

Appendix Q
Draft Environmental Impact Report
Comments and Responses

Appendix Q
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**E&B Oil Drilling & Production Project
Final Environmental Impact Report
Public Draft Comments
List of Commenters**

Comment Set #	Name	Date	Code
Applicant			
1.	E&B (Michael Finch) #1	3/31/14	EB
2.	E&B (Michael Finch) #2	4/1/14	EB
3.	E&B (Michael Finch) #3	4/8/14	EB
4.	E&B (Michael Finch) #4	4/14/14	EB
Government Agencies, Elected Officials			
5.	County of Los Angeles Fire Department (Frank Vidales)	3/6/14	CLAFD
6.	City of Manhattan Beach Community Development Department (Richard Thompson)	4/14/14	COMB
7.	City of Redondo Beach Community Development Planning Division (Aaron Jones)	4/11/14	CORB
8.	California Coastal Commission (Alison Dettmer)	4/11/14	CCC
9.	Department of Conservation Division of Oil, Gas, and Geothermal Resources (Kenneth Carlson)	4/14/14	DOGGR
10.	California Department of Transportation (Dianna Watson)	4/7/14	DOT
11.	County Sanitation Districts of Los Angeles County (Adriana Raza) #1	7/31/13	CSDLA
12.	County Sanitation Districts of Los Angeles County (Adriana Raza) #2	4/14/14	CSDLA
13.	Los Angeles Regional Water Quality Control Board (Eric Wu)	4/14/14	RWQCB
14.	South Coast Air Quality Management District (Ian MacMillan)	4/17/14	SCAQMD
15.	California State Clearinghouse (Scott Morgan)	4/2/14	SCH
Organizations			
16.	Citizens Advocating Rational Development (Nicholas Green)	3/11/14	CARD
17.	Center for Biological Diversity (David Hobstetter)	4/11/14	CBD
18.	Earthworks (Jhon Arbelaez)	4/14/14	ERWK
19.	Heal the Bay (Dana Murray, Peter Shellenbarger, Sara Sikich, Kirsten James)	4/14/14	HEAL
20.	Natural Resources Defense Council (Damon Nagami, Guilia Good Stefani)	4/14/14	NRDC
21.	Otten and Joyce, for SBHO (Victor Otten)	4/14/14	OTTJ
22.	Sierra Club Palos Verdes-South Bay Regional Group	4/14/14	SIER

Comment Set #	Name	Date	Code
	(Eva Cicoria, Al Sattler)		
23.	Stop Hermosa Beach Oil (Stacey Armato)	4/14/14	SHBO
24.	Surfrider (Craig Cadwallader and Stefanie Sekich-Quinn)	4/14/14	SURF
25.	Tom Williams, for Sierra Club	4/14/14	WILT
26.	L.A. Waterkeeper (Brian Meux, Tatiana Gaur)	4/14/14	WKPR
Individuals			
27.	Cameron Alexander	3/17/14	ALEC
28.	Rubie Amaya	3/17/14	AMAR
29.	Chris Aniello	3/14/14	ANIC
30.	Jeff Arey	4/1/14	AREJ
31.	Kian Arnold	3/17/14	ARNK
32.	Katrina Bacallao	4/3/14	BACK
33.	Nannette Barragan	4/14/14	BARN
34.	Brooke Bolin	3/17/14	BOLB
35.	Austin Bowkus	3/17/14	BOWA
36.	Jeffrey Bronchick	2/15/14	BROJ
37.	Kate Brunskill	3/17/14	BRUK
38.	Brittany Burger	3/17/14	BURB
39.	Megan Chelliah	3/17/14	CHEM
40.	Peggy Cohen	4/14/14	COHP
41.	R. Douglas Collins #1	3/13/14	COLD
42.	R. Douglas Collins #2	3/18/14	COLD
43.	R. Douglas Collins #3	4/13/14	COLD
44.	Michael Collins	4/12/14	COLM
45.	Don Croley	4/14/14	CROD
46.	Sophie Dafesh	3/17/14	DAFS
47.	Jamie Danis	3/17/14	DANJ
48.	Joshua Darbee	3/18/14	DARJ
49.	Susan Darcy	3/31/14	DARS
50.	Chuck & Monica Decker	4/13/14	DECC
51.	Dominic DiRado	3/17/14	DIRD
52.	John Doe	4/14/14	DOEJ
53.	Zachary Dushenko	3/17/14	DUSZ
54.	Layne Eichenlaub	3/17/14	EICL
55.	John Faulstich #1	2/25/14	FAUJ
56.	John Faulstich #2	4/11/14	FAUJ
57.	Mike Flaherty	4/9/14	FLAM
58.	John Freiburghouse	3/17/14	FREJ
59.	Philip Friedl	4/14/14	FRIP
60.	Hiro Fujii	3/4/14	FUJH
61.	Michelle Geller & Connor Axtell	2/28/14	GELM
62.	Raquel Gerard	3/17/14	GERR
63.	Josh Gillam	3/17/14	GILJ
64.	Jenessa Gonzalez	3/17/14	GONJ
65.	Marilyn Gudmundssen	4/14/14	GUDM
66.	Shaun Gudmundssen	4/14/14	GUDS
67.	Julie A. Hamill, Esq.	4/2/14	HAMJ
68.	Breanna Harris	3/17/14	HARB

