

Summerland Oil Field

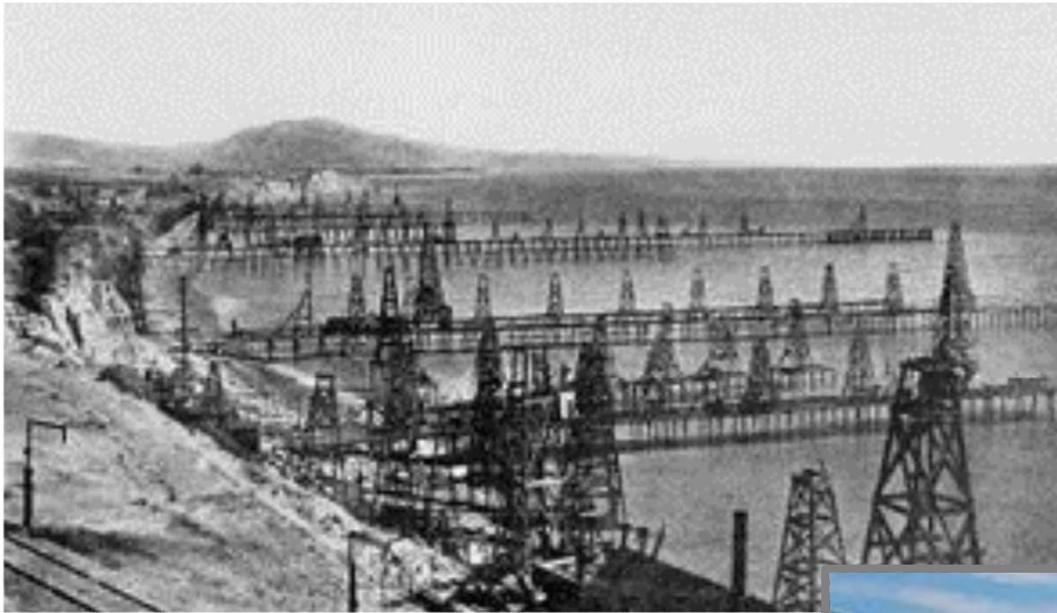


**Steve Curran, Drilling Engineer
California State Lands Commission**

September 1, 2011

Summary

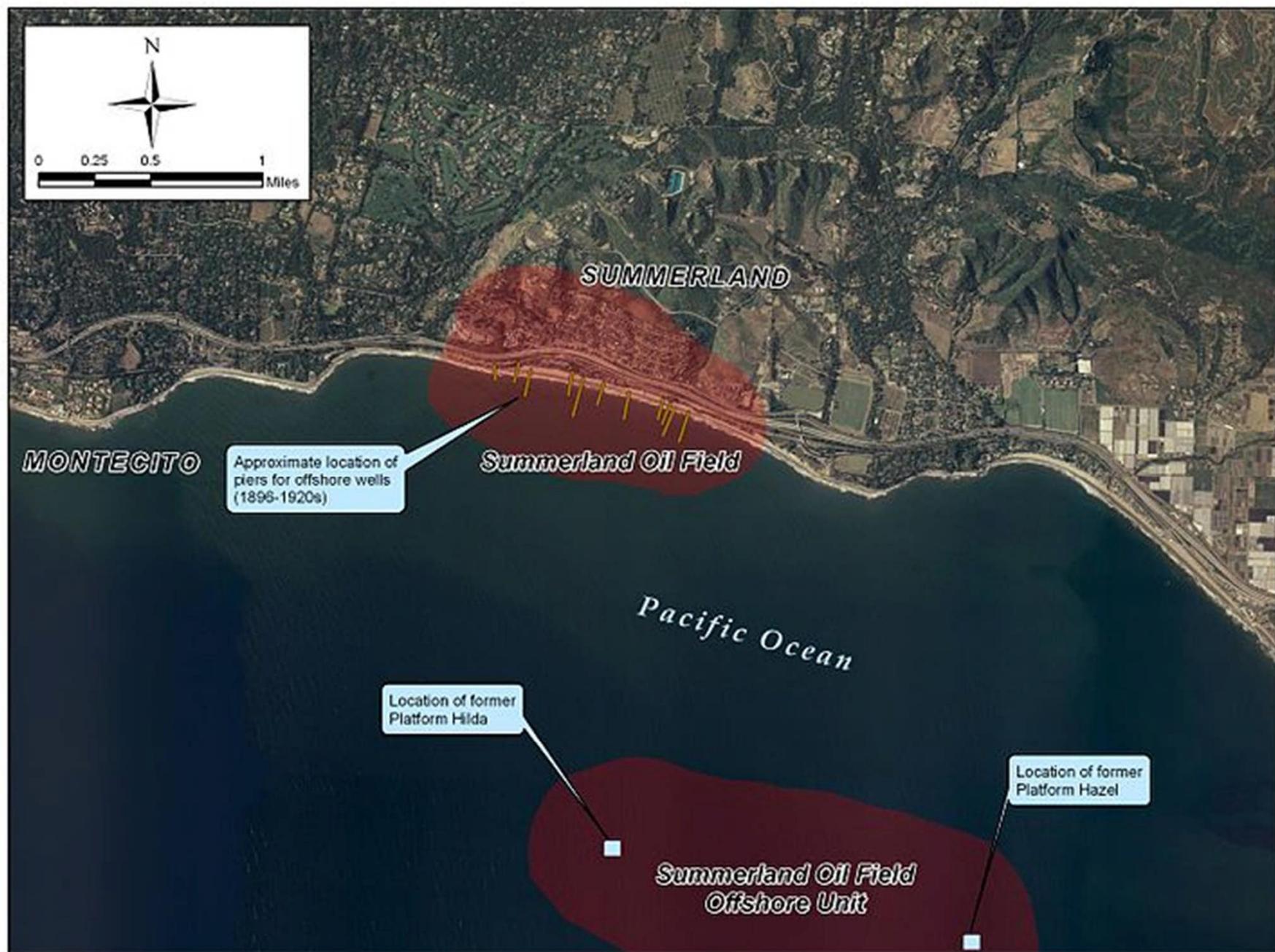
- History and Background
- Previous Remediation Efforts
- Leaking Becker Inshore Well
- 1993 Well Abandonment Work
- Proposed Approach to re-abandon Becker Inshore well
- Current Status
- Funding

