

Homestake DUSEL DEDC Workshop for the ISE

ISE Requirements and Documentation

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Lead, South Dakota, September 22-25, 2009

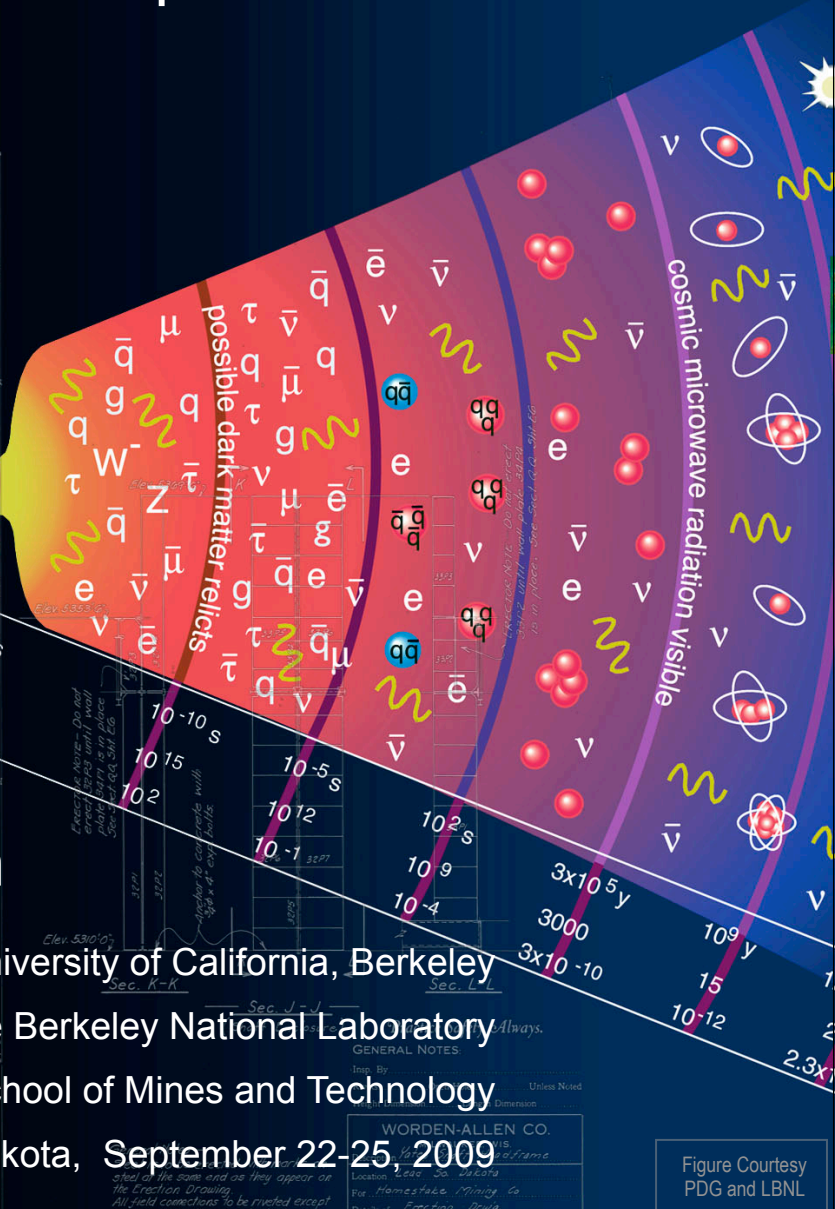
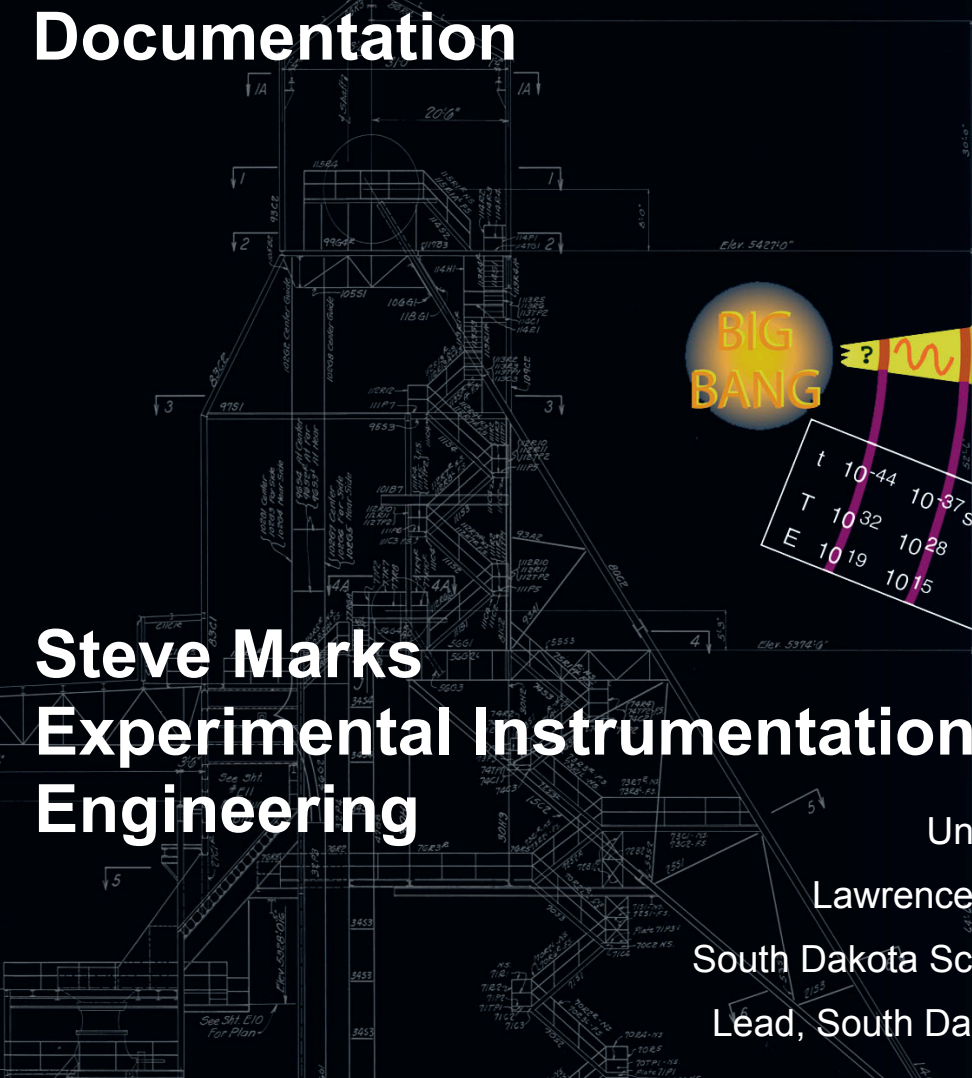


