

BALDWIN HILLS CSD  
COMMUNITY ADVISORY PANEL (CAP) MEETING  
Minutes May 28, 2015  
DRAFT

**A. Call to Order - 7:00 PM**  
David McNeill Chair.

**B. Approval of Agenda** - Agenda approved.

**C. Approval of Minutes**  
The CAP reviewed and approved the April 2015 minutes.

**D. Regional Planning/ECC Update** - Timothy Stapleton

*New CAP Member* Mr. Stapleton welcomed Ms. Heather Davis from the Community Health Councils as the new CAP representative replacing Ms. Erin Steva.

*Compliance Reports* Mr. Stapleton listed the recent compliance document submittals from FM O&G including; 2014 Meteorological Monitoring Data Annual Report, the First Quarter 2015 Ground Water Monitoring Report.

Mr. Dusette provided follow-up to a question from Mr. Nagami and Mr. Kuechle regarding the Ground Water Monitoring Report on the data sheets contained at the end of the report. The data sheets in question are for quality assurance/quality control (QA/QC) documentation whereby the analytical laboratory processing the data runs duplicate samples with known concentrations of chemical compounds to verify and calibrate the analyzers. Mr. Dusette will contact the consulting firm that prepares the reports and request that the QA/QC data be better identified in future reports to avoid any confusion when reviewing the reports.

*Periodic Review* Mr. Gless and a member of the public requested a time certain date for the public release of the Final Periodic Review Report providing that they believed the County was in violation of the CSD because the Final Report had not been released to date. Mr. Stapleton and Mr. Dusette explained that the Periodic Review was initiated within the 5 year time frame consistent with the requirements of the CSD Periodic Review provision. The CAP agreed to send a letter from the CAP, via Ms. Sahli-Wells and Culver City, to the DRP Director requesting the completion and release of the Final Periodic Review Report in a timely manner.

**E. Presentation on Earthquakes/Seismicity** – Dr. Jean Paul Ampuero

Ms. Munoz introduced Dr. Ampuero and distributed copies of his resume; Dr. Ampuero is an Assistant Professor of Seismology at Cal Tech and is at the CAP to present information on earthquakes in the LA basin. Dr. Ampuero's main focus of study is large earthquakes.

*Induced Earthquakes* Dr. Ampuero discussed induced, or man-made earthquakes, and noted that little data exists on the subject. The main cause was identified as the injection of large quantities of waste water or the large quantities of extraction of oil or water which causes the increase or reduction of the pressure in the affected area or earth crust, respectively. Dr. Ampuero noted the cases in Oklahoma where a large volume of waste water was injected into a confined area which increased pressure and caused earthquakes. Dr. Ampuero also discussed the difference between hydraulic fracturing (short time period, smaller volumes of water) versus waste water injection (long time period, very large volumes of water). Dr.

Ampuero noted that hydraulic fracturing is limited to a small area around the well bore and has not been documented as a significant cause of earthquakes, however, hydraulic fracturing in Europe for geothermal energy has been halted for further research on the subject. In California, DOGGR oversees and requires that oil extraction and waste water injection rates be balanced to avoid altering the pressures of the target reservoirs.

**California Seismology** Dr. Ampuero discussed that earthquakes happen all the time in California which is quite different than other parts of the country. The seismic monitoring network was discussed along with the DOGGR database on extraction and injection rates. Dr. Ampuero noted that earthquake activity is found in oil field areas because areas with faulting are the same areas where oil is found. Further, the data suggests that earthquake activity in oil field areas is not significantly different than other areas with faulting because oil field operations are limited to the very top portions of the earth's crust; earthquakes are generated from areas deeper in the earth. Dr. Ampuero discussed that historic past oil activities where the extraction/injection rates were not balanced, induced seismic activity was possible and likely occurred. Dr. Ampuero noted that with modern oil field practices whereby the extraction and injection rates are monitored and balanced, the chance of induced earthquakes is not significant.

**Earthquake Movie** The forthcoming Hollywood movie about an earthquake was discussed with Dr. Ampuero noting the movie was far from accurate with regards to type and magnitude of the seismic event. However, everyone needs to be prepared for an earthquake as we all live in an area of high seismic potential.

**Uplift/subsidence Question** Mr. Gless asked about the uplift/subsidence and the ground movement of the Inglewood Oil Field and the potential of earthquakes from same especially given the area is a high seismic zone. Dr. Ampuero noted that surface deformation could indicate that the extraction/injection balance may not be correct. However, the recent earthquakes have not been correlated with any induced or man-made activities. Mr. Gless asked about whether a small earthquake could trigger a large, or the "big one", earthquake; Dr. Ampuero noted that small earthquakes do not trigger large ones and such a phenomenon would be extremely rare. A connection between the superficial surface fault and the main fault would be required and main faults such as the Newport/Inglewood Fault are much too deep to be affected by surface actions. Mr. Gless and a member of the public provided a map illustrating their research on the uplift/subsidence of the oil field.