Comment Set #	Name	Date	Code
69.	Delaney Hawkes	3/18/14	HAWD
70.	Hayley Hendrickson	3/17/14	HENH
71.	Josh Hoffman	3/17/14	HOFJ
72.	Cole Keefer	3/16/14	KEEC
73.	Kelli Killman	3/17/14	KILK
74.	Carter Kimble	3/16/14	KIMC
75.	Everett Kim	3/17/14	KIME
76.	Kirk (no last name given)	3/11/14	KIRK
77.	Tyler Knudson	3/17/14	KNUT
78.	Jeff Krag	4/14/14	KRAJ
79.	Michael V. Leahy	4/8/14	LEAM
80.	Andrea Lee	3/17/14	LEEA
81.	Diego Marcucci	3/17/14	MARD
82.	Valentina Marmol	3/17/14	MARV
83.	Justin Massey	4/14/14	MASJ
84.	Barbara Mathieson	4/11/14	MATB
85.	Carey McCormick	4/11/14	MCCC
86.	Stephen McCall	4/14/14	MCCS
87.	Kennedi McCarroll	3/17/14	MCCK
88.	Morgan McCarroll	3/17/14	MCCM
89.	Malik McDaniel	3/14/14	MCDM
90.	Chris Miller	4/14/14	MILC
91.	Roberta Moore	4/13/14	MOOR
92.	Tom Morley #1(undated, but references 3/22/14)	3/22/14	MORT
93.	Tom Morley #2	4/14/14	MORT
94.	Dency L. Nelson	4/13/14	NELD
95.	Rollie Nichols	3/17/14	NICR
96.	Matt Padilla	3/17/14	PADM
97.	Marci Palla	4/14/14	PALM
98.	Robert Payne	4/14/14	PAYR
99.	Lincoln Personius	3/17/14	PERL
100.	Sam Perrotti	4/14/14	PERS
101.	Lauren Pizer Mains	4/14/14	PML
102.	JD Preletz	4/2/14	PREJ
103.	Rick Pruetz	4/3/14	PRUR
104.	Allison Reynolds	4/14/14	REYA
105.	Barbara Sabo	2/17/14	SABB
106.	Lisa Santora	4/14/14	SANL
107.	Nick Scandura	3/17/14	SCAN
108.	Jason Schwartz	3/17/14	SCHJ
109.	Quin Severo	3/17/14	SEVQ
110.	Howard Simon	3/5/14	SIMH
111.	Katie Smythe	3/17/14	SMYK
112.	Kamilah Sonko	3/17/14	SONK
113.	Brad Sorensen #1	4/4/14	SORB
114.	Brad Sorensen #2	4/4/14	SORB
115.	Brad Sorensen #3	4/5/14	SORB
116.	Brad Sorensen #4	4/10/14	SORB
117.	Brad Sorensen #5	4/11/14	SORB
118.	Brad Sorensen #6	4/14/14	SORB
119.	Elisabeth Spielvogel	3/16/14	SPIE

Comment Set #	Name	Date	Code
120.	Lael Stabler	4/14/14	STAL
121.	E.J. Stemig	3/18/14	STEE
122.	Ella Swanberg	3/17/14	SWAE
123.	Elliot Walters	3/17/14	WALE
124.	William Victor	4/14/14	VICW
125.	Declan Wright	3/17/14	WRID
126.	Cindy Zhou	3/17/14	ZHOC
127.	Mason Zisette	3/17/14	ZISM
Public Meeting Comments			
128.	Public Meeting Comments #1	4/2/14	PUBM
129.	Public Meeting Comments #2	4/10/14	PUBM

Appendix Q
Applicant Comments

E&B

Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

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COMMUNITY DEV. DEPT.

