

**CALENDAR ITEM  
C99**

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3/29/12  
W 17166  
A. Reid

**CONSIDERATION OF THE  
LONG BEACH UNIT ANNUAL PLAN  
(JULY 1, 2012 THROUGH JUNE 30, 2013),  
LONG BEACH UNIT, WILMINGTON OIL FIELD,  
LOS ANGELES COUNTY**

**APPLICANT:**

City of Long Beach  
Long Beach Gas and Oil Department  
Attn.: Mr. Christopher J. Garner, Director  
2400 East Spring Street  
Long Beach, CA 90806

**BACKGROUND:**

In accordance with Chapter 138, Statutes of 1964, 1<sup>st</sup> Extraordinary Session and Chapter 941 of the Statutes of 1991 (Chapter 941) and the Agreement for Implementation of an Optimized Waterflood Program (OWPA) for the Long Beach Unit (LBU), the City of Long Beach (City), as Unit Operator, submitted the LBU Annual Plan (July 1, 2012 - June 30, 2013) to the California State Lands Commission (Commission).

At its meeting on February 21, 2012, the Long Beach City Council adopted the proposed Annual Plan and authorized formal submission to the Commission. The Commission received the plan on March 6, 2012. As provided by Chapter 941, the Commission has 45 days to review the Annual Plan for consistency of the budget with the Five Year Program Plan (Program Plan) and make changes. If the Commission makes no changes, the Annual Plan is deemed to be consistent with the Program Plan and to have been adopted by the Commission.

The Annual Plan is a requirement of the Optimized Waterflood Program Agreement (OWPA) entered into pursuant to Chapter 941, Statutes of 1991, and Chapter 138, Statutes of 1964, Extraordinary Session, respectively.

**PROGRAM PLAN CONSISTENCY**

Pursuant to Section 3 of Chapter 941, the Annual Plan as submitted is subject to review by the Commission for consistency with the budget of the current Program Plan. The Commission may revise the Annual Plan to make it consistent with the budget in the Program Plan. Pursuant to the Optimized Waterflood Agreement, the changes ordered by the Commission must be in writing, fact driven, with the reasons set forth with specificity.

The proposed Annual Plan is a one-year plan submitted by the City covering fiscal year 2012-13. The Annual Plan is an itemized budget of anticipated expenditures needed to carry out Program Plan objectives. There are five expenditure categories in the Annual Plan – Development Drilling, Operating Expense, Facilities-Maintenance-Plant, Unit Field Labor and Administrative, and Taxes-Permits-Overhead. The proposed Annual Plan's total budgeted expenditure of \$425.3 million represents about a 10 percent increase over the 2012-13 budget of \$387.2 million contained in the current Program Plan. This change is consistent with funding increased project activity spurred by the high oil prices currently available. Commission staff has concluded that the proposed Annual Plan is consistent with the 2012-13 expenditure objectives in the Program Plan.

**ECONOMIC PROJECTIONS IN ANNUAL PLAN:**

For 2012-13, the City estimates the LBU net income will be \$63.0 million after total expenditures of \$425.3 million. This net income projection is based on the City's crude oil price forecast of \$55 per barrel (bbl) and a natural gas price of \$4.00 per thousand cubic feet (mcf). Most of the net income will be from oil revenues. The City forecasts production to average 23,700 bbls/day for the fiscal year. This rate assumes continuation of development activity to involve a total of 67 wells to be re-drilled from existing wellbores over the Plan period. Expenditure levels and the types of development projects will be adjusted as necessary to respond to fluctuations in oil price and other economic conditions. With proposed increased drilling activity (67 wells compared to 46 wells within the Program Plan) and additional expenditure levels (\$425.3 million compared to \$387.2 million in Program Plan) Commission staff expects oil production will be more than the annual Plan's projection. The final oil rate should be closer, or higher to that found in the Program Plan of 24,500 bbls/day. Pursuant to Article 2, paragraph 2.07 of the OWPA the field contractor may exceed any budget

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category in the Plan budget up to 20 percent (20%), without obtaining additional authority from the City and Commission.

**OIL PRICE FORECAST:**

In planning the expenditures needed to accomplish LBU objectives, and the revenues needed to fund those expenditures, the City has used a conservative crude oil price forecast of \$55/bbl. The City takes this approach for planning purposes in order to ensure that revenues will be sufficient to pay for LBU proposed expenditures and still provide net income to the State and the City's field contractor, Occidental Long Beach, Inc. (OLBI) and its agent, THUMS Long Beach, Inc. (THUMS), and the other working interest owners. The severe and unanticipated drop in crude oil prices during 2008 and 2009 following record highs, resulted in an over projection of oil revenues in fiscal year 2008-09 leaving some of the City's budgeted spending categories under-funded. Exhibit C shows the volatility for oil prices. The City's budget projected a barrel price for 2008-09 going from \$45 in the prior year to \$85 -- only to see prices fall from over \$128 a barrel to \$25, with an average that year of less than \$49.

