



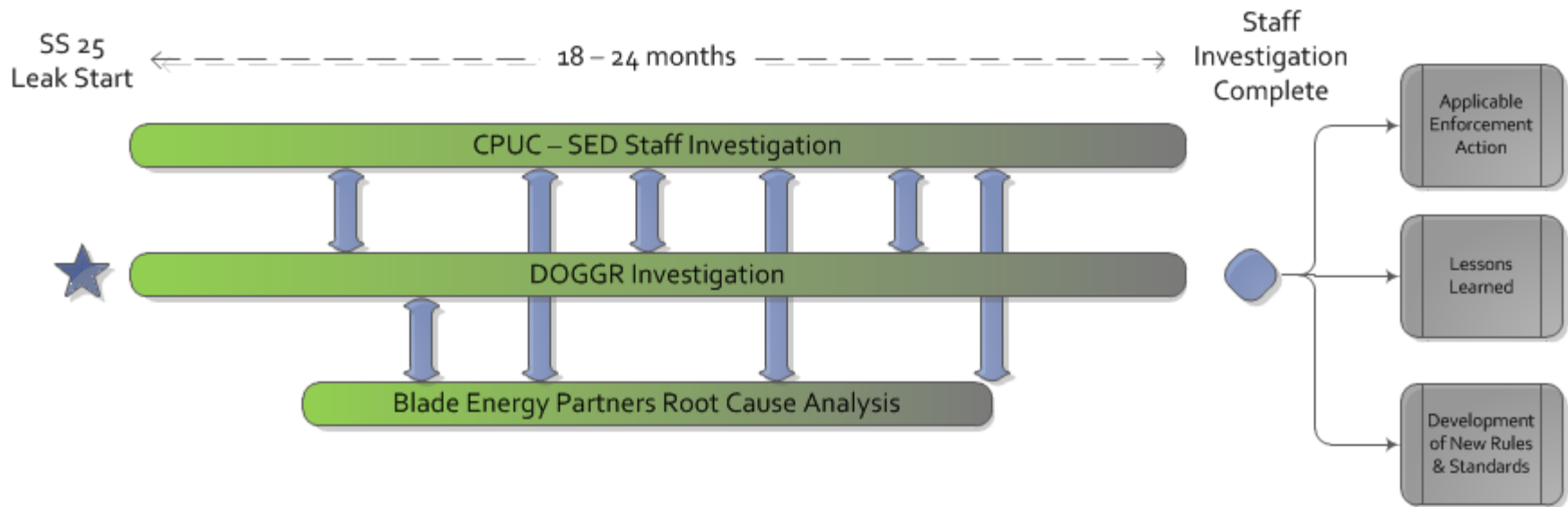
Aliso Canyon SS25 Well Leak Investigation Overview

October 2016





Two State Investigations and Independent Root Cause Analysis

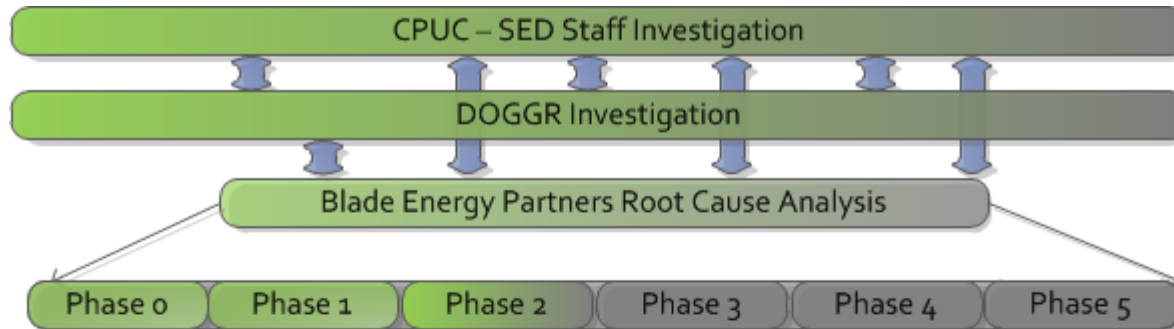


CPUC = California Public Utilities Commission
DOGGR = Division of Oil, Gas and Geothermal Resources
Blade Energy Partners = Independent 3rd party





Phases of Root Cause Analysis



Phase 0: Data Collection, Collation & Analyses

Start Time Period: January 29th 2016



Phase 1: Aliso Canyon SS25 Site Evidence Collection & Documentation

Start Time Period: Post Cement & Well Kill Certification

Phase 2: Aliso Canyon SS25 Site Restoration to Rig Readiness

Start Time Period: Post Site Documentation

Phase 3: Aliso Canyon SS25 Tubing/Casing/Wellhead Extraction

Start Time Period: Post Rig Readiness

Phase 4: Aliso Canyon SS25 Non-Destructive & Laboratory Metallurgical Examination