Figure Courtesy
PDG and LBNL

Overview

LONGSECTION OF THE HOMESTAKE MINE

- Experiment Integration
 - Experiment Deliverables – Experiment Design Package (EDP)
 - DUSEL Deliverables – DUSEL Experiment Interface (DEI) Definition
- Time Table

Who to Talk To

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- Scientific Staff
 - Richard Kadel – LBNE
 - Azriel Goldschmidt – DM
 - Jason Detwiler – DBD
 - Yuen-Dat Chan – LBC
 - Daniela Leitner – NA
 - Bill Roggenthen, Rohit Salve – BGE
- Engineering
 - Steve Marks
 - Dave Plate
- EH&S
 - Susan Von Stein
- Project Controls
 - Kurt Deshayes
- Document Control
 - Dave Turner

Experiment Deliverables – Phase I

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Experiment Design Packages (EDP) will be developed in two Phases:

Phase I – CD-1 - PDR Level -Deliverables include:

- Preliminary Project Execution Plan
 - Science and Project Objectives
 - Experiment collaboration team roles and responsibilities,
 - Infrastructure requirements
 - Work breakdown structure and dictionary
 - Initial cost estimate and range
 - Pre-construction milestones, initial version of construction milestones
 - Preliminary Project Execution Plan
 - Preliminary hazard assessment, analysis and mitigation plan
 - Preliminary Risk Assessment

Experiment Deliverables - Phase II

- ***Phase II – CD-2 Beyond the PDR timeframe deliverables include:***
- Update Project Execution Plan
 - Science and Project Objective
 - Experiment collaboration team roles and responsibilities,
 - Preliminary Infrastructure and technical functional requirements
 - Basis of design, applicable codes
 - Design reviews: definition and schedule
 - Work breakdown structure and dictionary
 - A full, bottom-up cost estimate and risk-based contingency
 - Detail schedule: pre-construction and construction, including milestones
 - Experiment management plan

Experiment Deliverables – Phase II Continued

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- ***Phase II – CD-2 Beyond the PDR timeframe deliverables include:***
- Update Project Execution Plan
 - Integrated safety management plan
 - Preliminary hazard assessment, analysis and mitigation plan
 - Risk analysis and mitigation plan
 - Experiment assembly and underground installation plan
 - Requirements management plan
 - Operational readiness criteria
 - Operations plan
 - Experiment preliminary design
 - Interface definition document with location layout

