



CITY OF LONG BEACH

DEPARTMENT OF OIL PROPERTIES

R-18

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September 13, 2005

HONORABLE MAYOR AND CITY COUNCIL
City of Long Beach
California

RECOMMENDATION:

Receive and file this report on the 3D seismic survey to be conducted by Signal Hill Petroleum, Inc., in certain areas of the cities of Long Beach, Signal Hill, and Lakewood. (Citywide)

DISCUSSION

The exploration of oil and gas involves the evaluation of a variety of types of information. When oil wells are drilled, they provide detailed information at the specific well locations, usually an area less than three feet around the circumference of the well. With the information from existing wells and the knowledge of the subsurface characteristics from the source of the oil and gas, geologists and engineers can postulate the underground formations between wells and determine where best to drill for additional oil and gas.

Another way to gain information of the subsurface is to run a 3D seismic survey. A 3D seismic survey is a method that allows the creation of images of the subsurface geology by inducing an acoustic wave from near the surface of the earth and listening for the echoes from deeper parts of the earth (much like ultrasound is used to create pictures of unborn babies in their mother's wombs). The images from a 3D seismic survey can help geologists and engineers not only improve the selections of future oil well locations, but also obtain new and valuable information about fault lines.

Signal Hill Petroleum, Inc. (SHPI) has contracted with Dawson Geophysical (Dawson) and Ameridian Technologies (Ameridian) to perform a 3D seismic survey through much of Long Beach, all of Signal Hill and in some parts of Lakewood (a map is attached). This survey will take approximately two months to complete. It will be conducted during daylight hours in residential areas and may also be conducted during the evening in non-residential areas. The survey will be coordinated with the Department of Parks, Recreation, and Marine – Bureau of Special Events and Filming to minimize any congestion impacts near high traffic areas.

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The method that will be used in obtaining the 3D seismic survey is used worldwide and was devised specifically for use in urban environments to minimize disturbance to the immediate surroundings. This testing can be performed on both soft grounds and on pavements. It consists of a line of specialized vibrator trucks, each containing a base plate that sends sound waves deep into the earth. At each location marked in red on the attached map, three or four vibrator trucks will occupy the location for less than ten minutes at a time and then move on to the next location. While virtually all of the sound waves are directed deep into the earth, a very minor surface vibration is also generated in the immediate vicinity of the trucks. This vibration will dissipate to a "zero level" very quickly as it travels away from the trucks. Dawson will monitor this ground vibration with portable seismograph units, which will confirm this temporary minor vibration is well within safe, acceptable limits. The monitoring will be performed at various distances from the trucks, and adjacent to any nearby buildings. A permanent record of these readings is archived for future reference. Along with the vibrator trucks, there will be cabling and sensors located in various areas (marked in blue on the attached map) to receive the information for later processing. The sensors are small devices, slightly larger than a lawn sprinkler. Both the sensors and the cables may stay at each location up to four weeks.

The residences and businesses located close to the intended sites of the vibrator trucks will be contacted by Ameridian and offered a free inspection of their property before and after the seismic survey to verify that the survey has not impacted the existing infrastructure.

Valuable information about the oil and gas potential within the City of Long Beach will be obtained from this survey and provided to the Department of Oil Properties, including information that has never before been available. Other beneficiaries to this work will include California State University, Long Beach; University of California, Santa Barbara, and the Southern California Earthquake Center, all who will use the information to explore potential problems with area earthquake faults. The individual mineral rights owners in Long Beach (including the City of Long Beach itself) and Signal Hill will also benefit.

This item was reviewed by Deputy City Attorney Charles Parkin on August 19, 2005 and Budget Management Officer David Wodynski on August 26, 2005.

TIMING CONSIDERATIONS

City Council action on this matter is not time critical.

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FISCAL IMPACT

The City Council approved an agreement between SHPI and the City on November 23, 2004, for leasing of the City's mineral interests near and under the Airport. SHPI will pay the City to hold the mineral leases for five years and during that time the 3D seismic survey will be conducted and processed with hopes of new oil and gas prospects being found and developed. The lease fee will generate approximately \$15,000 per year to the Upland Oil Fund (SR 134) through the end of the lease term. If mineral resources are commercially developed by SHPI, the Upland Oil Fund would realize unanticipated additional revenues through royalties and the General Fund could realize unanticipated additional revenues through barrel taxes and well permit fees.

SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,



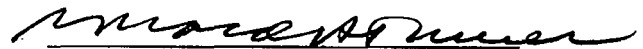
CHRISTOPHER J. GARNER
DIRECTOR OF LONG BEACH ENERGY & OIL PROPERTIES

CJG:CPH:slg

ENG 240.002

Attachment

APPROVED:



GERALD R. MILLER
CITY MANAGER