

FREPORT-McMoRAN OIL & GAS
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TO:

FREPORT-McMoRAN
OIL & GAS

2016 Baldwin Hills CSD Annual Meeting
November 15, 2016, 6:30 p.m.
Knox Presbyterian Church
5840 La Tijera Blvd
Los Angeles, CA 90056

inglewoodoilfield.com

FREPORT-McMoRAN
OIL & GAS

Eighth Edition

BALDWIN HILLS

Community Energy Dialogue



Provided to enhance the communities awareness of Freeport-McMoRan's oil and natural gas operations at the Inglewood Oil Field.

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2016 marks the eighth year of our continued compliance with the Community Standards District (CSD).

Greetings,

2016 marks our eighth year of successfully operating the Inglewood Oil Field in compliance with the Los Angeles County Baldwin Hills Community Standards District (CSD), arguably the most stringent regulations in California. Through the commitment of our employees and the implementation of sound business practices we continue to sustain the operational integrity and safety of our operations.

The intent of the newsletter is to provide you with an overview of our operations during this past year and a glimpse at our 2017 forecast. We look forward to seeing you at our upcoming annual community meeting which is scheduled for Tuesday, November 15th. The meeting will also include a presentation on past and present operations at the Inglewood Oil Field, including updates on the final stages of our Landscaping Plan implementation.

We hope you will attend the monthly Baldwin Hills Community Advisory Panel (CAP) where we continue to work with our neighbors and stakeholders to maintain and improve the quality of life in our community through productive dialogue.

As always, we encourage all members of the community to contact our Community Ombudsperson, Lisa Paillet, at 800.766.4108, or by email at lpaillet@fmi.com, should you ever have questions regarding operations at the oil field.

