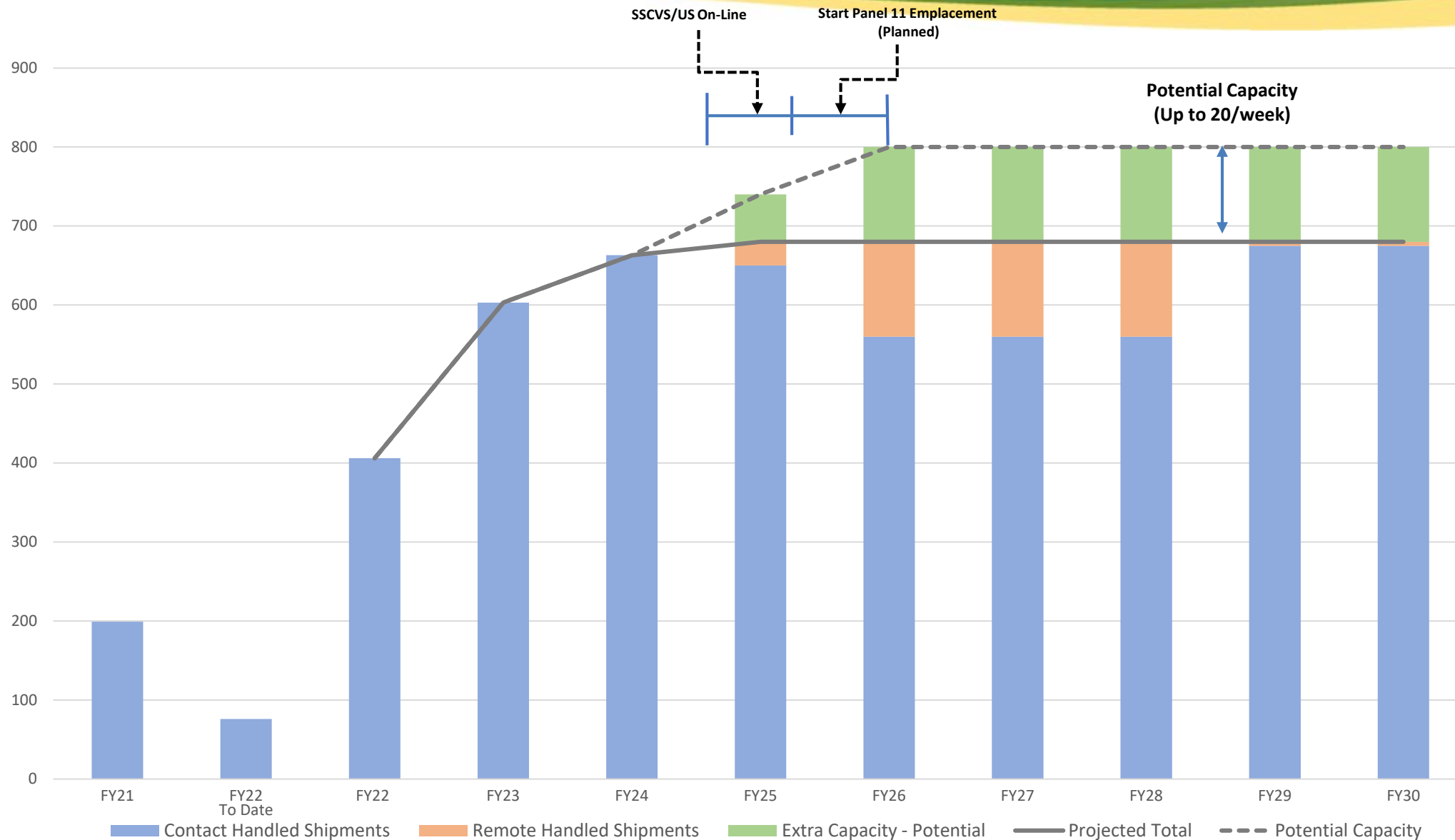
WIPP Priorities for FY22

- Ramp up shipments to 10-12 per week in 2022
- See major progress on the SSCVS and Utility Shaft projects
- Complete Shielded Container approvals – NRC approval
- Prioritize Los Alamos National Laboratory-EM shipments & Idaho Cleanup Project shipments to meet milestones
- Prepare for public hearings for combine ten year renewal replacement Panels 11 and 12
- Make progress on regulatory activities for replacement Panels 11 and 12
- Start refurbishment of major pieces of Remote Handled Equipment – FY22 priority is 140/25 Ton Bridge Crane
- Transition to the new M&O contractor in late FY22