April 14, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: Comments on the Draft Environmental Impact Report for the
E&B Oil Drilling and Production Project, Dated February 2014

Dear Mr. Robertson,

E&B Natural Resources Management Corp. (E&B) has conducted a review of the E&B Oil Drilling and Production Project Draft Environmental Impact Report (Draft EIR), dated February 2014 (distributed for public review on February 13, 2014). This letter transmits to the City our comments on the Draft EIR. Our comments on the individual sections of the Draft EIR are provided as Attachment 1 to this letter.

In reviewing the Draft EIR, we were concerned that several significant and unavoidable impacts had been identified for the proposed project. When E&B had submitted its Application and technical reports last year, we sought to demonstrate to the City and its residents that E&B could develop the proposed project with few, if any, significant environmental effects. In reviewing these sections of the Draft EIR, we noticed that it relied on significance thresholds, various methodologies and "worst case" scenarios that seemed to press the limits of CEQA. CEQA allows public agencies to adopt significance thresholds and to use their best efforts to forecast, but CEQA prohibits speculation and the basis for some of the thresholds was uncertain. Despite these challenges, E&B focused its efforts over the past two months to understanding the analysis in the Draft EIR, and researching and resolving these environmental issues.

EB-1

To put a finer point on the issues, in some instances, the Draft EIR applied significance thresholds that were more stringent than recognized standards (i.e., pipeline spills), and in an effort to eliminate the resulting impacts to biology, hydrology, and recreation, E&B has developed additional measures to protect the pipelines (measures which are not commonly deployed for pipelines). In other instances, the Draft EIR did not incorporate some of the Proposed Project's design features (e.g., closed loop system), and E&B further evaluated the issue to confirm that any odors would be less than significant.

EB-2

In some cases, the analysis in the Draft EIR was a "worst case" scenario that overstated risk to such a degree that the results could not be substantiated in the recorded history of oil wells in the Torrance Oil Field (i.e., risk of upset). In that case, E&B engaged a well-respected oil and gas consultant to model the risk, and to provide a scientific basis for evaluating the risk of upset. E&B wants to demonstrate to

EB-3

everyone that this project can be developed safely. With respect to noise, the Draft EIR evaluated potential noise impacts at 5 and 20 feet, and in response, E&B has incorporate additional mitigation measures to comply not only with the 45 dBA standard in the Oil Code, but with a 3 dBA standard (not formally adopted by the City), which is the level at which a change in sound becomes perceptible.

EB-4

E&B has documented its work in the following letters, technical reports and other scientific documents, which are also provided as Attachments to this letter as follows:

- Comments previously transmitted to the City in a letter to Ken Robertson, dated March 31, 2014. This letter was regarding the odors analysis provided in Section 4.2, Air Quality and Greenhouse Gases, of the Draft EIR. This letter is provided as Attachment 2.
- Comments previously transmitted to the City in a letter to Ken Robertson, dated April 1, 2014. This letter was regarding the analysis of Phases 2 and 4 Drilling and Production in Section 4.11, Noise and Vibration, of the Draft EIR. This letter is provided as Attachment 3.
- Comments previously transmitted to the City in a letter to Ken Robertson, dated April 8, 2014. This letter was regarding the analysis of pipeline spills provided in of the Draft EIR. This letter is provided as Attachment 4.
- Discussion of the Marine Facility Oil Spill Contingency Plan and process, dated April 11, 2013, previously transmitted to the City as Attachment G to the Response to Planning Application Completeness Review. This information is provided as Attachment 5.
- Resubmittal of Updated Parking Plan, dated January 2014, previously submitted to the City at their request. This information is provided as Attachment 6.
- "Analysis of Potential Well Flow During Drilling Operations," prepared by Boots & Coots, April 2014. This document is provided as Attachment 7.
- "Technical Note #3a, Review of MRS Blowout Frequencies," prepared by Bercha International, Inc., March 24, 2014. This document is provided as Attachment 8.
- "Technical Note #3, MRS Leak and Rupture Release Fault Trees and Risk Spectrum Review and Updates," prepared by Bercha International, Inc., April 12, 2014. This document is provided as Attachment 9.

