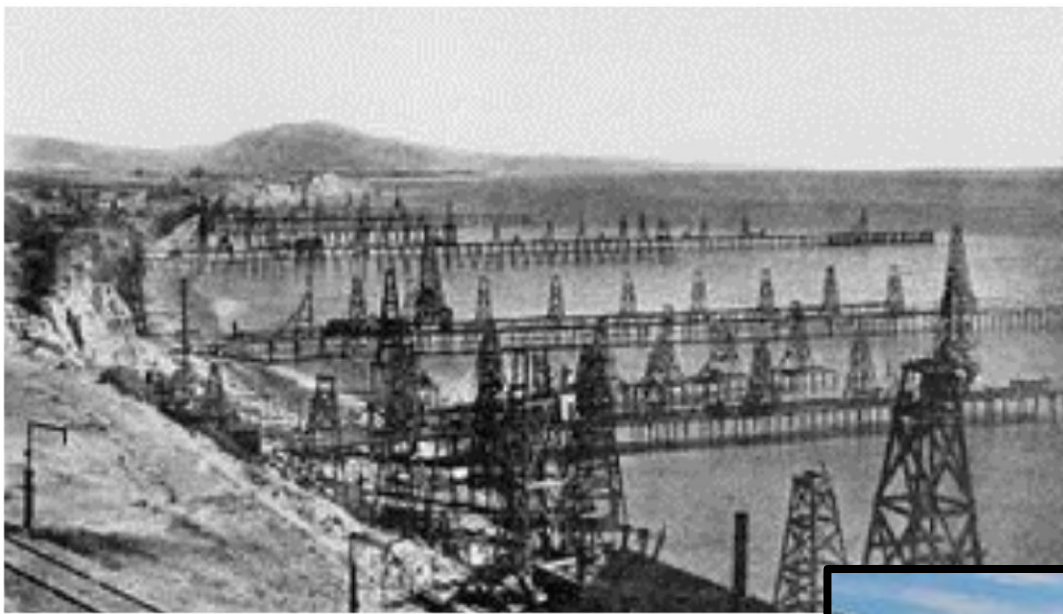


Summerland Oil Field



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

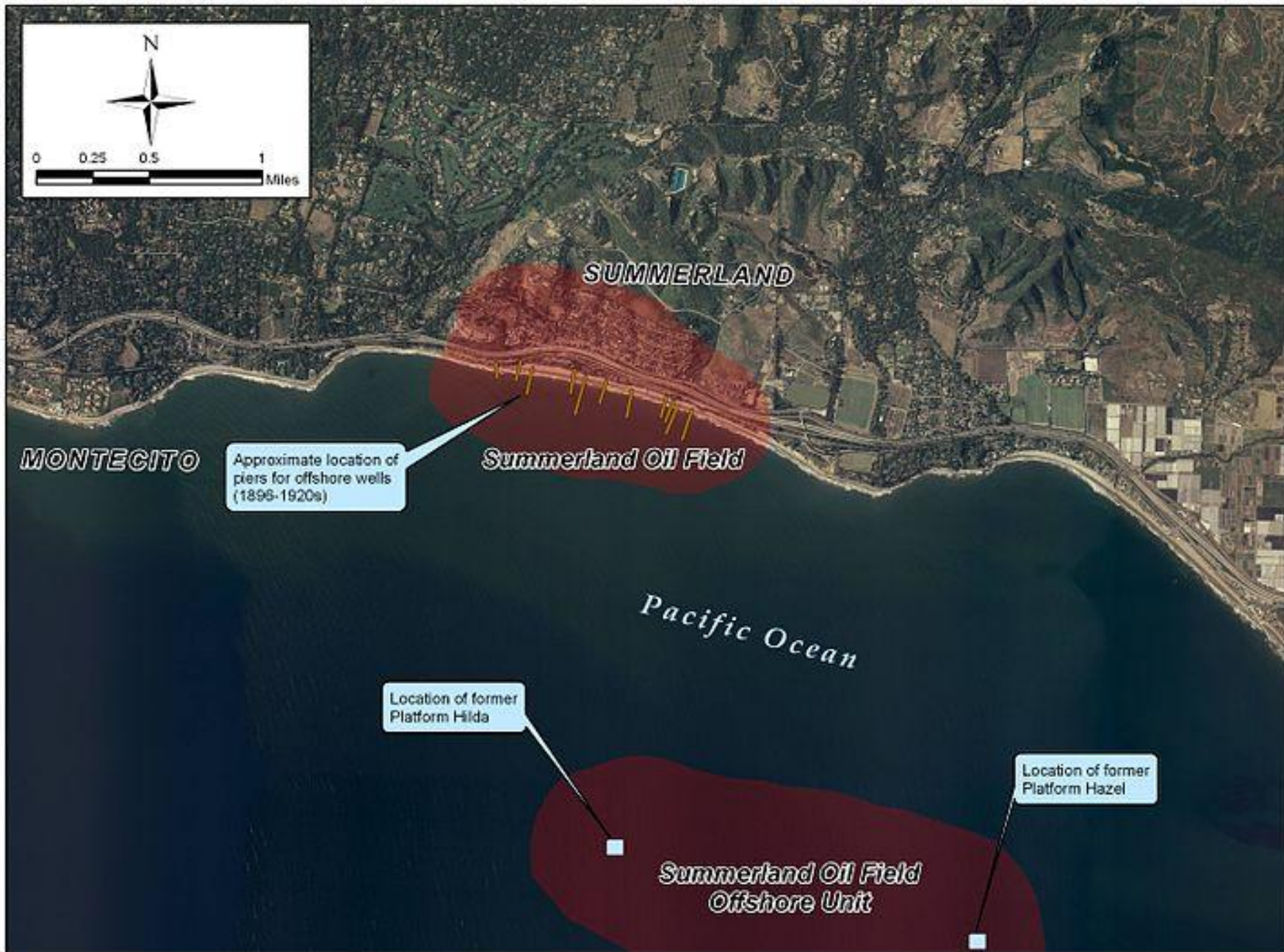
August 2, 2011



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





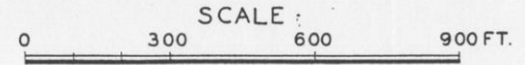


SUMMERLAND

Summerland Oil Field

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

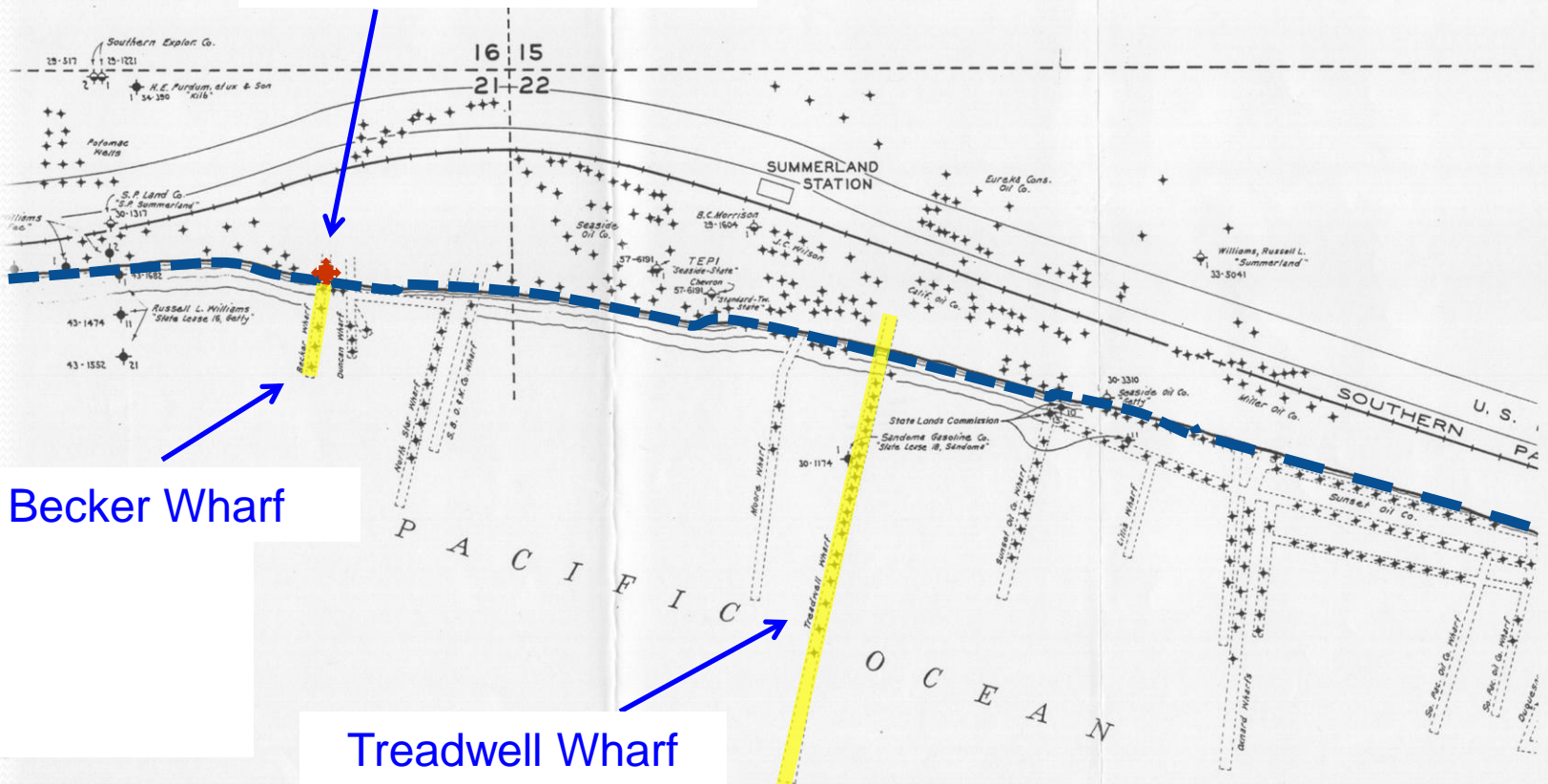
MARGINAL MAP B
SUMMERLAND OIL FIELD



- 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 Wharf

Treadwell Wharf

Summerland Past Efforts to Remediate

- **1950- 1960s**
 - **Removed obstructions, Survey and map of well casings and pilings (90 total)**
 - **Summerland Beach clean up project, 60 wells surface plugs**
- **1970s**
 - **Treadwell #10 well re-abandoned, Abandoned five more wells and removed three other wellheads**
- **1980s**
 - **Plugged Treadwell #17 well, seep inspection**
- **1990s**
 - **Summerland Well Abandonment Project Abandoned three shore side wells**
 - **Two phase study by USCG – Phase One geophysical/hydrographic/magnetometer readings 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).**
 - **Periodic sightings of oil on Summerland Beach from Becker Inshore Well**