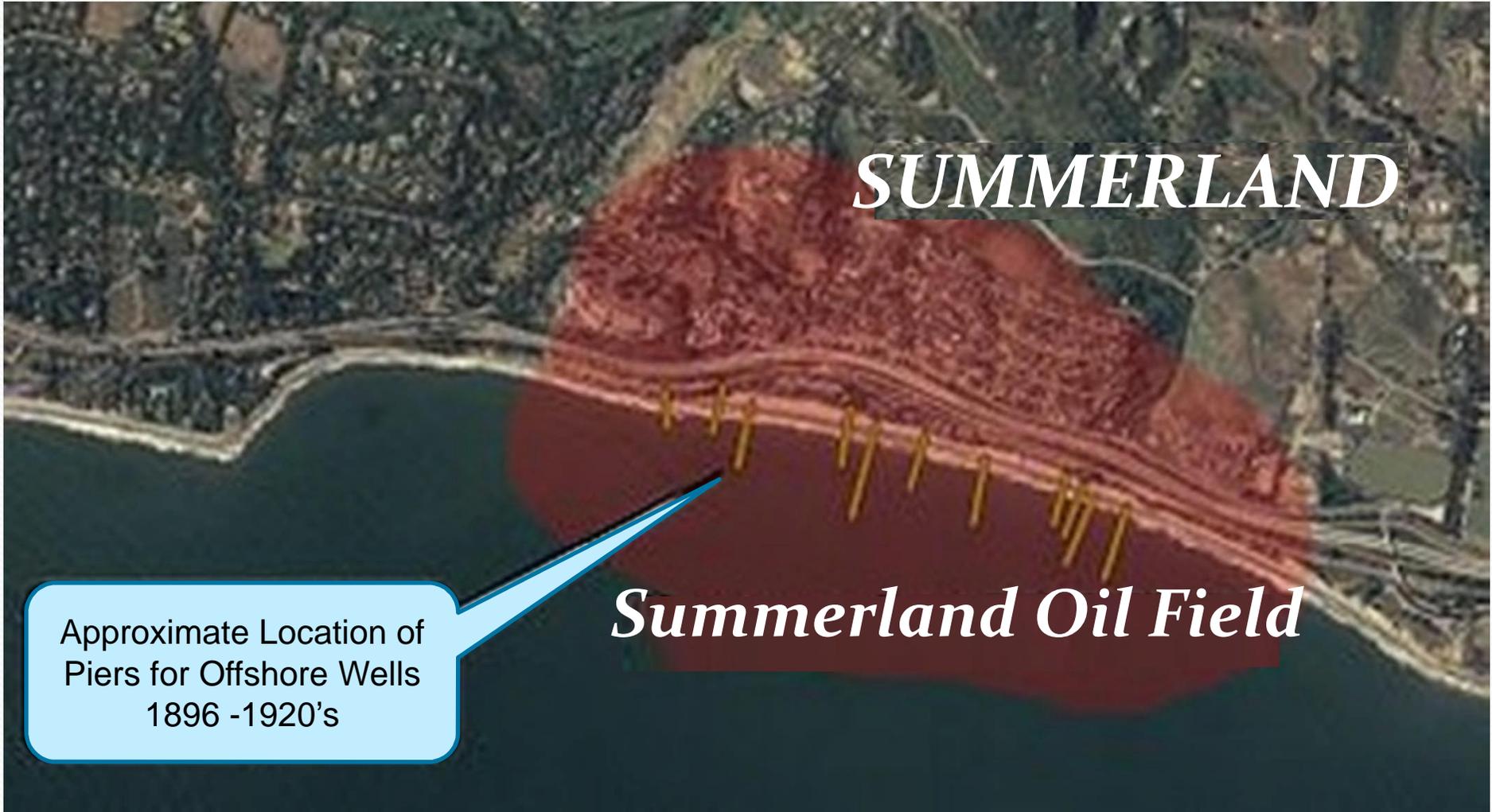


Piers with California's first offshore oil wells, Summerland Field, before 1906

The same view in 2009; the piers and oil wells are gone, and the beach is a tourist destination







Approximate Location of
Piers for Offshore Wells
1896 -1920's