The \$55/bbl oil price basis in the proposed plan, which is low compared to the current actual price, yields a conservative projection of net income. It is, however, a factor relevant only for determining that the expenditures for the LBU can be met. Commission staff believes the expenditure levels proposed in the Annual Plan will satisfactorily provide for all LBU development objectives.

Estimates prepared by Commission staff for State revenue projections for fiscal year 2012-13 use an oil price forecast that better reflects the current commodity price environment. The price for LBU crude in early March has averaged \$115/bbl. Staff projects that net income from the LBU during 2012-13 will be much greater than that projected in the Annual Plan. At an average oil price of \$95/bbl, staff estimates the net income for fiscal year 2012-13 from the LBU to be around \$400 million. That level of profit under Chapter 941 would provide an estimated \$240 million of non-tax revenue to the State of California. All net profits allocated to the State's share go directly to the State General Fund, with no monies directed to fund Commission staff expenses.

**REVIEW OF ANNUAL PLAN:**

Commission staff has reviewed the proposed Annual Plan submitted by the City and finds that the economic basis upon which the Program Plan was prepared

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will support and provide an engineering framework to meet the OWPA and LBU objectives. Commission staff has concluded that the Annual Plan is consistent with good oil field practice. The Plan is based on all engineering and geologic information available at the time of preparation. Further, to support the conclusion that the Annual Plan was prepared to ensure good oil field practice, Commission staff maintains direct involvement in ongoing LBU development activities and the planning of future activities. Staff involvement includes, among other things, monthly meetings of an engineering committee, onsite inspector presence in the field, reservoir management consultation with the City and the field contractor, analysis of drilling safeguards involving blowout prevention equipment certification, oil spill prevention exercises, and subsidence monitoring and prevention. In addition, Commission staff has concluded that the Annual Plan is consistent with the Optimized Waterflood Program, and with the Unit Agreement and the Unit Operating Agreement, with particular reference to development and operations, subsidence prevention, preparation and submittal of plans of development and expenditures, re-pressuring operations, and drilling schedules. Commission staff also has concluded that the Annual Plan is consistent with the Program Plan.

**ENVIRONMENTAL AND SAFETY REVIEW**

The last comprehensive safety audit of the LBU was conducted by Commission staff in 2002. Due to the considerable enhancements to the LBU's safety systems afforded by the 2002 audit and that 10 years had passed since, Commission staff recommended a new audit be performed. At its April 28, 2011 meeting, the Commission ordered the Program Plan be revised to include an updated environmental and safety review and assessment of the Long Beach Unit operations. The Long Beach Unit Safety and Spill Prevention Audit directed by the Commission, which began in January of 2012, will take 15 months to complete and is on schedule for completion in April 2013.

Island Grissom was the initial facility location to be audited. The physical condition assessment and the majority of field work on Island Grissom was completed by the end of February, and the audit team is now in the process of evaluating maintenance records, operating procedures, manuals, management practices, and technical design issues, as well as design details of the safety and shut down systems.

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Sadly, the audit team in January suffered a tragic loss when Craig Webster, Associate Process Safety Engineer, passed away suddenly at his home. This loss was not only an emotional shock to the remaining audit team members, but has left a critical staffing shortage for conducting the audit. Craig Webster will be deeply missed. Commission staff has, however, been able to stay on schedule because there have been no major problems encountered thus far, and the physical condition at Island Grissom was found to be very good. We will make adjustments as needed to remain on schedule with this audit.

**OTHER PERTINENT INFORMATION**

1. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines [Cal. Code Regs., tit. 14, § 15060, subd. (c)(3)], the staff has determined that this activity is not subject to the provisions of CEQA because it is not a "project" as defined by CEQA and the State CEQA Guidelines.

Authority: Public Resources Code section 21065 and California Code of Regulations, Title 14, sections 15060, subdivision (c)(3), and 15378.