Start Time Period: Post Extraction

Phase 5: Aliso Canyon SS25: Integration & Interpretation; Final Report

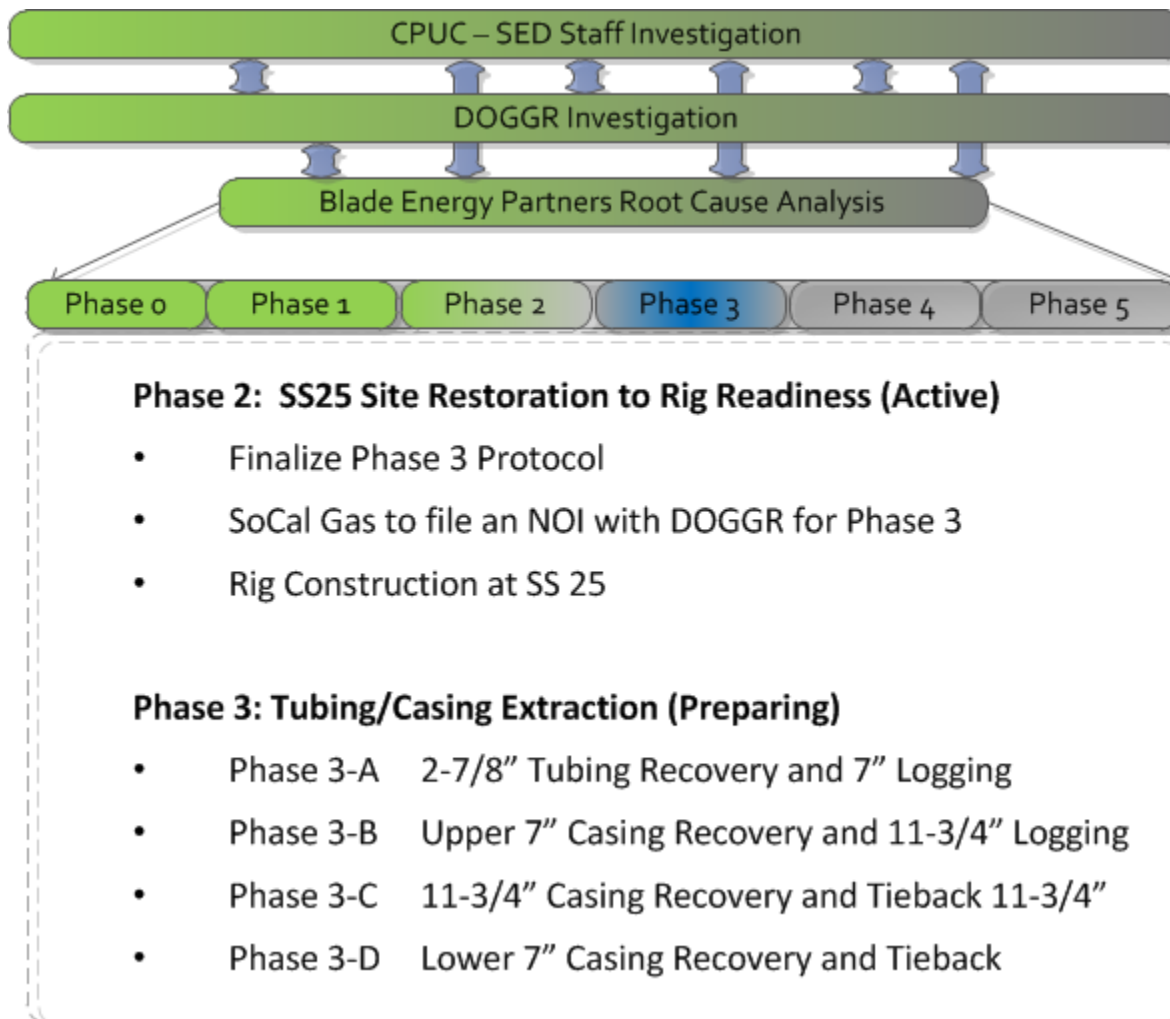
Start Time Period: Post Laboratory Examination

We are here





Root Cause Analysis: Current Activities





Looking Ahead to Phase 3: Tubing & Casing Extraction

Step 1: Cut and recover the 2-7/8" tubing, all the way down to the cement plug at ~ 7,000 feet