MARGINAL MAP B
SUMMERLAND OIL FIELD

SCALE :
0 300 600 900 FT.

LEGEND

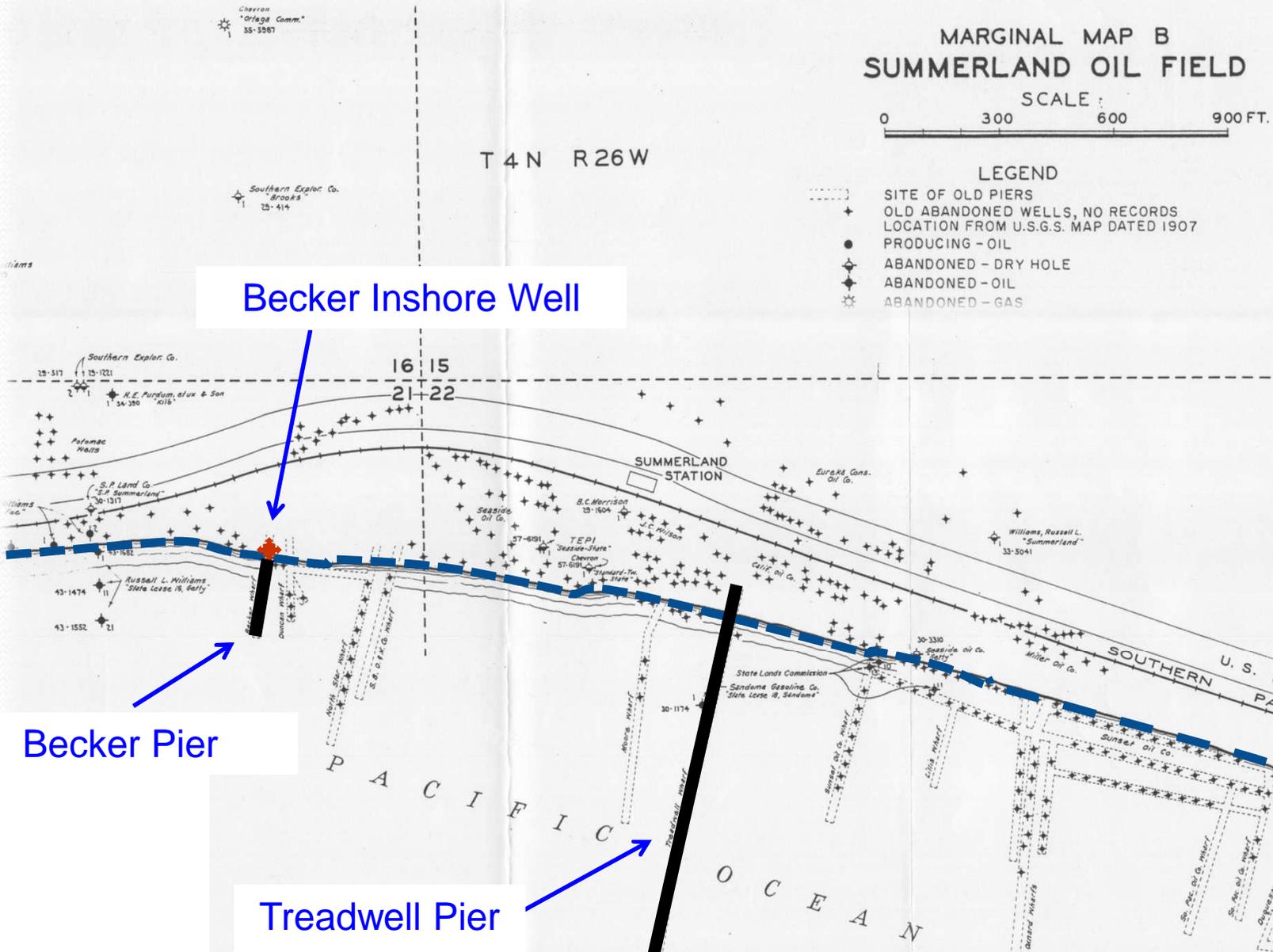
- SITE OF OLD PIERS
- * OLD ABANDONED WELLS, NO RECORDS
LOCATION FROM U.S.G.S. MAP DATED 1907
- PRODUCING - OIL
- ◆ ABANDONED - DRY HOLE
- ◆ ABANDONED - OIL
- ☆ ABANDONED - GAS