**EXHIBITS:**

- A. Letter from the City of Long Beach submitting the Long Beach Unit Annual Plan to the California State Lands Commission.
- B. Long Beach Unit Annual Plan (July 1, 2012 through June 30, 2013)
- C. Oil Price comparison Graph and Average Price Chart 2008-2012

**RECOMMENDED ACTION:**

It is recommended that the Commission:

**CEQA FINDING:**

Find that the activity is not subject to the requirements of CEQA pursuant to California Code of Regulations, Title 14, section 15060, subdivision (c)(3), because the activity is not a project as defined by Public Resources Code section 21065 and California Code of Regulations, Title 14, section 15378.

**AUTHORIZATION:**

Accept the Long Beach Unit Annual Plan (July 1, 2012 through June 30, 2013), Long Beach Unit, Wilmington Oil Field, Los Angeles County.

## EXHIBIT A

W 17166

CITY OF LONG BEACH



DEPARTMENT

CHRISTOPHER J. GARNER  
DIRECTOR

2400 EAST SPRING STREET · LONG BEACH, CA 90806  
(562) 570-2000 · FAX (562) 570-2050

[www.lbgo.org](http://www.lbgo.org)

February 28, 2012

Ms. Marina Voskianian,  
Acting Chief, Mineral Resources Management  
California State Lands Commission  
200 Oceangate, 12th Floor  
Long Beach, CA 90802-4331

**SUBJECT: SUBMISSION OF THE LONG BEACH UNIT ANNUAL PLAN  
(JULY 1, 2012 through JUNE 30, 2013)**

Dear Ms. Voskianian:

The City of Long Beach, as Unit Operator of the Long Beach Unit, and in accordance with Chapter 138, Section 5, Chapter 941, Section 3, and the Agreement for Implementation of an Optimized Waterflood Program for the Long Beach Unit, Article 2, submits ten copies of the Long Beach Unit Annual Plan (July 1, 2012 through June 30, 2013).

The Plan was approved by the Long Beach City Council on February 21, 2012. If you have any questions, please contact Mr. Kevin Tougas at (562) 570-3963.

Sincerely,

CHRISTOPHER J. GARNER  
DIRECTOR OF LONG BEACH GAS AND OIL

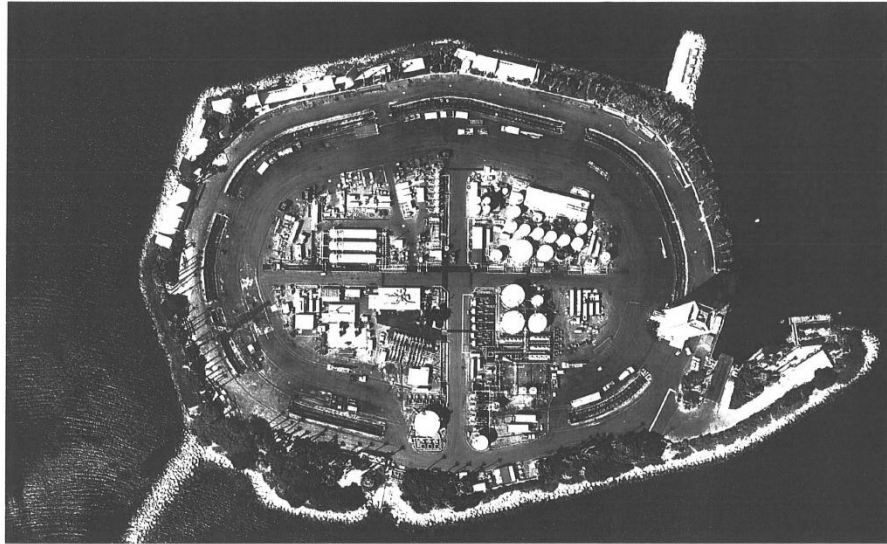
CJG:kmt

### Enclosures

cc: C. Fossum – California State Lands Commission  
A. V. Hager – California Attorney General  
J. Rader – California State Lands Commission  
F. Komin – Oxy Long Beach, Inc.  
R. Anthony – City of Long Beach

**Long Beach Unit**

**THUMS Long Beach Company**  
(Agent for Field Contractor)



**ANNUAL PLAN**

July 1, 2012 through June 30, 2013



## ANNUAL PLAN

July 1, 2012 through June 30, 2013

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## Part I

### Introduction

This Annual Plan ("Plan") was developed to reflect anticipated activity levels during the fiscal period from July 1, 2012 through June 30, 2013 ("FY13"). It is being submitted as required by Section 5(a) of Chapter 138, Statutes of 1964, First Extraordinary Session, and as revised by passage of Assembly Bill 227 (Chapter 941, Statutes of 1991) and the Optimized Waterflood Program Agreement approved by the State of California, the City of Long Beach, and Atlantic Richfield Company, whose interest has been assigned to Occidental Petroleum Corporation.

