

NuMI



MINOS

NuMI Project Status and Update

Near Detector and Beamline

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Final Installation of NuMI and MINOS



NuMI Project has been busily and effectively installing equipment since immediately after, (and sometimes before) we received the buildings from Ragnar Benson.

Today – status of what we've accomplished and update of remaining work.

MINOS Service Building just after beneficial occupancy – March 2004



MINOS Far Detector



- Two Magnetized Supermodules began routine operation August 2003
- All project components associated with Far Detector fully closed out



Shutdown Activities-2004

Naturally divide into activities inside the Main Injector and NuMI stub, and activities in the downstream NuMI beamline and Target Hall.

Major magnet moves were accomplished in the 2003 shutdown.

We are rapidly moving into hookup and checkout phases of the project.



MI and NuMI Stub

Installing and checking out remaining beamline components in this shutdown

- « 3 NuMI kicker magnets in the MI in the next 3 weeks
- « Magnetic shielding on NuMI HV101 string will finish in early October
 - * Prevents distortion in the Recycler Ring orbit
- « Corrector magnet and instrumentation stand installation will finish by late September
- « Correctors and instrumentation installed by mid October
- « Vacuum connections and final alignment complete by late November
- « Magnet and instrumentation checkout begins in early November



Carrier Tunnel, Pre-Target & Target Hall

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- Beamline is nearly ready for checkout in these areas
 - « Need to fix a vacuum leak and hook up instrumentation.
- Target Hall
 - « All major shielding in the target hall in place. (8000 Tons of steel)
 - « Both neutrino horn modules are in place and utilities connected.
 - « Target/baffle module will be installed in several weeks.
 - « Installation of the large air cooling system will take most of October.
 - « We have reserved 4 weeks of time for “hot component” handling in November & December.
 - « We expect the Target Hall to be ready for beam in December.

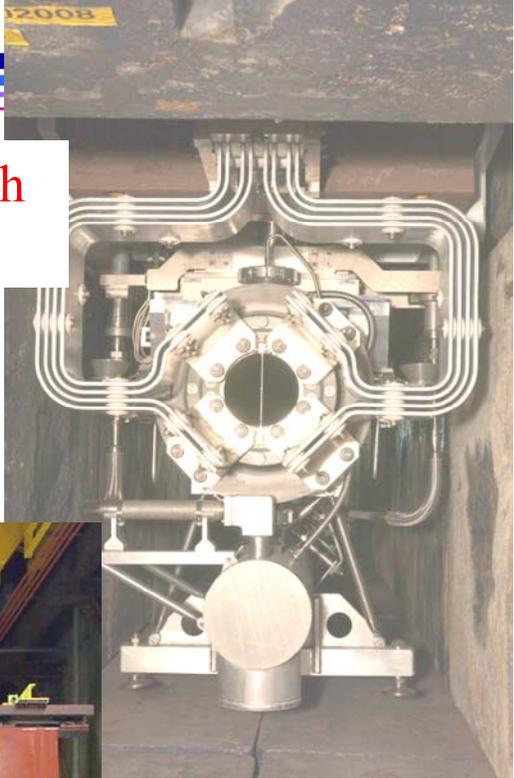


Target Hall Installation



Horn 2 Installation

Horn 1 in position with stripline connections



Work Cell showing target carrier



Absorber and Neutrino Beam Monitoring and Utilities

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1000 Tons of
concrete, aluminum,
and steel!

All significant rigging activities complete.
Final hookup activities continue.
All muon monitor stands in position.
On schedule for muon and hadron monitor
installation.



Status of Near Detector

- Detector plane assembly is complete
- Electronics is fully installed, DAQ commissioning well underway
- Magnet coils were delivered underground week of 9/6. This required an external crane.
- Magnet coil assembly is underway. Expect completion towards end of September. (A week or so uncertainty – it's a unique operation).
- Checking out detector with cosmic ray tracks. Want magnet-off data for alignment.
- No difficulties with schedule for beam.