**Case Study of Inglewood Oil Field** A study of the oil field operations with respect to new well completion techniques and extraction/injection rates was discussed with a member of the public requesting that such a study be done. The CAP noted that much of the subject activities is not known and should be, and that the Inglewood Oil Field would be an ideal place for such a study. Dr. Ampuero detailed that the information available to the academic world is limited and therefore such a study would be difficult to complete.

**Accelerometer** Ms. Paillet noted the Inglewood Oil Field accelerometer and that the data is available on the Cal Tech website with annual reports on the oil field website. Dr. Ampuero explained the accelerometer monitors ground movement on a continual basis. Ms. Paillet described the CSD provision requirement whereby oil field operations are shut down and an inspection protocol is initiated when a ground movement threshold is reached; Ms. Paillet also noted that although the recent quake in May did not trigger the ground movement threshold, the post-earthquake protocol was followed at the Inglewood Oil Field.

***Hydraulic Fracturing/Gravel Packing*** The two well completion techniques were briefly discussed and Mr. Dusette provided a very general description of each. Hydraulic Fracturing involves high pressure/high volume injection of water and proppants intended to break up the rock surrounding a well to allow oil and gas to flow. Gravel packing is lower pressure where gravel is placed in and around the well to prevent sand from clogging the well, very similar to a French drain. Mr. Kuechle asked about why hydraulic fracturing does not cause earthquake issues in California but has been identified with earthquakes associated with geothermal wells in Europe. Dr. Ampuero explained the depth the wells in Europe are much deeper and as such have the potential to cause movement. He further explained the hydraulic fracturing does cause micro-seismic events as the intention of the process is to break up the strata around the well head. No hydraulic fracturing is occurring at the Inglewood Oil Field.

***Hydraulic Fracturing Definition*** The exact definitions of hydraulic fracturing, conventional versus un-conventional hydraulic fracturing, high volume versus normal hydraulic fracturing, and gravel packing techniques (regarding clarity of the definitions and processes), and on what is occurring at the Inglewood Oil Field were discussed with the CAP. Ms. Paillet noted that Dr. Tormey, author of the hydraulic fracturing study, is available to discuss the issue with the CAP. Mr. Dusette noted that definitions on well completion techniques are available on the DOGGR website. Ms. Munoz will research other issue area experts to come discuss same with the CAP.

***Depth of Earthquakes Data*** Dr. Ampuero provided the Southern California Earthquake Center as the best data base to research questions about fault depths.

**F. Operator Update – Lisa Paillet**

Ms. Paillet noted that FM O&G has no current plans for well drilling in 2015 and 2 to 3 maintenance rigs are on the field at any given time. Mr. Gless requested additional detail on the re-working rigs on the field. Ms. Paillet also noted that Crimson, not Plains Pipeline, operates the offsite oil transmission pipeline for FM O&G. The excavation on either side of La Cienga Road was inquired about, Ms. Paillet will research and report back on the subject.

**G. Open Discussion/Public Comment**

Ms. Munoz passed out information on an infra-red camera and that Earthworks will provide a presentation on the camera in September.

**H. Announcements**

June 25, 2015 next scheduled CAP meeting.  
Adjourn 9:00.

ATTENDANCE: 5/28/15

(\*absent)

**DESIGNATED SEATS PER 22.44.142.J.1.a*****Governmental Entities***

1	Department of Regional Planning	Timothy Stapleton
2	City of Culver City	Meghan Sahli-Wells
3	West Los Angeles College	Nabil Abu-Ghazaleh*

***Operator (per 22.44.142.C)***

5	Freeport McMoran Oil & Gas	Lisa Paillet
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**NOMINATED SEATS PER 22.44.142.J.1.a****(Accepted first-come/first-served within each sub-group)*****Landowners (per 22.44.142.C)***

6	Vickers Family Trust	Roger Shockley
7	Cone Fee Family Trust	Liz Gosnell

***Neighborhood Organizations (Recognized Homeowners Association)***

8	Ladera Heights Civic Assoc.	Carmen Spiva*
9	Windsor Hills HOA	Gary Gless
10	United HOA (View Park)	Charles McCaw
11	Culver Crest Neighborhood Assoc.	John Kuechle
12	Blair Hills HOA	Jon Melvin*
13	Raintree Community HOA	Keith Curtiss
14	Baldwin Hills Estates HOA	Lory Johansson

***Neighborhood Organizations (No Recognized Homeowners Association)***

15	Ladera Crest Homeowner	George Mallory*
16	Baldwin Vista Homeowner	Irma Munoz

***School Districts***

17	Los Angeles Unified	Glenn Striegler*
18	Culver City Unified	Susanne Robins*

***Neighborhood Organizations (All Others)***

19	Windsor Hills Block Club	Toni McDonald-Tabor
20	Community Health Councils	Heather Davis
21	Baldwin Hills Conservancy	David McNeill
22	The City Project	Daphne Hsu*