This Plan provides for drilling, producing, water injection, and other associated activities from offshore and onshore locations. The budget for these activities is grouped into the following five major categories:

<b>Plan Category</b>	<b>Fiscal Year 2012 – 2013 (\$ Million)</b>
Development Drilling	\$ 118.5
Operating Expense	\$ 108.6
Facilities, Maintenance, and Plant	\$ 93.0
Unit Field Labor and Administrative	\$ 60.8
Taxes, Permits, and Administrative Overhead	\$ 44.4
<b>Total</b>	<b>\$425.3</b>

## **A. Plan Basis**

This Plan was developed based on the parameters outlined in the Program Plan for the period July 2011 through June 2016 and provides current and updated estimates of volumes, drilling activity and expenditures for FY13.

### **Volumes**

Oil and gas production volumes are predicted to average 23.7 Mbopd and 9.0 MMcfd, respectively, in FY13. Water production for the period is expected to average 999 Mbwpd and water injection is expected to average 1,059 Mbwpd.

### **Revenue and Expenses**

A projected oil price of \$55.00/bbl Wilmington and gas price of \$4.00/mcf will result in revenues of \$488 million. Budgeted expenses for FY13 total \$425 million. Projected net profit in FY13 is \$63 million.

### **Drilling**

This Plan allows for drilling approximately 67 new and redrilled development and/or replacement wells. The plan is to use approximately two and a half drilling rigs. The rig utilization could potentially change due to variations in oil price. Workover rigs will perform drilling preparation and completion work.

The location of production and injection wells to be drilled or redrilled are generally consistent with those given in the Program Plan (see attached Part II, Schedule 2B). Locations of anticipated drilling candidates have been better defined since the Program Plan was developed and are outlined in Revised Schedule 2B (attached). Significant variances include potential increased well targets on Island Grissom and Chaffee compared to the Program Plan.

### **Maintenance**

Most of the major facility projects anticipated during the Plan period are required to maintain current equipment capabilities or to enhance operations. Other projects will be necessary to take advantage of improvement opportunities and to address changes in the oil field operating environment.

The Unit has a Mechanical Integrity and Quality Assurance (MIQA) program to assess and maintain critical equipment. The MIQA program is designed to meet internal and regulatory requirements and provide a high level of equipment integrity to reduce risk and increase reliability. Key elements include :

- Identification, evaluation, and determination of what equipment and/or process components are critical (i.e. their failure or malfunction could

adversely affect the safety of personnel, operations, and/or the environment).

- A process to ensure equipment and components comply with material specifications, design and construction codes or standards thus providing a measure of safety and reliability.
- Methodologies for inspecting, testing and maintaining the equipment and documenting such action.

The MIQA program is an integral piece of the overall flow of maintenance, from inspection/testing through maintenance and, when necessary, repair or replacement. The program is supported through the use of a comprehensive database and work order system that provides control and management of all maintenance activities.

Many projects will be undertaken to repair or replace equipment that has outlived its useful life. Items needing to be repaired or replaced include, but are not limited to, facilities piping, tanks, and vessels. These projects are consistent with past activities to keep the Unit facilities in safe operating condition.

#### **Abandonment**

Wells and facilities with no further economic use will be abandoned to reduce current and future Unit liability. This Plan provides funds for plugging wells to surface, in-zone, and conditional abandonments.

#### **Safety, Environmental, and Regulatory Compliance**

The Unit is committed to conducting all aspects of its business in a manner that provides for the safety and health of employees, contractors and the public, and safeguards the environment in which it operates. Key safety programs include incident reporting and investigation, safety meetings and training, Management of Change (MOC), Process Hazard Reviews (PHR), emergency response planning and drills, and a behavior based safety observation program. Key aspects of the Environmental program include compliance with AQMD requirements, waste management and minimization, spill prevention plans and Business Emergency Plans (BEP's).

The effectiveness and compliance of the above programs are assured through internal and external (OOG) audit programs. In addition, numerous agencies conduct periodic audits, including the DOT, State Fire Marshal, AQMD, EPA, local fire department and health departments, Port of Long Beach and City of Long Beach.

Emergency response planning and preparedness is bolstered by partnering with Marine Spill Response Corporation (MSRC). MSRC is an independent, non-

profit, national spill response company dedicated to rapid response to environmental incidents. In 2010, MSRC provided the single largest oil spill response effort for the BP Macondo incident. MSRC has a major west coast base of operations in the Port of Long Beach and their equipment and expertise is readily available for Unit emergencies and is incorporated in onsite training exercises. The training exercises also involve a close working relationship with the United States Coast Guard and California Department of Fish and Game.