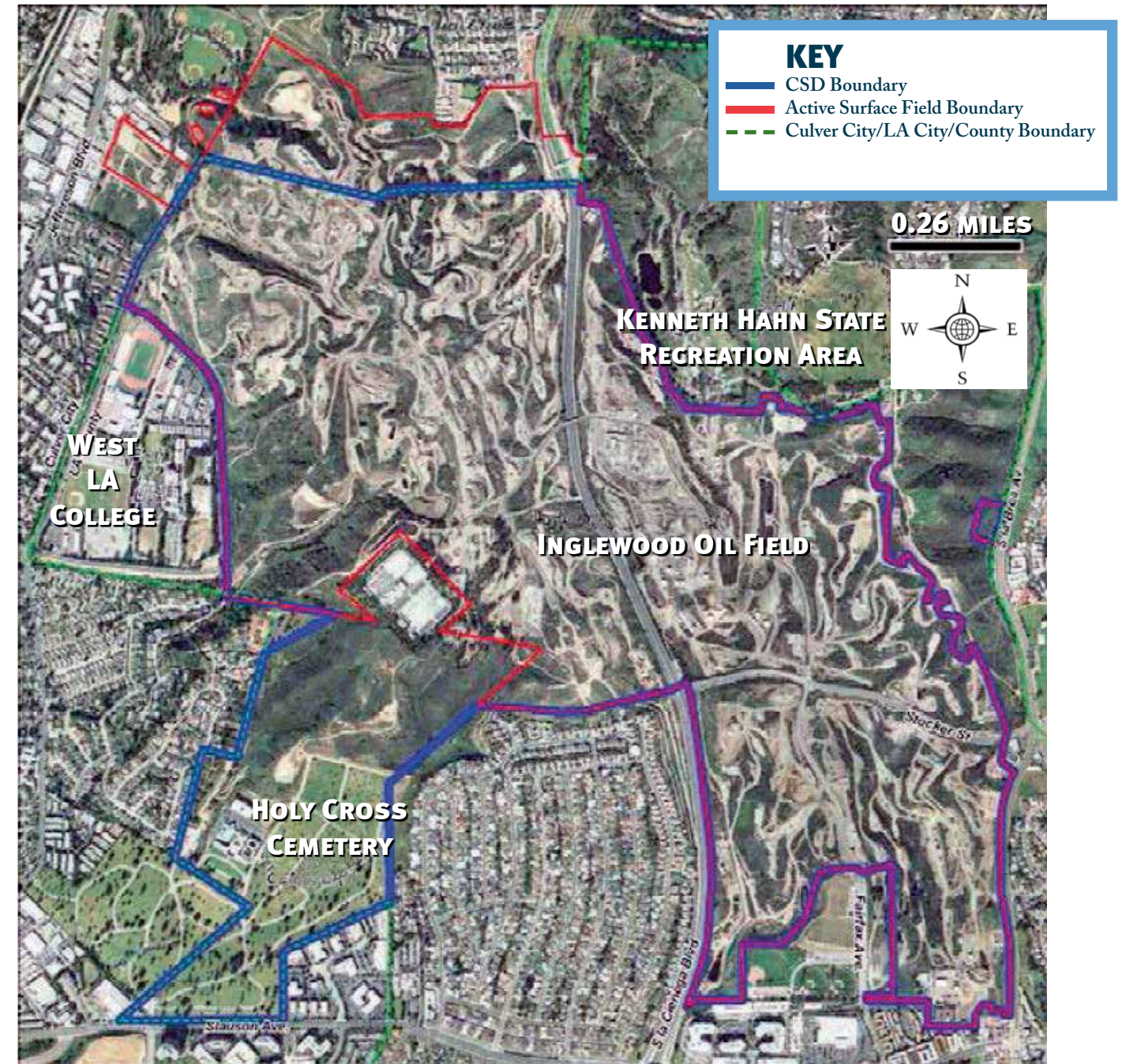
Sincerely,

Steve Rusch
Vice President
Environmental Health & Safety and Governmental Affairs

COLLABORATION BUILT ON MUTUAL RESPECT

If you wish to contact us directly or have a presentation made to your homeowners association about the operations at the Inglewood Oil Field, please call Lisa Paillet at 800.766.4108.

COVER PHOTOS: (top) Pumping Unit (Inglewood Oil Field). (Center) FM O&G employees volunteered their time in support of the 2016 Jr. Blind of America Olympics held Saturday, May 7, 2016 at their View Park Campus.



Baldwin Hills Community Standards District CSD Boundary

The CSD established new development standards for oil and gas production operations by implementing stringent regulations, safeguards and controls for drilling activities.

DIFFERENCES BETWEEN THE INGLEWOOD OIL FIELD AND NATURAL GAS STORAGE WELLS

What is the difference between an oil production well and a natural gas storage well?

- The primary difference is sustained pressure, natural vs. injected.
- Oil-bearing formations have natural pressure that is depleted as the reservoir is produced.
- At the Inglewood Oil Field, the pressures in the producing zones have been depleted to the point that wells cannot flow under their own natural pressure. Artificial lift systems are required to produce the wells.
- Natural gas storage reservoirs must have a high reservoir pressure in order to maintain deliverability rates for peak demand periods. During low demand periods, gas is reinjected to restore reservoir pressure to an elevated level.



- California's oil wells typically operate at low pressures.
- Consider a balloon to illustrate this difference in reservoir pressurization.
- A producing oil well is like a deflated balloon because the natural reservoir pressure has been depleted through years of production.
- A natural gas storage well is like an inflated balloon that has been filled with natural gas and uses pressure to store it.

What is the Lifecycle of an Oil Well?

- An oil well initially flows under natural reservoir pressure, allowing the oil to be produced without aid of artificial lift in the form of a pumping unit.
- Most mature California oil fields have been pressure depleted over decades of production. Because the fields are operated at low pressures, artificial lift is required to produce them.
- The Inglewood Oil Field is currently producing under secondary recovery due to the fact that the natural reservoir pressure was depleted by the early 1950s. Secondary recovery operations in the form of the current waterflood were introduced to facilitate the continued production of oil given the reduced reservoir pressure.
- Secondary recovery means external fluid (in our case water) is injected into the production zone to sweep oil from the reservoir.
- Artificial lift is where pumps and other technology rather than natural pressure are necessary to make the oil flow to the surface.

Natural Gas Storage Wells

- Natural gas storage facilities commonly utilize either depleted oil and gas reservoirs, aquifers, or salt cavern formations. Depleted oil and gas reservoirs are most common.
- The reservoir is intentionally re-pressurized, using existing wells and equipment with a new purpose to store natural gas.
- Natural gas storage wells always require injected pressure for storage and recovery.