Timeline illustrated in Calendar Years
* Dependent on completion of NEPA

Shipping Projections Aligned with Additional WIPP Capabilities



Shipments in FY 2022



Site	Maximum Shipments in FY 2021	Actual Shipments in FY 2021	Maximum Shipments in FY 2022
LANL (EM and NNSA)	82	56	85
INL	150	100	280
OREM	8	22	16
SRS (EM and NNSA)	8 (EM only)	6 (EM only)	20
SQS (SNL, LLNL, ANL)	10	14	5
WCS	--	1	--
Total	258	199	406

* FY22 maximums are based on availability of certified TRU waste for shipment

SHIELDED CONTAINER REGULATORY ACTIVITIES

Shielded Container Assemblies (SCA) allow RH-TRU waste to be handled in the same manner as Contact handled (CH) waste.

- Traditionally RH waste containers are placed in boreholes in the waste panel walls that are then covered with a steel & concrete plug
- SCAs allow the containers to be placed on the disposal room floor along with CH waste

To be Completed in 2022

- Submit the Class 2 PMR for new shielded containers
- Submit Planned Change Notice to EPA for new shielded containers
- Receive NRC approval on package design and use as a component of HalfPACT



WIPP crews emplace a payload of three SCA units in the WIPP underground

■ Efforts to Resume “Traditional” RH Emplacement

- Established RH Mockup facility in Carlsbad for testing and training Complete
- New Horizontal Emplacement Machine being moved to Mockup facility for assembly (transferred in FY22) Assembly in FY23
- Validation of operation prior to downloading to WIPP underground (FY23 –FY24)
- Training for Remote Handled personnel on HEM will be performed at the RH Mockup Facility (FY23-FY24)
- RH handling equipment on the surface at WIPP is currently being refurbished or replaced (FY22-24)
- Procedures, training and Task Qualification Cards are currently being developed (FY24)