Environmental and community outreach is also a fundamental part of Thums program and each of the Islands are currently designated 'Corporate Lands for Learning' sites by the Wildlife Habitat Council. This designation is awarded to facilities that provide for public education and involvement through wildlife related projects and learning opportunities on the facilities.

Projects relating to safety, environmental issues, or other situations necessary for meeting compliance with code, permit, or regulatory requirements will continue to be implemented under this Plan in accordance with all Unit agreements. In addition, THUMS will be placing additional emphasis on risk and system reviews and operational safeguards to assure reliable and compliant environmental performance.

Beginning in January 2012, the State Lands Commission will commence a comprehensive Safety and Environmental audit of the Unit. This audit is intended to both verify and potentially improve the Unit performance in these areas. This audit will consist of approximately 10 months of field review and a final report in approximately 15 months. Important topics include:

- Mechanical integrity
- Process Safety
- Safe work practices
- Training
- Emergency planning and response
- Injury and Illness prevention
- Safety culture

### **Economic Review**

Project expenditures during the Plan period are subject to economic review through the Determination and Authority for Expenditure processes. All existing wells are frequently reviewed in light of changing crude prices to determine if they are economic to operate. Well servicing work is justified on economics and other conditions consistent with good engineering, business, and operating practices.

The Unit remains committed to careful management of subsidence related to its oil and gas production through strict adherence to existing regulations and voidage rules.

## B. Economic Projections

(Data in Millions of Dollars)

	BUDGET FIRST QUARTER FY13	BUDGET SECOND QUARTER FY13	BUDGET THIRD QUARTER FY13	BUDGET FOURTH QUARTER FY13	BUDGET TOTAL FY13
<b><u>ESTIMATED REVENUE</u></b>					
Oil Revenue	\$120.4	\$119.4	\$116.9	\$118.4	\$475.2
Gas Revenue	\$3.4	\$3.4	\$3.1	\$3.2	\$13.1
<b>TOTAL REVENUE</b>	<b>\$123.8</b>	<b>\$122.8</b>	<b>\$120.0</b>	<b>\$121.6</b>	<b>\$488.3</b>
<b><u>ESTIMATED EXPENDITURES</u></b>					
Development Drilling	\$31.5	\$22.5	\$27.0	\$37.5	\$118.5
Operating Expense	\$27.7	\$26.7	\$26.9	\$27.4	\$108.6
Facilities & Maintenance	\$21.7	\$21.7	\$24.8	\$24.9	\$93.0
Unit Field Labor & Administration	\$22.3	\$11.2	\$15.8	\$11.5	\$60.8
Taxes, Permits & Overhead	\$11.5	\$10.5	\$11.1	\$11.4	\$44.4
<b>TOTAL EXPENDITURES</b>	<b>\$114.6</b>	<b>\$92.6</b>	<b>\$105.5</b>	<b>\$112.6</b>	<b>\$425.3</b>
<b><u>NET PROFIT</u></b>	<b>\$9.2</b>	<b>\$30.2</b>	<b>\$14.5</b>	<b>\$9.0</b>	<b>\$63.0</b>

### C. MAJOR PLANNING ASSUMPTIONS

	BUDGET FIRST QUARTER FY13	BUDGET SECOND QUARTER FY13	BUDGET THIRD QUARTER FY13	BUDGET FOURTH QUARTER FY13	BUDGET TOTAL FY13
<b><u>OIL PRODUCTION</u></b>					
PRODUCED (1000 BBL)	2,190	2,170	2,126	2,153	8,640
(AVERAGE B/D)	23,803	23,591	23,627	23,664	23,671
<b><u>GAS PRODUCTION</u></b>					
PRODUCED (1000 MCF)	849	855	773	799	3,276
(AVERAGE MCF/D)	9,231	9,296	8,587	8,775	8,972
<b><u>WATER PRODUCTION</u></b>					
PRODUCED (1000 BBL)	91,180	91,637	90,094	91,552	364,462
(AVERAGE B/D)	991,082	996,050	1,001,043	1,006,060	998,559
<b><u>WATER INJECTION</u></b>					
INJECTED (1000 BBL)	96,727	97,212	95,576	97,122	386,637
(AVERAGE B/D)	1,051,385	1,056,655	1,061,952	1,067,275	1,059,317
OIL PRICE (\$/BBL)	\$55.00	\$55.00	\$55.00	\$55.00	\$55.00
GAS PRICE (\$/MCF)	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00