EB-5

Should you have questions or require additional information about any of the comments or edits contained in this submittal, please contact me.

Regards,



Michael Finch
Vice President Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.

Attachments (9)

Attachment 1

EXECUTIVE SUMMARY

Page ES-1, second paragraph:

The last sentence states the following about the City Maintenance Yard and the scope of the ballot measure, “Decisions on relocation and design of City Maintenance Yard will not be part of the ballot measure....”

The City may need to consider the scope of the ballot measure for the Proposed City Maintenance Yard Project to ensure that the maintenance activities may be relocated in sufficient time for the commencement of the Proposed Oil Project and to be in compliance with the Lease and the 2012 Settlement Agreement. The City is obligated to relocate the City Maintenance Yard as further described in the Lease and the Settlement Agreement, yet in the Draft EIR, the City identifies several discretionary approvals required for the relocation of the City Maintenance Yard, including legislative actions that may require Coastal Commission approval (Section 2.0, Project Description, page 2-85, Table 2.16). If these items are not included in the ballot measure, the City must provide assurances that it will process any required permits and entitlements for the relocation of the City Maintenance Yard to ensure that the relocation occurs as contemplated under the Lease and Settlement Agreement. This clarification should be included in the Executive Summary, as well as in Section 2.0, Project Description, of the Draft EIR.

EB-6

Page ES-1, sixth paragraph:

The discussion of the history of the previously prepared CEQA documentation for the MacPherson project is incomplete. This discussion should be revised to include information contained in Subsection 1.8.1, Project History, in Section 1.0, Introduction, of the Draft EIR.

EB-7

Page ES-2, Subsection Description of Proposed Project, first paragraph:

The third sentence states, “Oil and gas pipelines constructed and used by the Project would extend from the Project Site to area refineries.” This information is incorrect and should be revised.

The oil pipeline for the Proposed Project would extend from the project site and connect to one of three identified valve box locations either at the Exxon Mobil refinery site or at a connection point with other pipelines that would carry the oil to other areas for processing. The oil pipeline scenarios and the four potential valve box locations have been described on pages 2-48 through 2-55 in Section 2.0, Project Description, of the Draft EIR. In addition, the gas pipeline for the Proposed Project would extend from the project site to a tie in at a Southern California Gas (SCG) at a proposed metering station provided as a part of the Proposed Project in the Southern California Edison (SCE) Utility Corridor as described on pages 2-47 through 2-49 in Section 2.0, Project Description, of the Draft EIR. The above sentence should be revised to reflect the information on the oil and gas pipelines in Section 2.0, Project Description of the Draft EIR.

EB-8

Page ES-2, last paragraph:

This paragraph should be revised as follows:

The Applicant proposes the development of an onshore drilling and production facility site that would utilize directional drilling of 34 wells (30 oil wells, 4 four wells for water injection) to access the oil and gas reserves in the tidelands (pursuant to a lease granted by grant from the State of California to the City)....

EB-9

Page ES-4, first paragraph, third full sentence:

The third full sentence states, “The Applicant proposes a laydown site for heavy equipment and supply staging/storage within the industrial building at 601 Cypress Avenue during the construction phases.” This sentence should be revised as follows:

EB-10

The Applicant proposes a laydown site for ~~heavy equipment~~ and supply staging/storage within the basement level of the industrial building at 601 Cypress Avenue during the construction phases.

Page ES-4, second paragraph, second bullet:

The text in the second bullet should be corrected as follows:

EB-11

- Phase 2: Drilling ~~4 test wells~~ and Testing of three oil wells and one water injection well;

Page ES-4, third paragraph, second sentence:

The second sentence states, “Prior to the initiation of each phase of the Proposed Oil Project, it would be required that plans be submitted by the Applicant to the City and other permitting authorities for review and approval. These would include coastal development permits....”

