

**INFORMATIONAL  
CALENDAR ITEM  
102**

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08/14/12

W 16001

W 10442

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:**

Long Beach and vicinity have experienced regional ground elevation changes (subsidence) due to groundwater withdrawal, sediment compaction, and folding and faulting since at least 1929. The first subsidence that definitively could be attributed to oil production was in the West Wilmington Oil Field in 1947. Repressuring operations (injecting water) begun in the early 1950s resulted in the arresting of subsidence in the Long Beach area. Development of the East Wilmington Oil Field (Long Beach Unit) started in 1965, pursuant to agreements the City of Long Beach, the Field Contractor and Non-Operating Contractors and working interest owners in the Townlot. In order to prevent subsidence from production operations, these agreements included oil field pressure maintenance and subsidence control by constant water injection. The City and the Field Contractor (Oxy) meet on a monthly basis to maintain subsidence control by adjusting water injection to prevent changes in ground elevation. This six month report is a presentation of subsidence control effectiveness.

The City of Long Beach conducts surveys twice each year, in May and 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

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report covers benchmarks surveyed in November, 2011 and compares elevation changes that have occurred since completion of the previous survey in May, 2011.

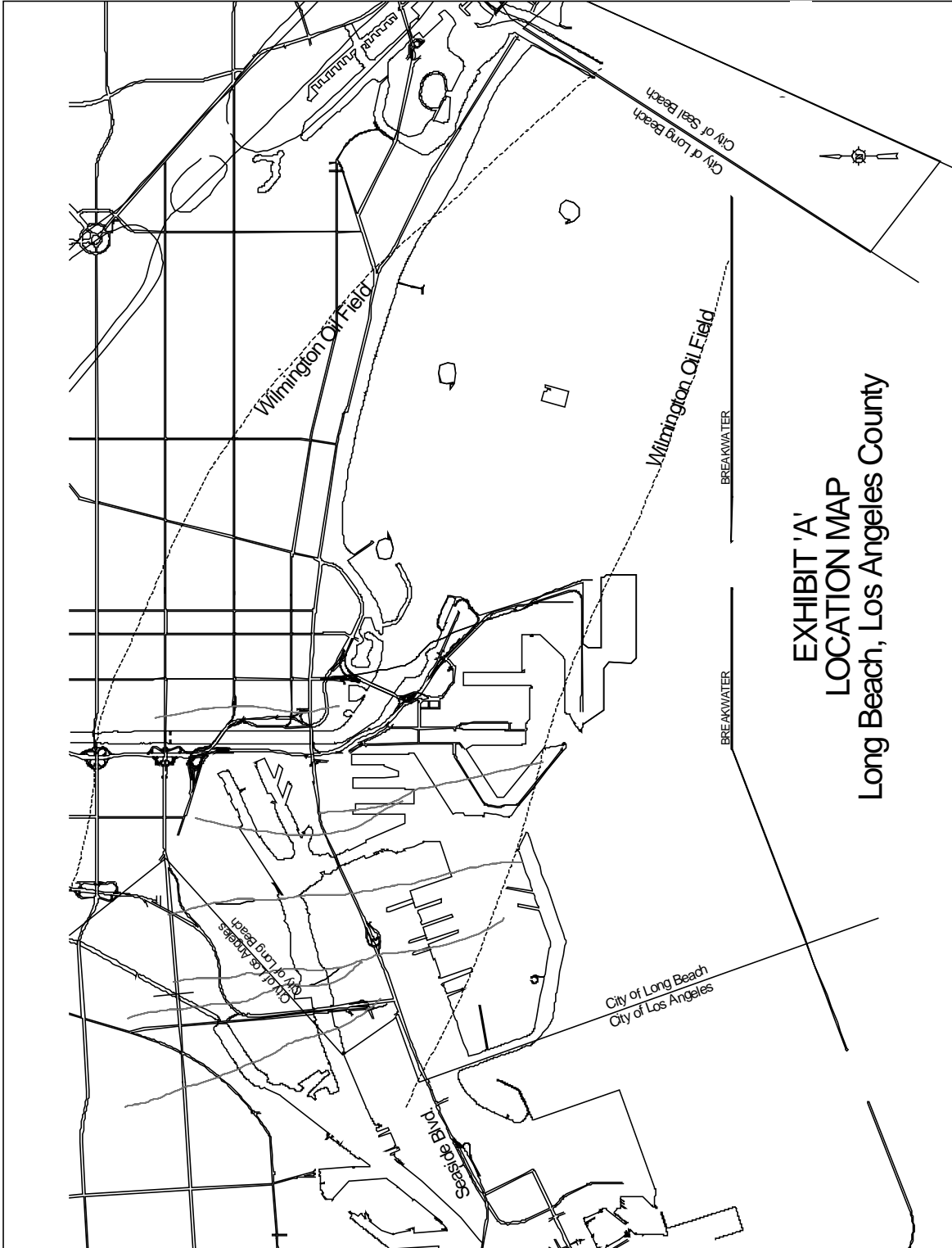
The Central City of Long Beach and offshore areas near Island Grissom increased in elevation during a 12 month period as much as 0.07 foot (0.8 inch). Elevations throughout the Harbor District increased slightly during the 12 month period. Areas including Piers A and T increased in elevation up to 0.09 foot (1.1 inch). Regular elevation surveys indicate that the minor elevation increases are due to geologic factors outside the Wilmington Oil Field. The results of the next regular elevation survey, conducted in May, 2012, will be reported to the Commission after the data have been received by the Commission's staff.

**EXHIBIT:**

- A. Location Map

**EXHIBIT A**

W 16001  
W 10442



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