## Part II

### Program Plan Schedules

#### Schedule 2 A

#### Range of Production and Injection FY 2013

#### Long Beach Unit Program Plan, July 2011-June 2016

FISCAL YEAR	RANGE OF PRODUCTION AND INJECTION RATES			
	OIL MBOPD	WATER MBWPD	GAS MMCFPD	INJECTION MBWPD
2012/13	23.0 - 25.3	950 - 1,106	8.5 - 11.3	1,015 - 1,200

FISCAL YEAR	RANGE OF INJECTION PRESSURES			
	TAR PSI	RANGER PSI	TERMINAL PSI	U. P./FORD PSI
2012/13	UP TO 1500	UP TO 2500	UP TO 2500	UP TO 3000

**Schedule 2 B**  
**Anticipated New and Redrilled Wells**  
**Fiscal Year 12/13**  
**Long Beach Unit Program Plan, July 2011-June 2016**

Reservoir	CRB	Producers					Injectors					
		Grissom Min - Max	White Min - Max	Chaffee Min - Max	Freeman Min - Max	Pier J Min - Max	Grissom Min - Max	White Min - Max	Chaffee Min - Max	Freeman Min - Max	Pier J Min - Max	
Tar SG Ranger West		0 - 2	0 - 2				0 - 1	0 - 2				
		0 - 1	0 - 2	0 - 1			0 - 1					
	1	0 - 1										
	2	1 - 4	0 - 1									
	3	1 - 5	0 - 1									
	4	1 - 3	0 - 1		0 - 1	0 - 2				0 - 1	0 - 1	
	5	0 - 1			0 - 1	0 - 2				0 - 1	0 - 1	
	7				0 - 1							
	8											
	9		0 - 1									
	10		0 - 1									
	11		0 - 1									
	Ranger East	12		0 - 1								
13			0 - 1									
36					0 - 1	0 - 2				0 - 1	0 - 1	
37					0 - 1					0 - 1		
14			0 - 1									
15			0 - 1		0 - 1					0 - 1		
16			0 - 1									
17				0 - 1					0 - 1			
18				0 - 1					0 - 1			
20				0 - 1					1 - 1			
Terminal	21			1 - 2					1 - 1			
	22			0 - 1					0 - 1			
	33			0 - 1					0 - 1			
	24		0 - 1						0 - 1			
	38	0 - 1				0 - 2		0 - 1			0 - 1	
	39	0 - 1	0 - 1					0		0 - 1		
	40		0 - 1									
	41	0 - 1				0 - 2		0			0 - 1	
UP Ford	42			0 - 1					0 - 1			
	43			0 - 1	0 - 1				0 - 1	0 - 1		
	47											
	26				0 - 1						0 - 1	
	27		0 - 1		0 - 1				0 - 1		0 - 1	
	30			0 - 1	0 - 1			0 -				
	31	0 - 1	0 - 1		0 - 1	0 - 2			0 - 1		0 - 1	0 - 1
237	44			0 - 1					0 - 1			
	45			0 - 2					0 - 1	0 - 1		
	46		0 - 1	0 - 1	0 - 1				0 - 1	0 - 1		
	30	0 - 1		0 - 2	0 - 2							
		Total					Total					
		4 - 86					2 - 64					



**Schedule 2 B - Revised  
Anticipated New and Redrilled Wells  
Fiscal Year 12/13  
Long Beach Unit Program Plan, July 2011-June 2016**