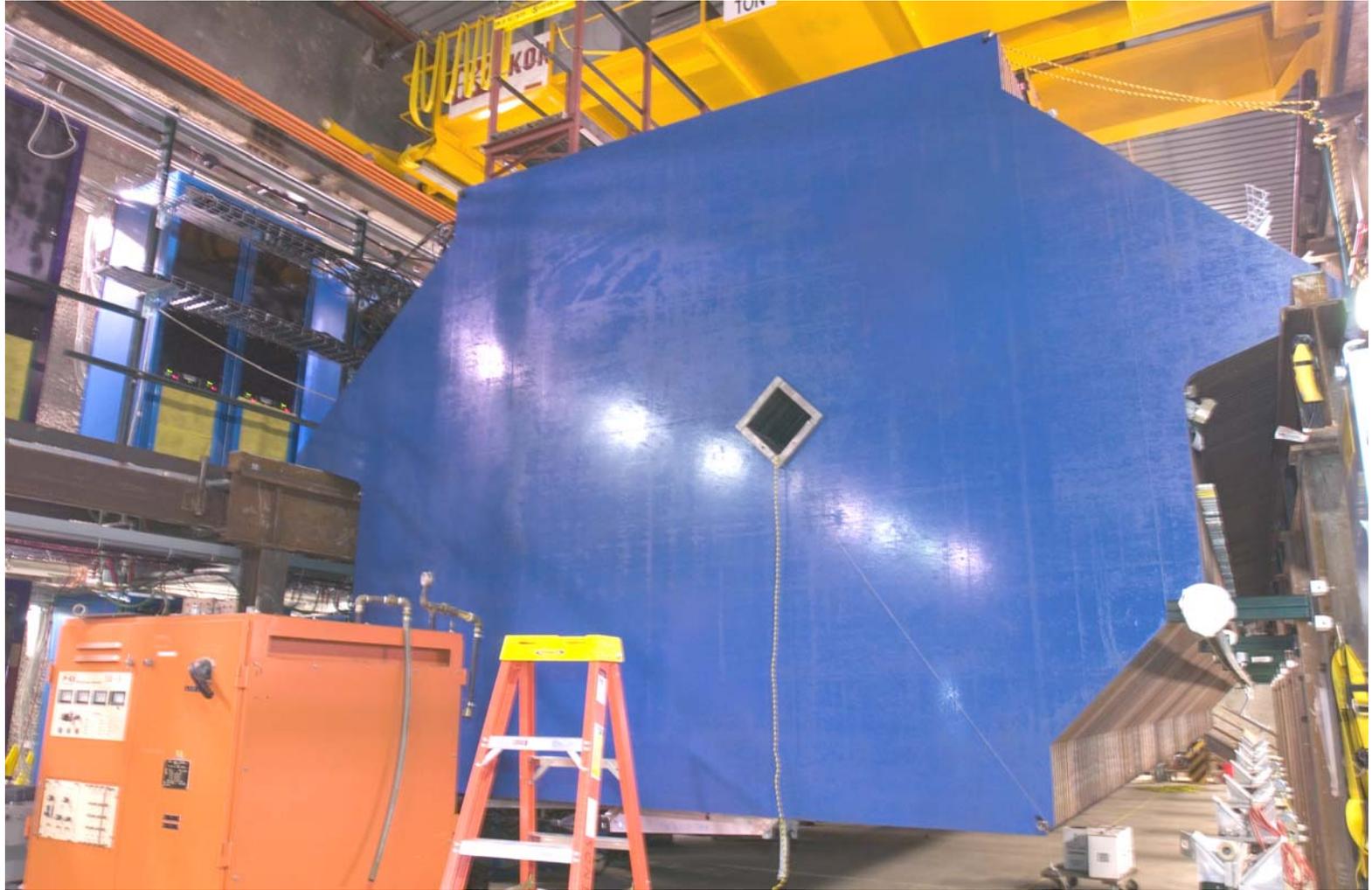
Installation of Assembled Detector Planes

3-5 Planes a day was routine.
April 6 to August 11
Collaboration setup and tested
readout during the evenings.





Plane Assembly Complete





Delivery of MINOS Magnet Coil

About to go through the roof hatch



Coil consists of 60 ft conductor “planks”
Delivered underground in 2 loads.
Last major lift in MINOS shaft.