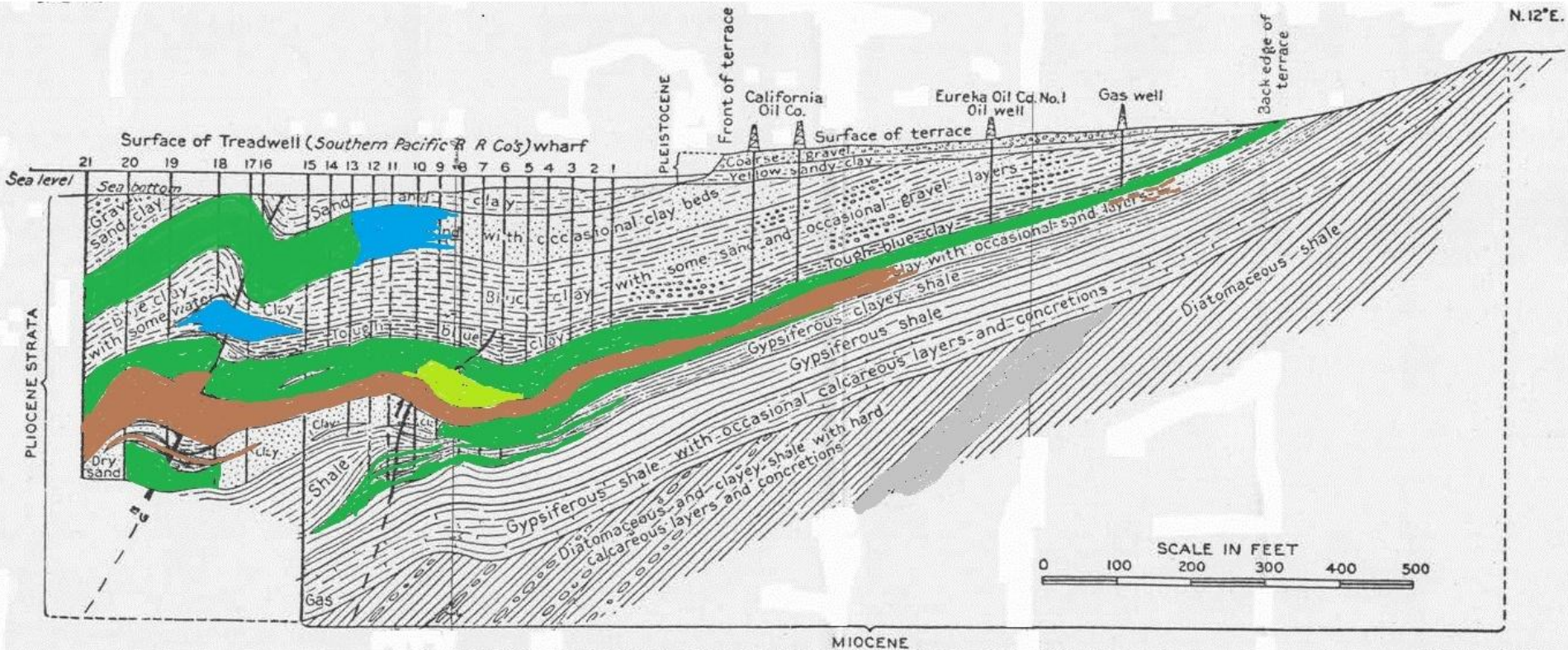


Becker Wharf

Becker Inshore Well

Treadwell Wharf

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.)

Current Problem 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 Wharf 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
- Most recent occurrence – March 2011
- CSLC inspection staff weekly monitoring of beach area
- Summerland residents report to Santa Barbara County when oil surfaces on beach from well

Engineering Approach

- Large Crane on Bluff at Lookout Park
- Cofferdam placement with jetting equipment
- Working Platform behind Cofferdam
- Coil Tubing type rig from working platform
- Support equipment on Bluffs 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

Current Status of Funding

- CSLC is pursuing funding through State budget process for next fiscal year
- OSPR Environmental Enhancement Fund Grant (EER) grant up to \$300,000 per year
 - Acquire, restore, or improve habitat or restore ecosystem function, or both, to benefit fish and wildlife
 - Has measurable outcomes within a predetermined timeframe