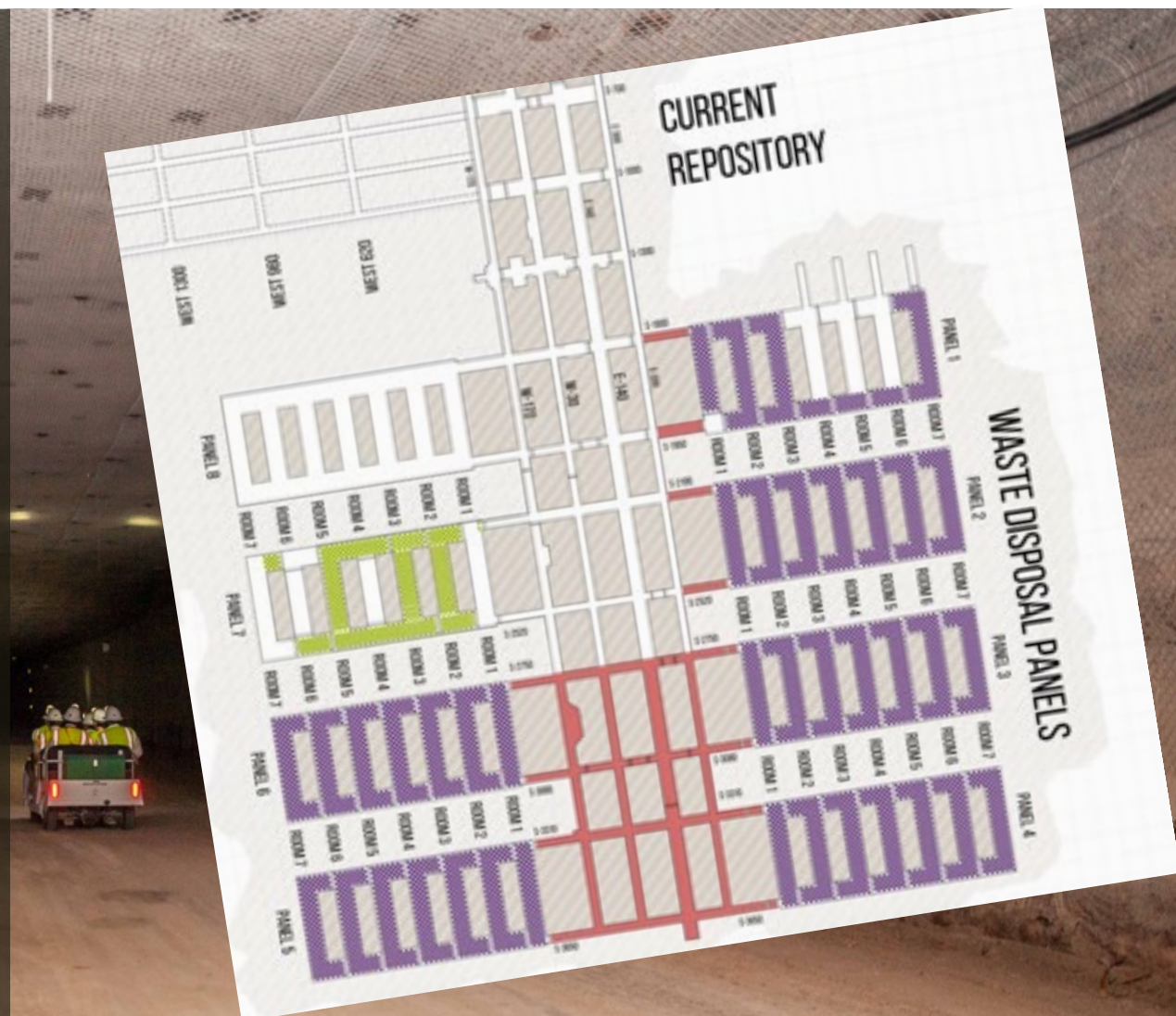


WIPP Land Withdrawal Act (Public Law 102-579) allows for 175,564 cubic meters of TRU waste to be disposed at WIPP

- Panels 1 – 6 have been filled and sealed
- Currently emplacing waste in the last available room in Panel 7
- Mining of Panel 8 is complete and outfitting and certification is underway
- Approximately 40% of total waste volume emplaced
 - CH 70,716 m³
 - RH 361 M³

Additional disposal panels are needed to accommodate the disposal volume in the LWA

- Replacement panels 11 and 12
- Additional panels will be needed to complete WIPP's mission



PLANNING FOR FUTURE PANELS

To be Completed in FY2022

- Projected to mine 6,231 linear feet in 2022
 - 67% of the total of roughly 15,000 linear feet that will be mined in the creation of the three drifts and crosscuts to access panels 11 & 12
 - Mining access drifts completion date – July 2023
 - Mining Panel 11 completion date – 2025
 - Mining Panel 12 completion date – 2028



