



Date: March 12, 2015

To: Patrick H. West, City Manager *T.M.*

From: Christopher J. Garner, Director of Long Beach Gas and Oil *C.J. Garner*

For: Mayor and Members of the City Council

Subject: Benefit of Signal Hill Petroleum's Seismic Survey

In 2004, Signal Hill Petroleum (SHP) attempted a seismic survey that required seismic trucks to traverse much of the City. The survey was halted because of the disturbances the survey equipment caused the City's residents. Working closely with City staff, SHP revamped its approach and conducted a second survey by using cable-free data recorders and more advanced seismic trucks that were less disruptive. They also improved community outreach to the neighborhoods near the survey route. The second survey began in 2010 and was completed in 2012. The survey occurred without virtually any concerns reported and successfully provided critical data on the reservoir SHP operates.

Based on analysis of the seismic data, SHP drilled ten wells that have provided significant production increases and five deep horizon exploratory wells. All of the mentioned wells were drilled in a part of the field where the City is not a mineral owner and, consequently, receives no financial benefit.

SHP has attempted to drill two wells in City-owned areas. The first well showed good reservoir log data, but experienced mechanical problems that prevented the well from producing as expected. In January of this year, the drilling of the second well (B-302) was completed at the Willow/Springs Park drill site. This well is a deep horizon exploratory well and the production results have been excellent. The well has flowed approximately 500 barrels of oil per day and represented over half of the City's profit from SHP in January. For January, the well generated approximately \$126,000 for the City's Uplands Oil Fund. Typically, new wells have a steep rate of oil production decline and, therefore, we anticipate the revenue to taper off over the year. We will continue to monitor the well's performance and provide updates. The City has a 1/6 royalty in the well and SHP believes there is more potential in the area. Unfortunately, the lower oil price has forced SHP to temporarily idle their drilling rig. When prices recover, this area will be prioritized for another well.

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While it has taken several years for the City to realize tangible benefits from the seismic survey, SHP has delivered in a substantial way with B-302. We anticipate continued positive outcomes as a result of the seismic survey.

Please contact me, should you have any questions.

Cc: Tom Modica, Assistant City Manager  
Arturo Sanchez, Deputy City Manager  
John Gross, Director of Financial Management  
Jyl Marden, Assistant to the City Manager