Production Operator, Inglewood Oil Field

OPERATIONAL SUMMARY

The following summarizes notable operational activities Freeport-McMoRan Oil & Gas (FM O&G) conducted during 2015 & 2016:

- 426 well workovers (including reworking of wells) were performed in 2015 and thus far 123 well workovers were performed in 2016
- The 2016 approved drilling plan identified 53 wells, 52 new wells and 1 re-drill.
- No new wells have been drilled in 2016.
- In 2015, the Inglewood Oil Field produced approximately 2,377,000 barrels of oil and 1.1 billion cubic feet of natural gas.
- Year-to-date (through September) 2016, the Inglewood Oil Field produced approximately 1,581,769 barrels of oil and 710 million cubic feet of natural gas.
- FM O&G paid more than \$12 million in taxes to Los Angeles County in 2015 and as of June 2016 more than \$5 million in taxes have been paid to Los Angeles County.

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Production Operator, Inglewood Oil Field

2017 OPERATIONAL FORECAST

This plan covers activities for the 2017 calendar year. FM O&G's plan proposes drilling and re-drilling 53 wells using 2 drilling rigs in accordance with the CSD and Settlement Agreement

- The 53 wells are comprised of 34 producers and 19 injectors, of which 1 injector is a re-drill.
- Depths range from 1,000 ft. (Investment) - 6,000 ft. (Moynier).
- There are no new drilling pads proposed for construction in the 2017 Drilling Plan.
- 8 wells have been identified for plugging and abandonment consideration in 2017.

Please visit inglewoodoilfield.com to view the 2017 Drilling Plan.

**FREEPORT-McMoRAN
OIL & GAS
COMMUNITY PARTNER**



“Freeport-McMoRan Oil and Gas’ support of the Upward Bound programs at West Los Angeles College allows the programs to creatively expose the program participants to STEM-related enrichment activities, educational and career paths. The external interest and support of the program creates a direct positive impact for participants. They are jazzed to know that someone cares about their success.”

Kathy Walton
Dean Academic Affairs, West Los Angeles College

*Upward Bound Classic – Crenshaw, Dorsey, Los Angeles & Hamilton High School
“2016 Summer College Tour”*

STEM FESTIVAL

FM O&G places an emphasis on programs and initiatives that improve science, technology, engineering and math (STEM) education to help students acquire the skills necessary for success in a global, knowledge-based economy and society.

FM O&G proudly partnered last fall with West L.A. College and Energy Partners Fund to sponsor the STEMSTARTS...Festival, where during a two day period more than 1,200 students and community members attended the festival.



For three years we have partnered with West Los Angeles College to support the Math & Science Summer Enrichment Academy’s Upward Bound program. This year’s Upward Bound program served approximately 70 high school students from Crenshaw, Dorsey, Hamilton and Los Angeles High Schools. The summer program concluded with an awards and recognition ceremony followed by a Northern California college tour.

“ We are extremely thankful to FM O&G for their partnership and commitment to STEM education. Their sponsorship supported 14 nanotechnology workshops and inspired over 500 students in STEM. Without their financial support, these students may not have had the opportunity to learn cutting-edge science in their classrooms.

A quote from a Culver City H.S. biology student fully captured the inspirational power of these workshops: *‘I’m all about helping the world and if nanotechnology can let me do that, then I’m ready.’*



We look forward to continuing our partnership with FM O&G to excite more students and steer them toward STEM majors in college and STEM professional careers.”

Marco Curreli, Ph.D.

Executive Director and Founder | OMNI NANO

Culver City High School and Middle School Nano Technology workshops.



CONTACT INFORMATION

We work to build avenues for communication and strive for transparency with a goal of mutual trust.

Lisa Paillet
Ombudsperson
lpaillet@fmi.com

Please contact Lisa if you have questions regarding this newsletter or any matter related to the oil field’s operations.

Lisa is available to attend community meetings, special events, and meet with neighbors upon request in an effort to foster and enhance on-going communication between Freeport-McMoRan Oil & Gas and our neighbors.

Freeport-McMoRan
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5640 South Fairfax Avenue
Los Angeles, CA 90056
Toll Free 24 Hour
Phone Number
1.800.766.4108

Landscaping improvements along La Cienega are the most publicly visible components of the CSD (photos below).

FM O&G LANDSCAPE IMPROVEMENTS

Completed Summer 2016

Eastside of La Cienega Area South Toward Stocker Street



Before



After

Eastside of La Cienega Looking North Toward Kenneth Hahn Park



Before



After