T 4 N R 26 W

Becker Inshore Well

Becker Pier

Treadwell Pier



Summerland Past Efforts to Remediate

- **1950- 1960s**
 - **Removed obstructions, Surveyed and mapped well casings and pilings (90 total)(Approximately 60 were well casings)**
 - **Summerland Beach clean up project, 60 wells surface plugs placed and casings cut off**

- **1970s**
 - **Treadwell #10 well re-abandoned, Five more wells abandoned and removed three other wellheads**

- **1980s**
 - **Plugged Treadwell #17 well, seep inspection conducted**

Summerland Past Efforts to Remediate

- **1990s**
 - Summerland Well Abandonment Project, abandoned three shore side wells (1993)**
 - Two phase study by USCG – Phase One geophysical/hydrographic/magnetometer survey for mapping well casings, oil seeps and wharf and pier remnants**
 - Phase Two – Identified critical targets Seeps, Treadwell #10 well and Becker inshore well**
- **2000 to Current**
 - Fairweather Pacific LLC prepares a Summerland Well Research Project (2000),**
 - Alan Grosbard prepares an in depth historical review of the Summerland Field and the Treadwell Number 10 well (2001)**
 - Fairweather Pacific LLC prepares a Treadwell Number 10 Seep Remediation Project Execution Plan (2002).**
 - Oil Emissions from Nearshore and Onshore Summerland Final Report By UCSB, DFG- OSPR and NOAA (Studies 2001-2005) Report (2007)**
 - Periodic sightings of oil on Summerland Beach from Becker Inshore Well**