DUSEL Deliverables – PDR Time Frame

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- Facility/Experiment Interface Definition
 - Facility infrastructure requirements
 - Experiment Footprint and Location Layout
- DUSEL Engineer and Scientific Staff Coordinate Liaise with Experiment
- Experiment database to gather requirements
 - ⇒ Migrate to a single tool for requirements and hazard assessment, screening

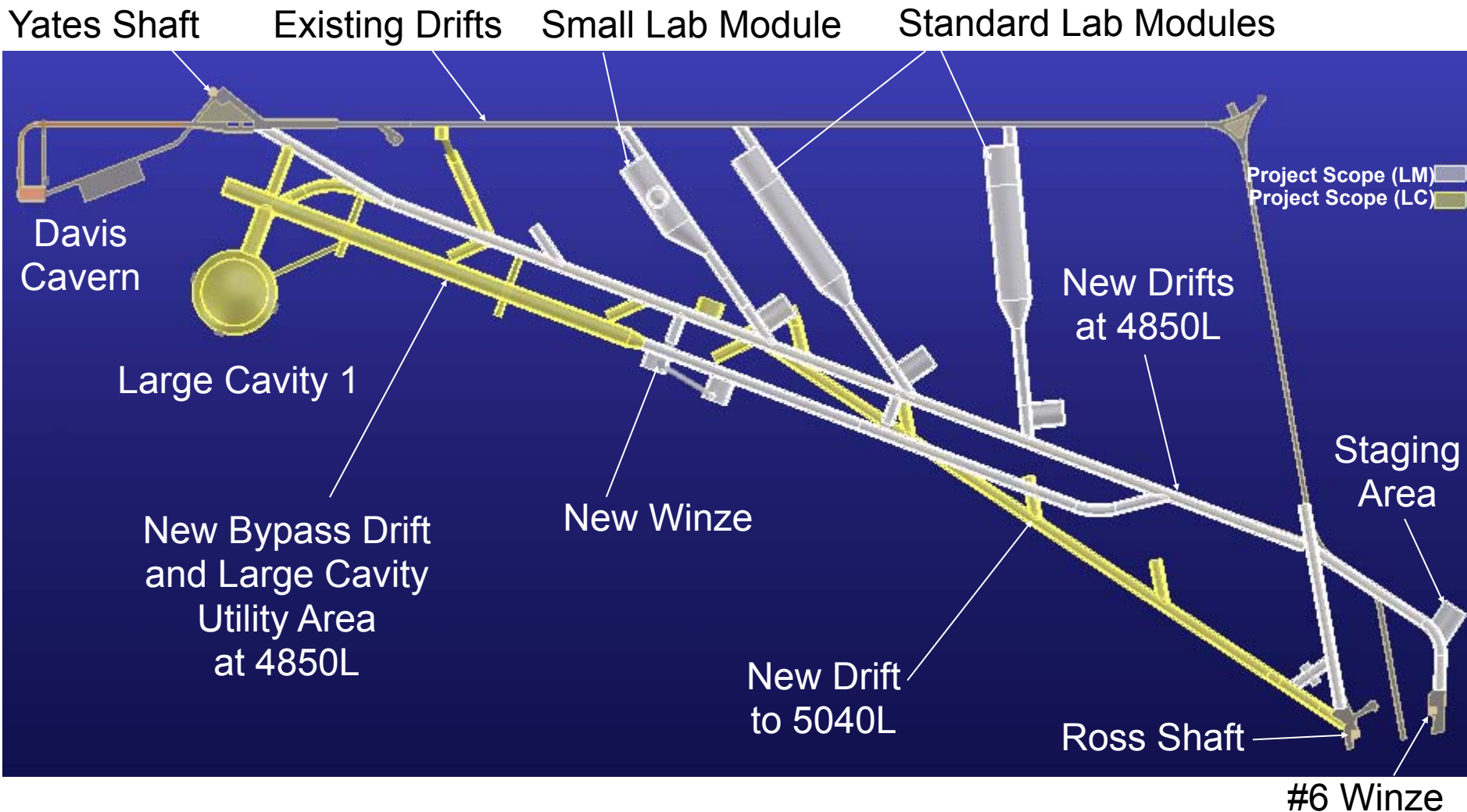
Preliminary Design Deliverables - PDR

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Deliverable	Responsible Party	Schedule
EDP template, definition toolbox	DUSEL	10/09
Draft EDP	Experiment	1/10
Draft DEI	DUSEL	3/10
Review Draft EDP, DEI	Experiment, DUSEL	4/10
PDR EDP	Experiment	7/10
PDR DEI	DUSEL	7/10
Draft PDR	DUSEL	9/10