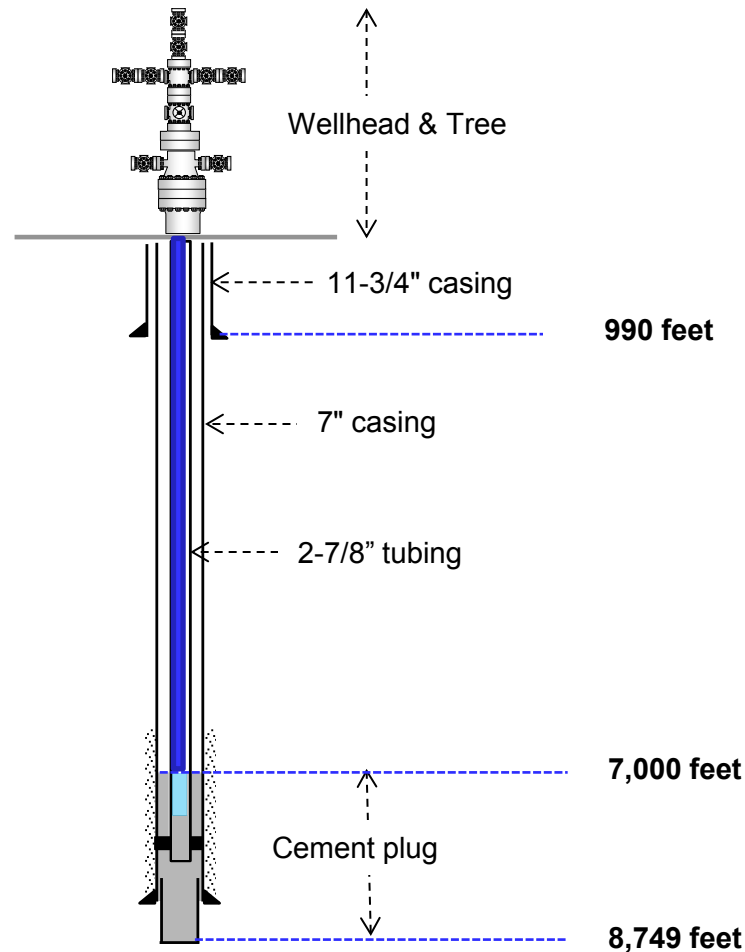
Perform Diagnostic Testing

Step 2: Recover the 7" casing . Will try to get down to 895 feet, then re-evaluate safety. If feasible, will attempt to extract casing down to ~4,500 feet.

Perform Diagnostic Testing

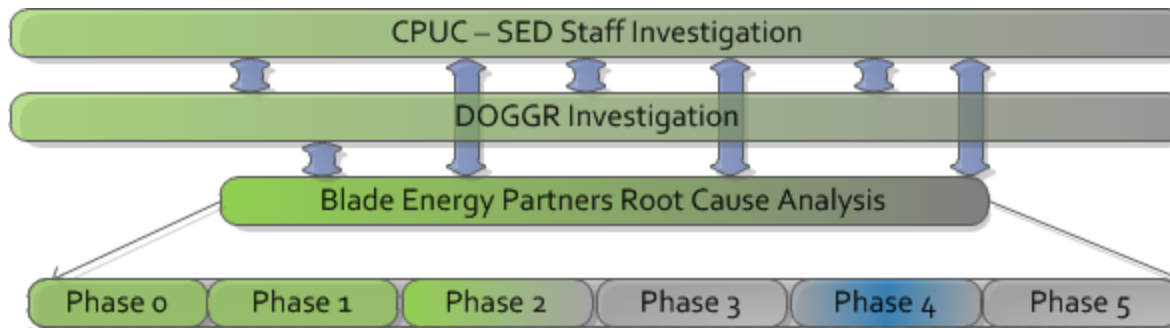
Step 3: Recover the wellhead and tree

Prepare site for Plug and Abandon





Looking Ahead to Phase 4: Non-Destructive & Metallurgical Examination



Phase 4: Aliso Canyon SS25 Non-Destructive & Laboratory Metallurgical Examination

Blade Energy Partners selected two labs to perform evidence examination and testing:

- Failure Analysis Laboratory (<https://www.element.com/locations/usa/houston>)
- Inspection Services Company (<http://www.pattersonontubular.com/>)

There are several types of examination and testing that will be performed:

- Visual examination and dimensional analysis
- Surface preparation
- Non-destructive examination
- Corrosion examination
- Fractographic examination
- Mechanical testing and compositional analysis





Investigation Transparency

- SS 25 site has video cameras around the perimeter, covering the area from different angles and providing for variety of points of view
- A viewing facility has been set-up for interested parties (e.g. plaintiff attorneys and their experts) to observe activities at SS25 during evidence extraction
- Protocols for evidence extraction have been shared with the interested parties for comments, questions and feedback
- Investigation related data that's being shared with SoCal Gas for operational reasons (e.g. data from diagnostic runs) is also being shared with interested parties
- Laboratory testing will allow for observation by interested parties
- Public information is being posted on the website at <http://www.cpuc.ca.gov/aliso/>
- For access to view viewing, copies of protocols and other investigation related questions, please contact Safety and Enforcement Division attorney Nicholas Sher nicholas.sher@cpuc.ca.gov or 415-703-4232





Thank you!