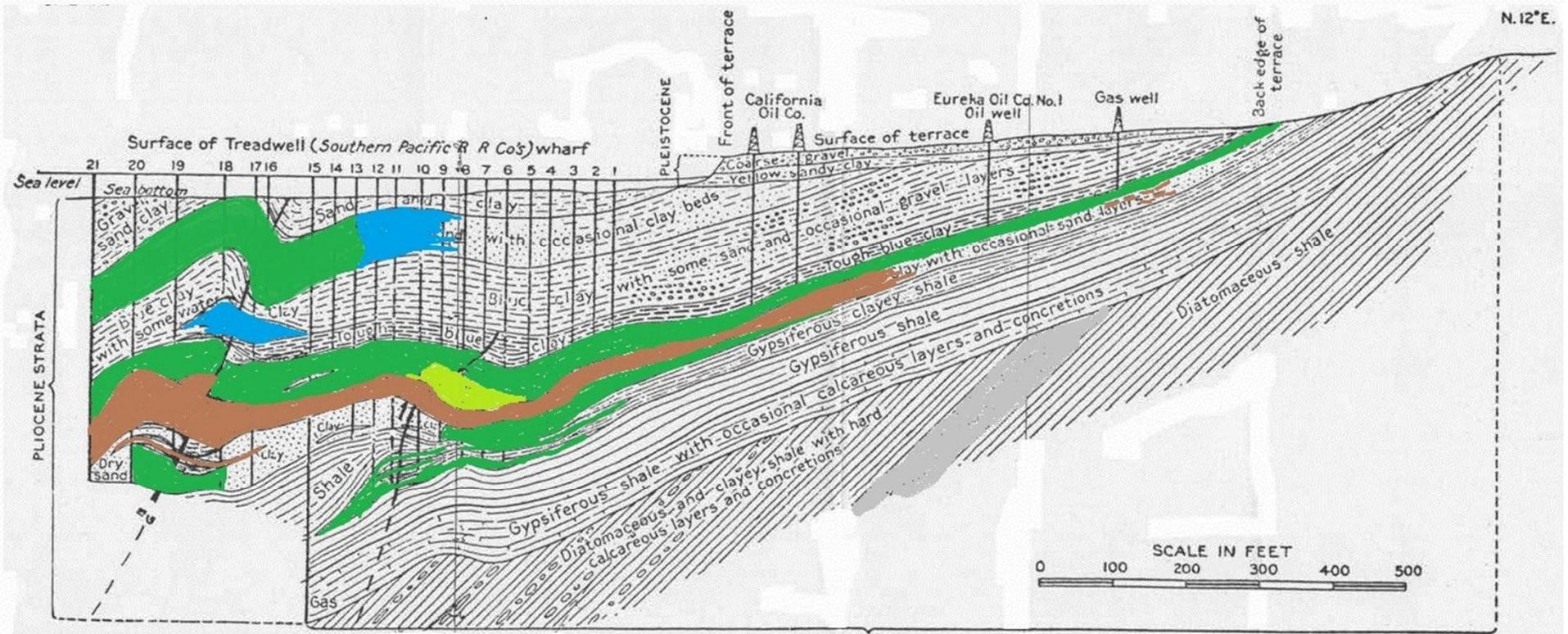


Becker Pier

Becker Inshore Well

Treadwell Pier

Cross Section Treadwell Wells



B. SECTION THROUGH TREADWELL (SOUTHERN PACIFIC COMPANY'S) WELLS.

Reference # 4A

N. 12° E. to a point immediately northwest of big oil tank in Summerland. Section is about 1,000 feet west of Oxnard wharf. (See Pl. VIII, Section C.)

CSLC 1993
Abandonment of three
shore side wells

16 Feet Tall Surf Sled
Vehicle 2 (SSV₂)
located offshore
Summerland



CSLC 1993 Abandonment Work Mobilization and Site Preparation

Winch Apron Piling and
Sub-structure



Winch Apron with
Winch

Winch Apron Complete
with Winch Pin



CSLC 1993 Mobilization



SSV1 Launch at Port Hueneme



SSV1 Aligned on Pontoon

CSLC 1993 Abandonment Work

Marine Tow and Onsite Preparation/Skidding



SSV1 Under Tow

SSV1 Skid Wires Attached



CSLC 1993 Abandonment Work Surf Sled Vehicle Positioning



Surf Sled Vehicle 1 at (-) 22 FSW

SSV₁ Nearshore in Place



Continued Efforts

- CSLC weekly inspection of and monitoring of beach area
- Summerland residents report to Santa Barbara County when oil surfaces on beach or visible oil sheen is in the water
- Most Recent Occurrence – March 2011
- CSLC Engineering Staff met with local residents and Santa Barbara County onsite – April 2011



Summerland Beach Becker Inshore Well

Oil on Beach
Surface March
2011



Current Status

- Natural oil seeps remain active and represent the majority of oil to surface
- Limited access to surf zone
- August 2011 presentation to Santa Barbara County (SBC) Board of Supervisors, requested to develop master plan for remediation work at Summerland
- Becker Inshore Well Remediation Effort

Becker Inshore Well

- Well drilled at turn of century
- Leaking well casing discovered in 1994 USGS survey and excavation work
- Well is located at the inshore end of where the Becker Pier existed
- Conditions for Becker well, oil to surface on beach
 - Low Tides
 - Beach sand cover removed by tidal action
 - Seasonal – late spring and fall months
- Frequency – 10 to 15 days per year