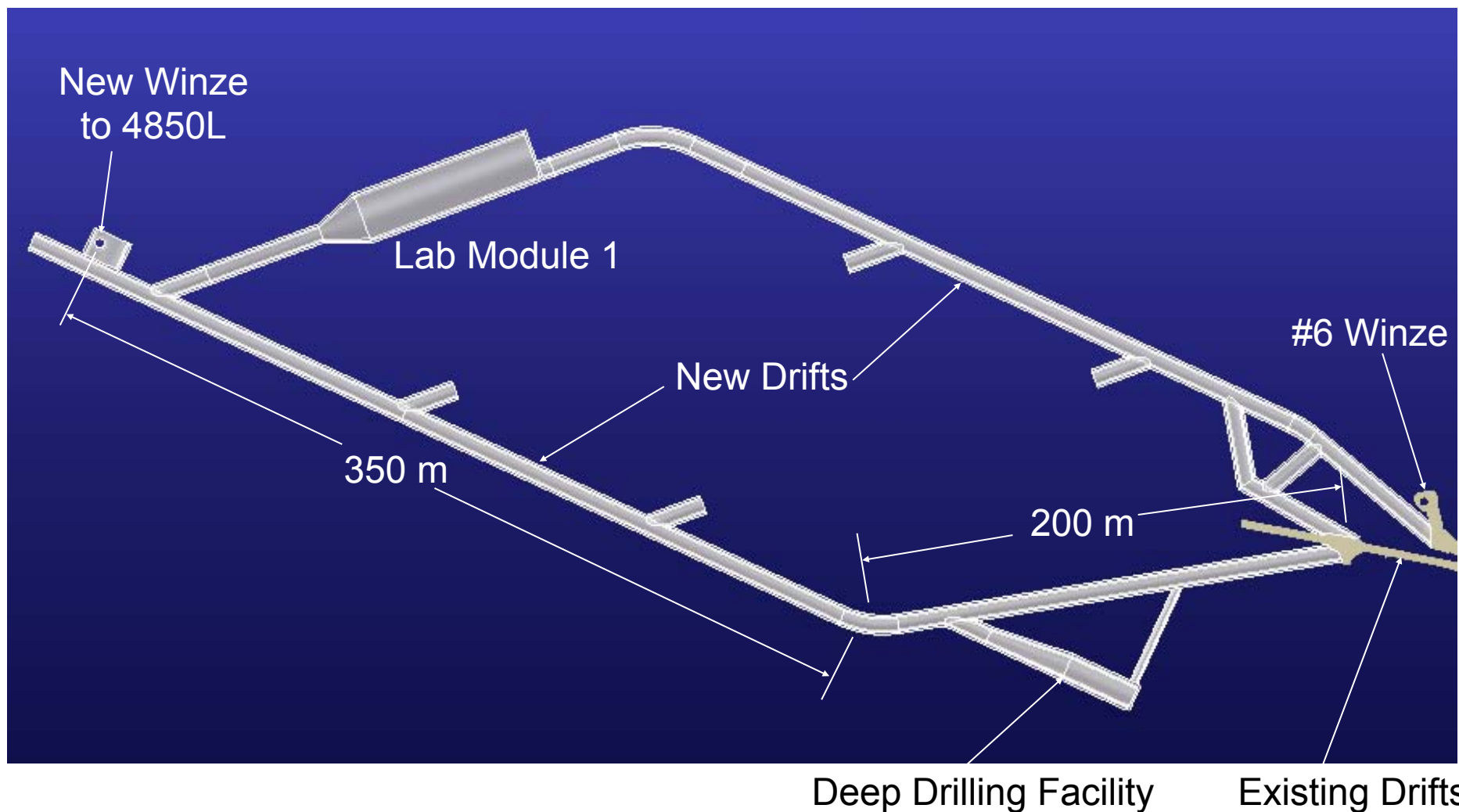
4850 Level Developmental Baseline for PDR: Three Lab Modules & First Large Cavity, Plan View

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7400 Level Sequential Development: One Lab Module, Plan View

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Campus Development Issues

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- Beneficial Occupancy
 - 4850 – Lab Module 1 ~ 2016 - 2017
 - 7400 – Lab Module 1 ~ 2018
- Yates Shaft Refurbished ~ 2017
- Overlap between construction and science
 - Construction proceeds from Yates to Ross
 - Separation to mitigate interference
 - Estimates of vibration transmission from blasts