

**INFORMATIONAL  
CALENDAR ITEM**

**117**

A 54, 55

12/02/13

W 16001

W 10443

S 27, 28

R. B. Greenwood

**STAFF REPORT ON THE  
MONITORING OF POSSIBLE SUBSIDENCE,  
LONG BEACH UNIT, WILMINGTON OIL FIELD,  
LOS ANGELES COUNTY**

**PARTY:**

California State Lands Commission  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202

**BACKGROUND:**

The Long Beach area has experienced regional ground elevation changes (subsidence) due to ground water withdrawal and sediment compaction since 1929. Significant subsidence first occurred in the West Wilmington Oil Field in 1947. Oil field re-pressuring operations (injecting water) in the 1950s resulted in arresting that significant subsidence. When development of the East Wilmington Oil Field (Long Beach Unit) began in 1965, the operating agreements governing that development required oil field pressure control by adjusting water injection to prevent changes in ground elevation. Since 1965, there have been no major ground elevation changes in the Long Beach tidelands and adjacent areas attributable to subsidence.

The City of Long Beach conducts surveys twice each year, in April/May and in November, for the purpose of monitoring changes in ground elevation of the Long Beach tidelands and adjacent areas. The Commission's staff reviews and interprets the benchmark elevation data from these semi-annual surveys. This report covers benchmarks surveyed in April, 2013 and compares elevation changes that have occurred since completion of the previous survey in November, 2012.

The results of the next regular elevation survey, to be conducted in November, 2013, will be reported to the Commission after the data have been received and analyzed by the Commission's staff.

From November 2012 to April 2013, Pier A (Harbor District) declined up to 0.08

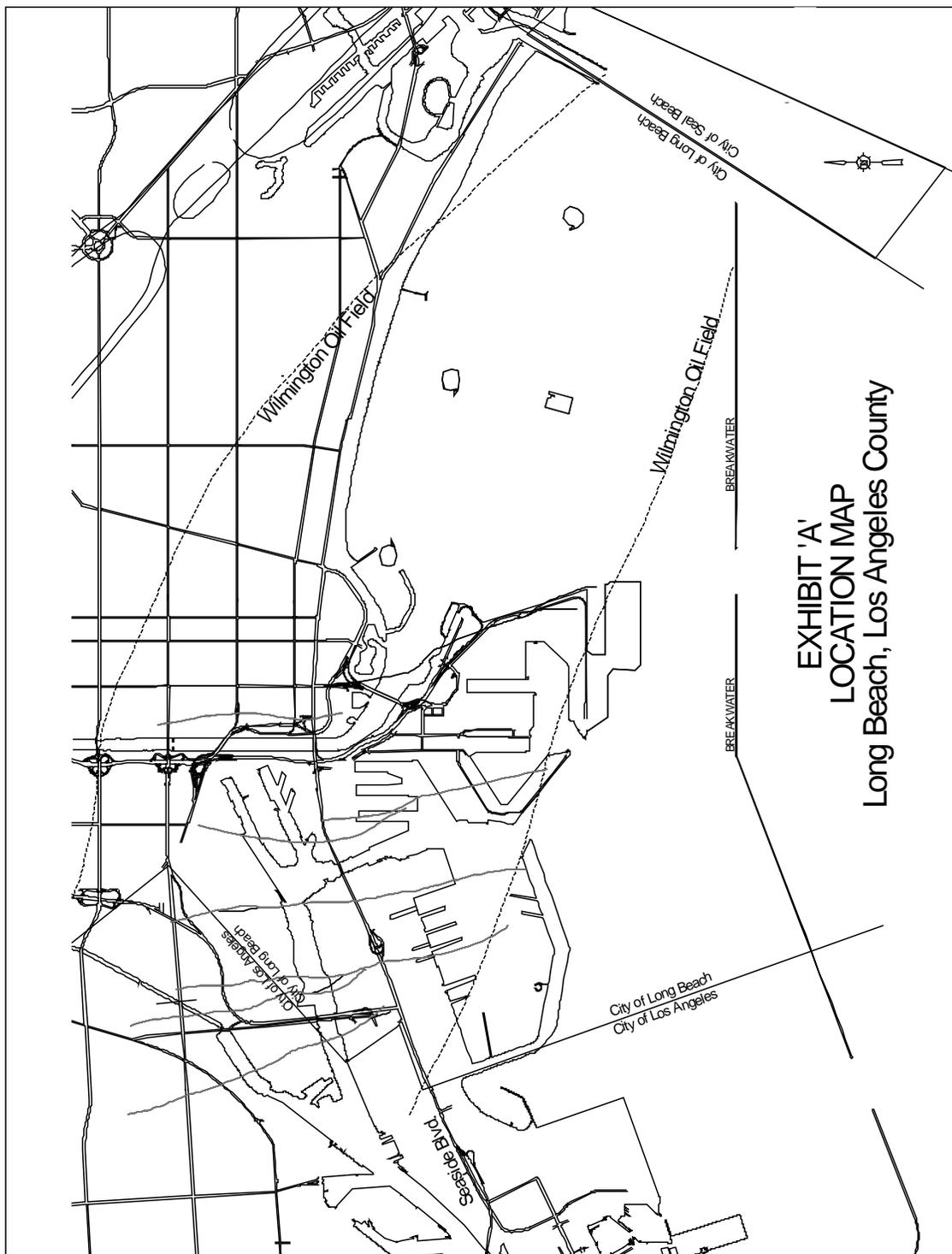
CALENDAR ITEM NO. 117 (CONT'D)

feet (1.0 inch), likely attributable to active oil field development. The City has initiated a mitigation plan of adjusted oilfield operations and will continue to monitor closely. Piers D and T experienced a rise in elevation or up to 0.06 feet (0.7 inches), which is within normal limits for the area. Piers C, E and H were stable during the period.

**EXHIBIT:**

- A. Location Map

W 16001  
W 10443



**EXHIBIT 'A'**  
**LOCATION MAP**  
**Long Beach, Los Angeles County**