EB-12

The Applicant does not plan on obtaining more than one Coastal Development Permit (CDP) and certainly not a CDP for each phase. The text should be revised to reflect this.

Page ES-4, fourth paragraph, first sentence:

The first sentence states:

The City Maintenance Yard is proposed to be relocated to a temporary facility to be established on the rear (westerly) portion of the City Hall site (1315 Valley Drive) prior to and during the initial phase [*emphasis added*] of the Proposed Oil Project so that the maintenance operations could continue when the existing City Maintenance Yard is demolished as part of Proposed Oil Project activities.

EB-13

This is inconsistent with the first sentence on page ES-5 that states, “Phase 1 would occur for approximately six months. Prior to Phase 1 activities, the temporary City Maintenance Yard would be installed.” Please revise the appropriate text to correct this inconsistency here and throughout the Draft EIR.

Page ES-4, fourth paragraph, second sentence:

The second sentence should be revised as follows to reflect the terminology used to describe Phase 2 of the Proposed Project:

EB-14

The construction of the permanent City Maintenance Yard would be undertaken on the site now occupied by Hermosa Self-Storage (552 11th Place) after the Applicant completes the ~~exploration~~ testing phase of the Proposed Oil Project in Phase 2.

Page ES-4, fifth paragraph:

This paragraph states, “The permanent Proposed City Maintenance Yard Project has two options: a Parking Option, which would add a net 97 parking spaces with a below grade parking garage, and a No Added Parking Option, which would neither add nor subtract from the amount of parking that is currently available.”

EB-15

This paragraph is unclear. It should be revised to more clearly identify existing parking spaces and the number of spaces that would be added and/or deleted with each of the parking options. The clarification should be reflected in the other sections of the Draft EIR where the discussion of the permanent Proposed City Maintenance Yard Project occurs.

Page ES-5, second paragraph:

This paragraph states, “Phase 2 would occur for approximately 12 months. The drill rig would operate continuously for 24 hours per day, seven days per week, until the appropriate depth and bottom-hole location for each well has been reached. It is estimated it would take 120 days for drilling activities, 24 hours a day, which is approximately 30 days per well for four wells.”

EB-16

As written, this paragraph implies that drilling each well would require that the drilling process would occur for 24 hours a day for 30 days. The 30 day time frame for each well includes time for placing the drill in position, installing rigging, and after the actual drilling, the relocation of the drilling rig to the next well location position. This text should be revised to reflect the other activities occur within the overall 30 day time period.

Page ES-5, third paragraph:

This paragraph should be revised as follows to include acknowledgement that the Phase 3 time frame includes timing for site remediation:

If it is determined that the production of oil and gas on the Project Site would be economically viable, the Applicant would begin Phase 3 of the Proposed Oil Project and Phase 3 would occur for a period of approximately 14 months. This would include time for site remediation on the Project Site.

EB-17

Page ES-5, fourth paragraph:

Insert the following clarifying language into this paragraph as follows:

Phase 4 would occur for a period of approximately 30 to 35 years, the first 30 months of which would include the drilling of the remaining wells. A 35-year period allowing for drilling into the tidelands and uplands and production is provided for under the existing Lease (Oil and Gas Lease No. 2).

EB-18

Page ES-5, Footnote for Table ES-1:

Add the following clarifying text as follows to the last sentence of the footnote to Table ES-1:

Does not include permitting timeframe, which would occur in advance of construction for each phase.

EB-19

Page ES-5, last paragraph:

This paragraph states, “The City is the lead agency which is preparing the EIR, and in this case the decision makers are the electorate of the City of Hermosa Beach.”

This paragraph should be revised to clarify that the City is the lead agency for the purposes of CEQA and the City will consider the Draft Final EIR for certification as well as place the Proposed Project on the ballot. These two actions must occur prior to the voters approving or denying the Proposed Project through the ballot measure process.

EB-20

Page ES-7, first paragraph and Table ES-2:

The reference to “Proposed Project” in the first paragraph and the title to Table ES-2 should be revised to “Proposed Oil Project.” A similar type of table should be provided for the Proposed City Maintenance Yard Project.

EB-21

Global Comment on pages ES-8 through ES-11:

The text provided on these pages should be revised to reflect the revised contents of the environmental analysis provided in Section 4.0 of the Draft EIR in response to the comments submitted during the public review period.