Santa Barbara Channel Hazards Removal Program

Summary and Status

Hazard Sites



Hazards Summary

Site No.	Site Name	Hazard Description	Remarks
1	Tajiguas Creek	47 Railroad irons	
2	El Capitan Beach	(184) 6" H Piles + 3 Well Casings.	
3	Las Varas Canyon	Hazards were removed in 1982!	No work is proposed
4	Ellwood West	(20) 6" H Piles	
5	Ellwood East	(120) 6" H Piles + 10 Wood Piles + (2) 12" Well Casings	
6	Santa Barbara Shores (A)	(80) 6" H Piles + (3) 14" Well Casings	
7	Santa Barbara Shores (B)	(79) 6" H Piles + 30 Railroad Iron + 800' Wood Sheet Pile	
8	Deveroux Slough	(30) 2 1/2" Pipe Frames + (2) 6" Well Casings.	
9	Deveroux Point	(8) 6" H Piles + (4) 6" Well Casings	
10	Isla Vista	(55) 6" H Piles + (4) 6" Well Casings	
11	Goleta Beach-east end	(500) 10" H Piles + (25) 6 ft diam well caissons.	All hazards have been removed
12	East Beach	(2) 100 feet steel groins with wood caps	No work is proposed
13	Biltmore, South Birham	2-30 feet steel groins spaced about 300'	All hazards have been removed
14	Miramar, Santa Barbara	Six Wood Piles (This hazard does not exist)	No work is proposed
15	Fernald Point	60 feet steel sheet pile	All hazards have been removed
16	Summerland east/Padaro Lane	(180) Railroad Iron + (31) 6" H Piles + (1) 8" Well Casing + (3) 12" Well Casing + 600 ft electrical cable (Platform Hilda)	
17	Santa Clause/Padaro Lane	(12) 8" H Piles	
18	Carpinteria State Beach	(2) 12" Well Casings	
19	Casitas Pier (East)	(10) 12" H Piles, Visible all year	
20	Rincon/Mussel Shoals	(30) 6" H Piles	
21	Ventura River	(18) 8" H Piles	
22	East of Fernald Point	80 H Piles	All hazards have been removed
23	Rincon Point	5 Railroad Irons	All hazards have been removed
24	Pauley Well	Abandoned Well Head	Offshore work

2011 Funding

- CSLC has received a Coastal Impact Assistance Program Fund grant of \$700K for its Hazards Removal Program.
- CSLC has spent approx. \$400K in 2011 for hazards removal activity
- Out of a total of 24 sites, 16 sites need work

Required Permits

- California Coastal Commission
- US Army Corps of Engineers
- State Water Resources Control Board
- City of Goleta
- County of Santa Barbara
- Department of Conservation, Division of Oil, Gas , and Geothermal Resources
- California Department of Fish and Game
- Various Local Agencies like Dept. of Fire, Parks and Recreation
- Upland Owners and affected parties like Archeological/Cultural Resources

Current Effort



Site 4, 5/Ellwood Beach
Pipeline Hazard (2008)



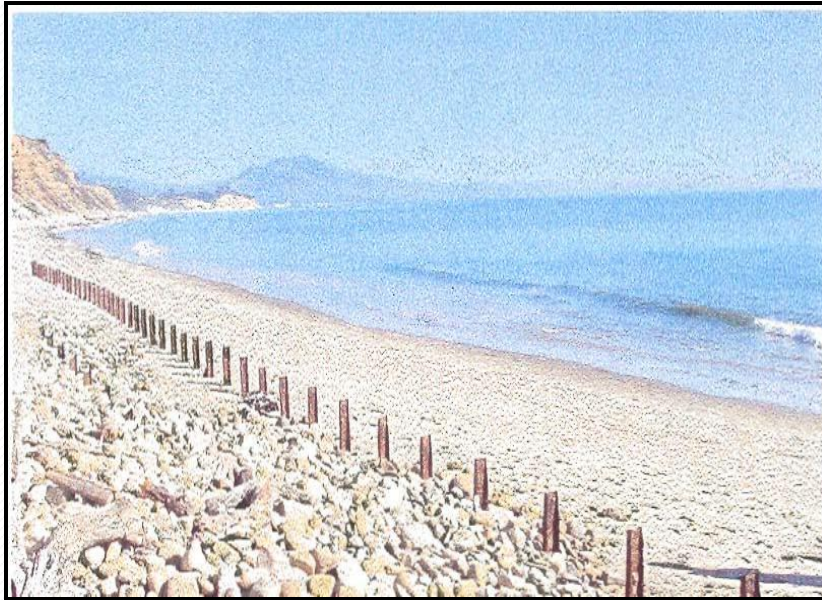
Pipeline being removed
April 19, 2011

Current Effort



Site 15: Fernald Point Groin
Removed Over 200 ft. of Groin (March 2011)

Current Effort



Site 22: East of Fernald Point
Removed 480 Railroad Irons (April 2011)