Reservoir	CRB	Producers					Injectors				
		Grissom Min - Max	White Min - Max	Chaffee Min - Max	Freeman Min - Max	Pier J Min - Max	Grissom Min - Max	White Min - Max	Chaffee Min - Max	Freeman Min - Max	Pier J Min - Max
Tar SG Ranger West		0 - 1	0 - 0			0 - 2	0 - 1				0 - 2
		0 - 1	0 - 0								
	1	5 - 8	0 - 1				1 - 3				
	2	2 - 4	0 - 1				0 - 1				
	3	4 - 7	0 - 1			0 - 3	1 - 3				0 - 2
	4	4 - 7	0 - 1		0 - 0	0 - 3	0 - 3	0 - 0		0 - 1	0 - 2
	5	0 - 1			0 - 0	0 - 3				0 - 1	0 - 2
	7				0 - 0	0 - 2				0 - 1	0 - 2
	8				0 - 0					0 - 1	
	9		0 - 1		0 - 0					0 - 1	
	10		0 - 1				0 - 1	0 - 0			
	11		0 - 1				0 - 1	0 - 0			
	12		0 - 1					0 - 3			
	13		0 - 1					0 - 0			
	36		0 - 1			0 - 0	0 - 3	0 - 0		0 - 1	0 - 2
	37					0 - 0				0 - 1	
	Ranger East	14		0 - 1					0 - 0		
15			0 - 1		0 - 1			1 - 2		0 - 1	
16			0 - 1	0 - 1	0 - 0			0 - 0		0 - 1	
17				0 - 1					0 - 1		
18				0 - 3					1 - 3		
20				0 - 1					1 - 3		
21				0 - 1					1 - 3		
22				0 - 1					0 - 1		
33			3 - 6					1 - 3	0 - 1		
Terminal	24	0 - 1	0 - 0			0 - 2	0 - 1		1 - 3		0 - 1
	38	0 - 1	0 - 1		0 - 0	0 - 2	0 - 1	0 - 1		0 - 1	0 - 1
	39	0 - 1	0 - 1		0 - 0		0 - 1	0 - 1		0 - 1	
	40		0 - 0		0 - 0			0 - 0		0 - 1	
	41	0 - 1									0 - 1
	42			0 - 1					0 - 1		
	43			1 - 3	0 - 0				0 - 1	0 - 0	
47											
UP Ford	26		0 - 0		0 - 0			0 - 0		0 - 0	
	27		0 - 1		0 - 0			0 - 0		0 - 0	
	30	0 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 1	0 - 1	0 - 0	0 - 0	0 - 1
	31		0 - 1	0 - 0	0 - 0			0 - 0	0 - 0	0 - 0	
	44		0 - 0	1 - 3	0 - 0			0 - 0	0 - 1	0 - 0	
	45		0 - 0	1 - 3	0 - 0			0 - 0	0 - 1	0 - 0	
46			0 - 1								
237	30	0 - 0		1 - 3	0 - 0						
		Total					Total				
		22 - 100					8 - 76				

## Part III

### Itemized Budget of Expenditures

#### **A. Development Drilling** **\$118.5MM**

The Development Drilling category of expenditures encompasses all new well and replacement well drilling activity, as well as maintenance and replacement of drilling equipment within the Unit. Funds for development drilling are based on the assumption that 67 wells will be developed and/or replaced during the Plan year and 26 investment wellwork projects will be carried out, using approximately two and half drilling rigs and two workover rigs, respectively.

Drilling and completing new wells, as well as redrilling and recompleting existing wells, account for 90 percent of the funding provided in this Category. Included in these activities is funding for rig move-in, drilling and casing, completion activities, drilling rig in-zone plugs and conditional abandonments, and unscheduled activity (fishing operations, cement squeezing, special logging, contract drilling services).

Exact specifications regarding the distribution of wells, bottom hole locations, and completion intervals will be determined by OXY Long Beach, Inc. (OLBI). These decisions will be influenced by contributions from reservoir engineering personnel, results from ongoing engineering studies, and new well performance. This information will be reviewed and approved in accordance with Unit Agreements during regularly scheduled Unit forums.

#### **B. Operating Expense** **\$108.6MM**

The Operating Expense category of expenditures encompasses the ongoing costs of day-to-day well production and injection operations necessary for producing, processing, and delivering crude oil and gas, and for all electric power charges. Expenses for this category are based on estimated oil production of 23.7 Mbopd, estimated gas production of 9.0 MMcfpd, water injection requirement of 1,059 Mbwpd, and water production of 999 Mbwpd. Anticipated operating expenses were based on operating four workover rigs per month for servicing an average active well count of 775 producers and 469 injectors. Abandonment well count will be determined as a function of drilling activity and the number of idle wells with no future use identified.

The day-to-day costs for production and injection well subsurface operations represent approximately 44 percent of the funding provided in this category. Included are funds for acidizing, fracturing, routine well work, well conversions,

in-zone plugs, conditional abandonments, and other charges incurred for well maintenance.

Electricity makes up 45 percent of the funds in this Category. Cost for electric power is based on estimated kilowatt usage of 770,179,000 Kwh at an average rate of \$0.068/kwh. This cost includes all sources of Unit electrical power, including all costs associated with the power plant and electric utility purchases.

**C. Facilities, Maintenance, and Plant \$93.0MM**

The Facilities, Maintenance, and Plant category of expenditures encompasses costs for maintenance, repairs, upgrades, additions of surface facilities and pipelines, and costs for general field services.