Depiction of Anticipated Mining Progress

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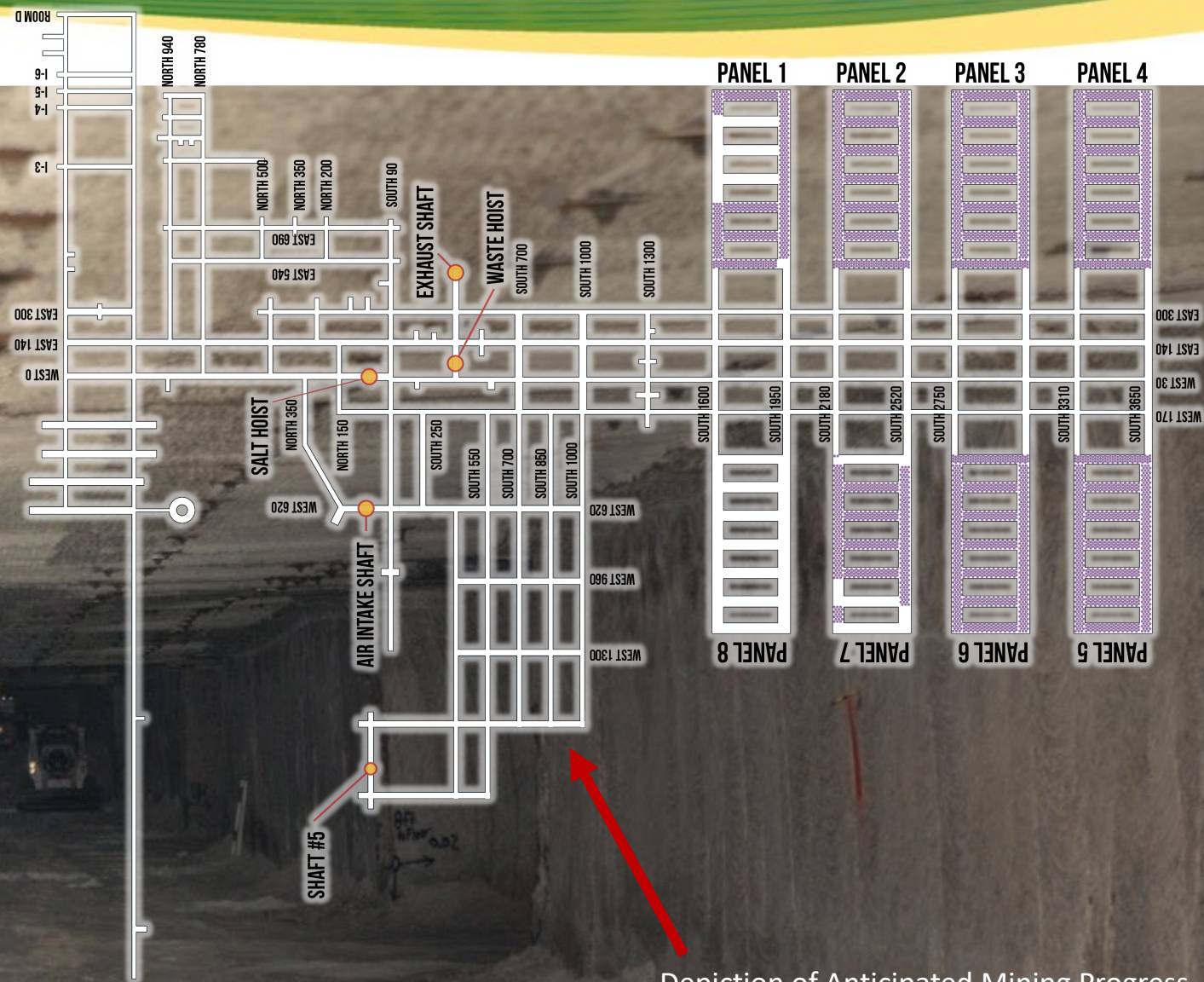