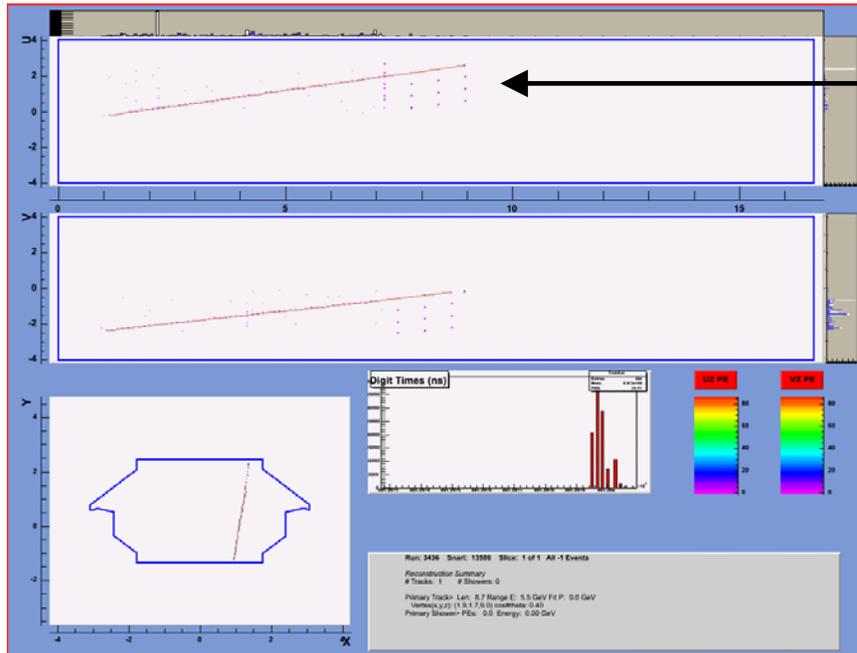


Making the turn in the sump trench

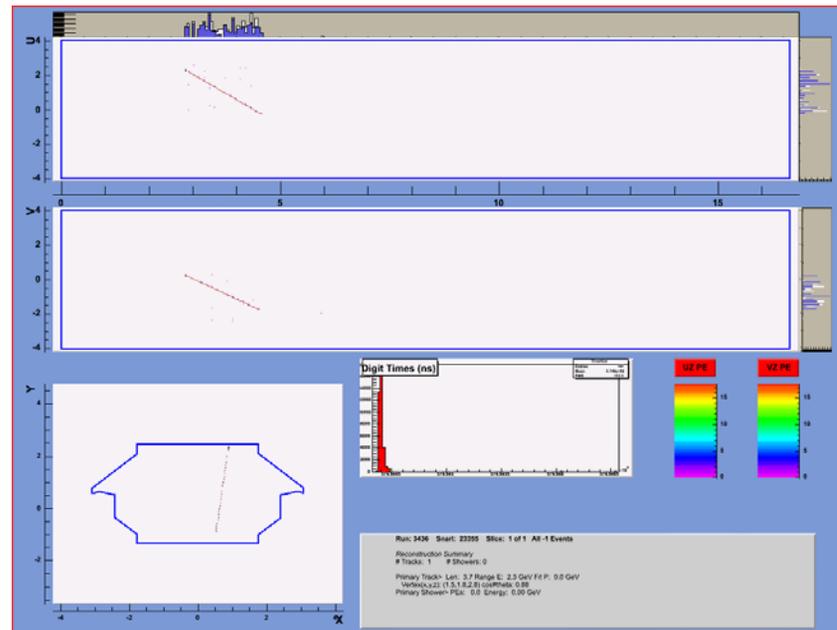


Observation of Tracks in the MINOS Near Detector

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Multiplexed electronics in spectrometer



Trigger 10/12 contiguous planes



Conclusions

- Project installation proceeding as expected.
- Major rigging and almost all heavy lifts finished.
- Near Detector complete except for final coil assembly. Functioning for cosmic rays. Coil will finish by early October.
- Shutdown work on schedule.
- We expect completion in December.
- Our sincere thanks to the many, many people at the laboratory that have helped us get to this point!