Approximately 44 percent of the funding in this category is for general field and operating costs. This includes, but is not limited to, charges for general labor, equipment rentals, and materials for general maintenance (painting, welding, electrical, etc.) of all Unit systems, such as oil gathering, treating, storage, and transfer; gas gathering and treating; scale and corrosion control; produced water handling; waste disposal; leasehold improvements; electrical system; fresh water system; fire protection and safety; marine operations; and automotive equipment. Funds are also provided for chemical purchases and laboratory-related charges for chemical treatment of produced and injected fluids; gas processing charges; make-up water; security; transportation; small tools; and other miscellaneous field activities.

Approximately 49 percent of the funding in this Category is for facilities repair and improvement projects. Approximately 20% of the repair project category is focused on inspection, maintenance and repair in support of the MIQA program. This work includes regulated pipeline inspection surveys and evaluation, inspection and repair of cathodic protection systems, and infrastructure piping integrity inspections not covered by regulatory control.

Improvement projects include spending for the construction of the Pier J electrical distribution, White Culvert Piping, Island Pipe Traps and J-6 Vapor Recovery piping and other infrastructure related investments that position the Unit for longevity.

**D. Unit Field Labor and Administrative \$60.8MM**

The Unit Field Labor and Administrative category of expenditures encompasses costs for Unit personnel and other Unit support activities.

Funding for Unit personnel includes costs of salaries, wages, benefits, training, and expenses of all THUMS employees. These costs represent approximately 95 percent of the category total.

Funding for Unit support activities includes, but is not limited to, costs for professional and temporary services necessary for the completion of support activities; charges for data processing; computer hardware and software; communications; office rent; general office equipment and materials; drafting and reprographic services; Department of Transportation drug and alcohol testing; special management projects; and other miscellaneous support charges.

#### **E. Taxes, Permits, and Administrative Overhead \$44.4MM**

The Taxes, Permits, and Administrative Overhead category of expenditures includes funds for specific taxes, permits, licenses, land leases, and all administrative overhead costs for the Unit.

Funding is provided for taxes levied on personal property, mining rights, and oil production; for the Petroleum and Gas Fund Assessment; annual well permits and renewals; Conservation Committee of California Oil and Gas Producers Assessment; California Oil Spill Response, Prevention, and Administration fee; land leases; and pipeline right-of-way costs. These costs represent approximately 58 percent of the Category total.

Funding is also provided in this Category for all Administrative Overhead (including Unit Operator billable costs and OLBI billable costs) as called for in Exhibit F of the Unit Operating Agreement.

## **PART IV**

### **Definitions**

This Annual Plan may be Modified or Supplemented after review by the State Lands Commission for consistency with the current Program Plan. All Modifications and Supplements to this plan will be presented by the Long Beach Gas and Oil Department, City of Long Beach, acting with the consent of OLBI, to the State Lands Commission in accordance with Article 2.06 of the Optimized Waterflood Program Agreement.

In addition, on or before October 1, 2013 the City of Long Beach shall present to the State Lands Commission a final report and closing statement of the FY13 Annual Plan, in accordance with the provision in Section 10 of Chapter 138.

#### **A. Modifications**

The City of Long Beach, acting with the consent of OLBI, has the authority to cause the expenditures of funds for Unit Operations in excess of the amount set forth in the budget included in the Annual Plan, provided, however, that no such expenditure shall be incurred that would result in any category of expenditures set forth in the budget to exceed 120 percent of the budgeted amount for that category. A budget modification would be required for any expenditures which would cause a budget category to exceed its budgeted amount by 120 percent.

Any transfer of funds between budget categories or an augmentation or decrease of the entire budget may be accomplished by a budget modification in accordance with section 5(g) of Chapter 138 and Article 2.06 of the Optimized Waterflood Program Agreement.

Investment, facilities, and management expense projects commenced in prior budget periods, which are to be continued during the current budget period, may be added to this budget by a modification in accordance with Article 2.06 of the Optimized Waterflood Program Agreement.

#### **B. Supplements**

This Annual Plan contains all the investment and expense projects reasonably anticipated at the time the Plan was drafted and for which adequate detailed studies existed. Any significant and uncommon expenses not originally contemplated may be added to this budget or transferred by a supplement in accordance with Article 2.06 of the Optimized Waterflood Program Agreement.

The amount of the supplement shall include sufficient funds to complete the projects.

### **C. Final Report and Closing Statement**

The final report and closing statement for FY13 shall contain a reconciliation by category as finally modified and the actual accomplishments, including:

1. New wells and redrills by zone.
2. Facilities and capital projects.
3. Production by zone.
4. Injection by zone.

# EXHIBIT C

W 17166

## Oil Price Comparison

LONG BEACH GAS & OIL DEPARTMENT - GAS & OIL OPERATIONS BUREAU