Funding

- CSLC is pursuing funding through State budget process for next fiscal year
- Possible OSPR Environmental Enhancement Fund Grant (EER) grant up to \$300,000 per year

2011 Engineering Approach for Re – Abandonment Becker Inshore Well

- Large Crane on Bluff at Lookout Park
- Cofferdam caisson placement with jetting equipment around well casing
- Working Platform on top of Cofferdam caisson
- Coil Tubing type rig on the Bluff
- Coil Tubing injector head on working Platform with support from crane connected to wellhead
- Support equipment on Bluffs (ie pumps and tanks) with minimal staging on the beach as inshore as feasible
- Proceed with cleanout and cement plugging of Becker inshore well
- Requires CEQA treatment and other permits

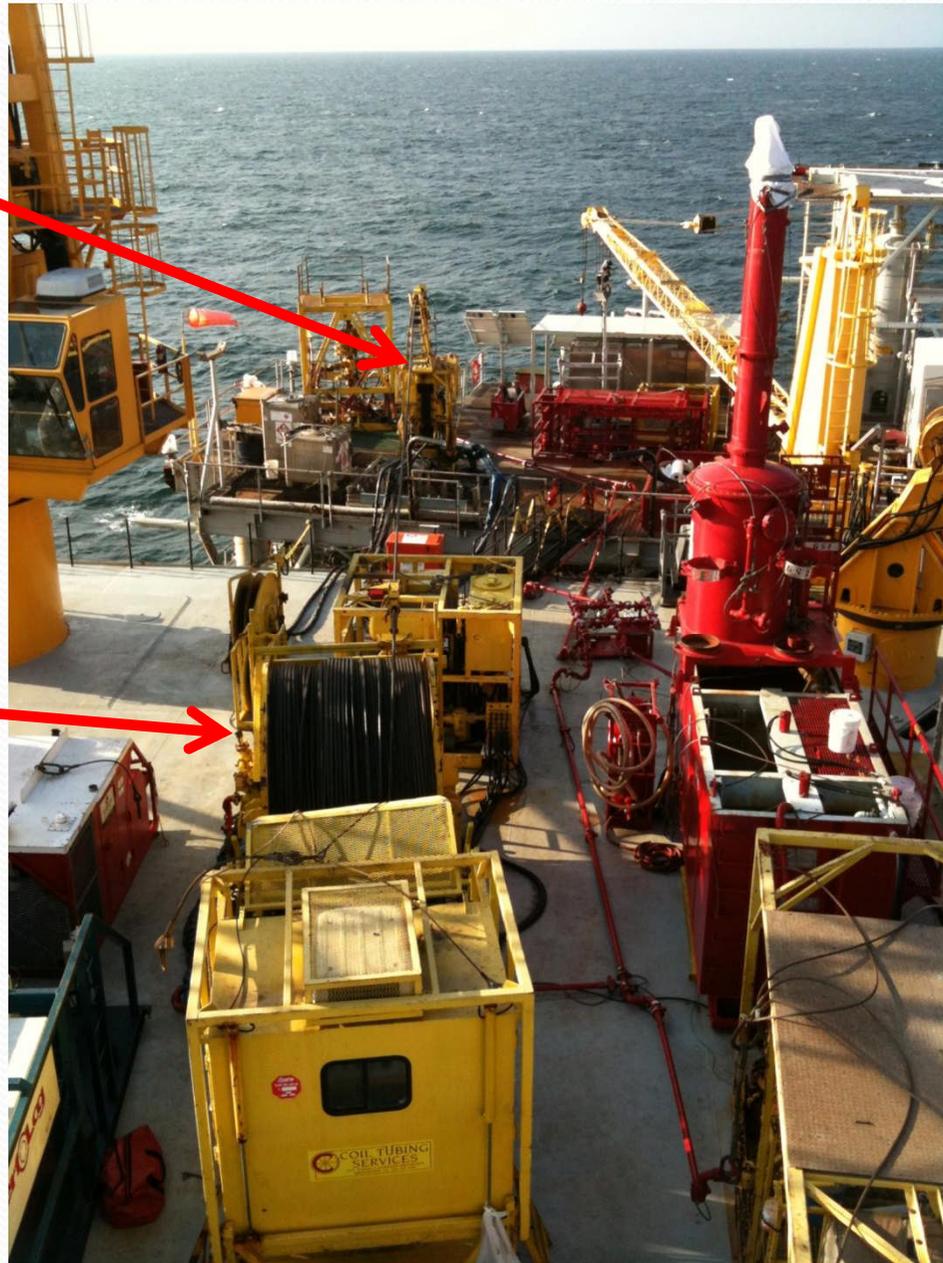


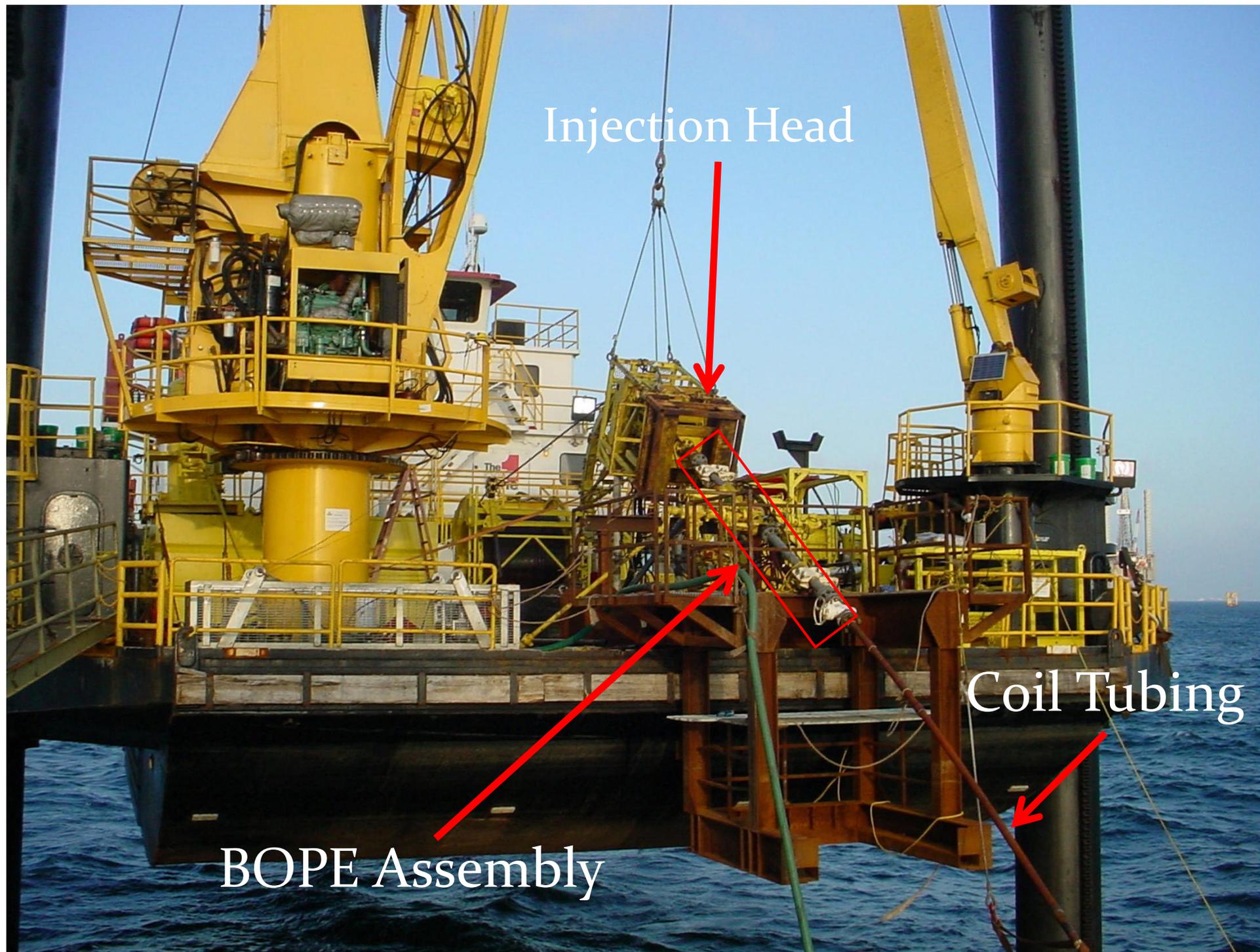
Platform

Caisson with Well Head Tree

Coil Tubing Injection Head
with Blow Out Preventer

Coil Tubing Spool





Injection Head

Coil Tubing

BOPE Assembly