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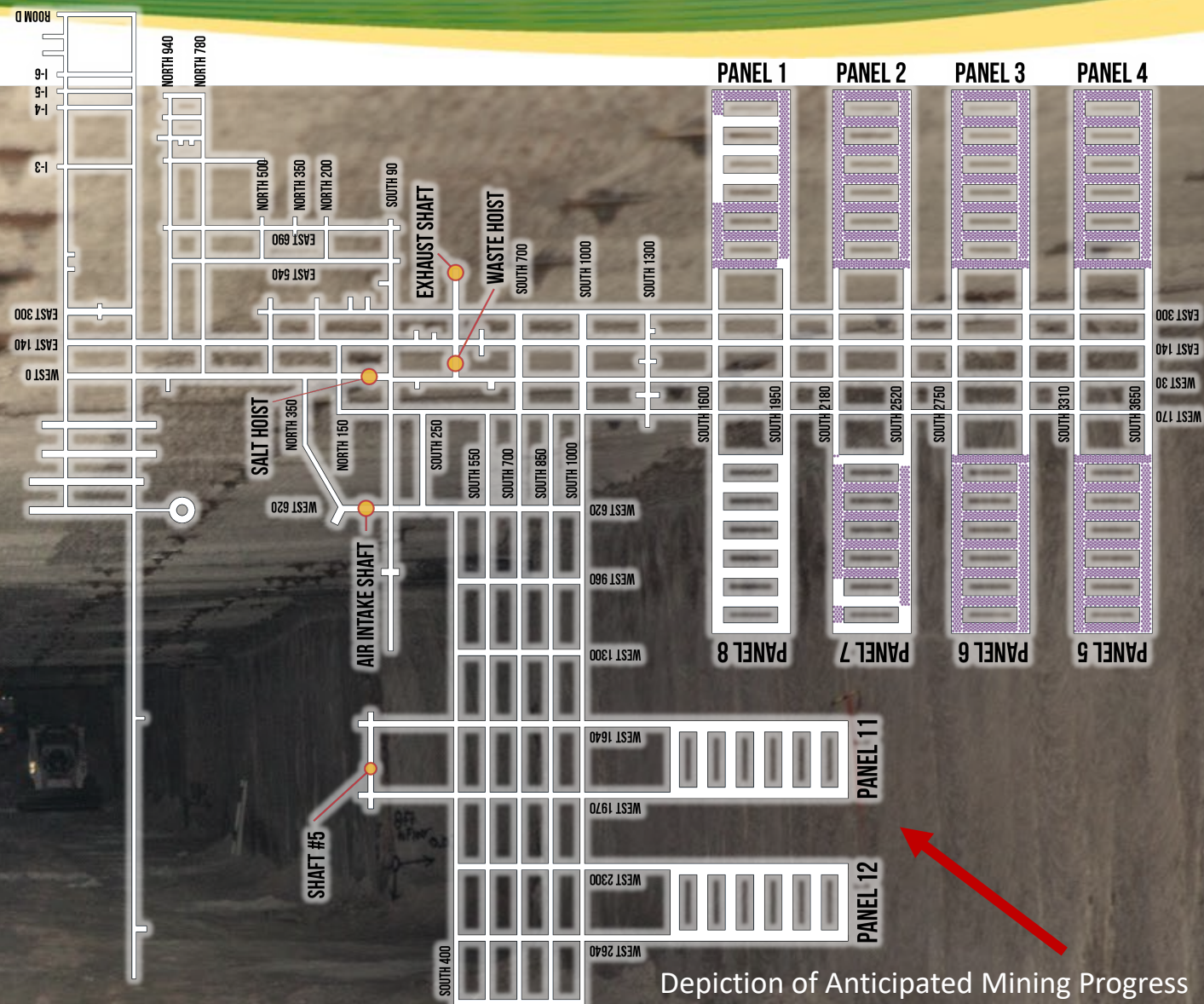


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During 2022 CBFO will seek public input on National Environmental Policy Act (NEPA) actions and updating information for a third Supplemental Environmental Impact Statement (SEIS). The SEIS-III will:

- Include an analysis of the impacts of the excavation and use of additional disposal panels, beyond panel 12, needed to dispose of (TRU) waste up to the Congressionally authorized volume capacity limit specified in the WIPP Land Withdrawal Act.
- Develop a list of a reasonable alternatives for WIPP
- Align future needs with the WIPP strategic vision
- Notice of Intent in Federal Register and public scoping meetings



Local community support has been critical to the success of WIPP. CBFO engages in:

- Frequent and transparent communication with local community leaders
- Regular engagement with local and state elected officials and legislative committees
- Regular stakeholder briefings on WIPP status and issues
- Encouraging public participation on regulatory changes and NEPA activities that will determine the future of WIPP



Questions?