EB-22

Page ES-8, Air Quality, first paragraph:

The third sentence states, “...release of these compounds can cause odor impacts at considerable distances.”

Define a considerable distance? Wouldn't odor impacts, to the extent any exist with the incorporation of suggested additional analysis and proposed mitigation mitigations, be very localized?

EB-23

The incorporation of the analysis and additional mitigation measures proposed by the Applicant in the comments on Section 4.2, Air Quality and Greenhouse Gases, provided below in this letter would reduce the potential impacts from odors to a less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

Page ES-9, Biology, second paragraph:

The second paragraph states, “Implementing the proposed mitigation measures, including developing emergency response plans with specific criteria, implementing infrastructure preventative maintenance, and conducting structural integrity tests and routine inspections, would reduce the likelihood and severity of potential spill and exposure impacts to sensitive biological resources, but impacts would remain significant and unavoidable.”

EB-24

The incorporation of the additional mitigation measures proposed by the Applicant in the comments on Section 4.8, Safety, Risk of Upset, and Hazards, provided below in this letter would reduce the potential impacts to biological resources from a potential oil spill from a pipeline on Herondo Street near Valley Drive to a less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

Page ES-9, Hydrology:

This paragraph states,

As described under Biology, a release from the pipeline between the Project Site and Prospect Avenue, near the corner of Herondo Street and Valley Drive, could produce a spill of 4,800 gallons that could drain directly into subsurface soils and/or to the ocean through storm drains. Mitigation measures, in addition to those listed for Biology, include spill training, the required spill control equipment, the installation of a check valve into the crude oil pipeline at Herondo Street and the installation of an oil separator in storm drain systems of Herondo Street. These mitigation measures would reduce the frequency or severity of a spill reaching the ocean, but impacts would remain significant and unavoidable.

EB-25

The incorporation of the additional mitigation measures proposed by the Applicant in the comments on Section 4.8, Safety, Risk of Upset, and Hazards, provided below in this letter would reduce the potential impacts to hydrology and water quality from a potential oil spill from a pipeline on Herondo Street near Valley Drive to a less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

Page ES-10, first full paragraph:

Insert the following clarifying text in the first sentence:

Predicted noise impacts during the Phase 2 and Phase 4 drilling stages are significant along the entire perimeter of the Project Site and in many cases also exceed the 45 dBA nighttime limit imposed by the Hermosa Beach Oil Code.

EB-26

In addition, the incorporation of the additional mitigation measures proposed by the Applicant in the comments on Section 4.11, Noise and Vibration, provided below in this letter would reduce the potential impacts related to the increase in nighttime noise levels during concurrent drilling and production in Phases 2 and 4 to a less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

Page ES-10, Recreation, first paragraph:

The third paragraph states, “A spill along the coastline could affect beach areas, leading to beach closures and boating restrictions in contaminated areas during and potentially after cleanup.” This sentence seems extreme, given the unlikely nature of pipeline spill, which is not on the coastline.

EB-27

The incorporation of the additional mitigation measures proposed by the Applicant in the comments on Section 4.8, Safety, Risk of Upset, and Hazards, provided below in this letter would reduce the potential impacts to recreation from a potential oil spill from a pipeline on Herondo Street near Valley Drive to a less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

Page ES-10, Safety and Risk of Upset, first paragraph:

The second sentence states, “Although it is not known at this time which reservoir areas, if any, are pressurized to the extent that pressures could produce a blowout, historical data from drilling in Redondo Beach indicates that such potential does exist.” Please provide source of information for this assumption.

The analysis provided by the Applicant in the comments on Section 4.8, Safety, Risk of Upset, and Hazards, provided below in this letter provides evidence that the potential impacts related to blowout of a well would be less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

EB-28

In addition, the incorporation of the additional mitigation measures proposed by the Applicant in the comments on Section 4.8, Safety, Risk of Upset, and Hazards, provided below in this letter would reduce the potential impacts related to safety and hazards from a potential oil spill from a pipeline on Herondo Street near Valley Drive to a less than significant level. This text should be revised to reflect the additional analysis and mitigation measures.

Page ES-11, No Project Alternative, first paragraph:

The following clarifying text should be added after the first sentence:

Under the No Project Alternative, the Proposed Project would not be built, and the City Maintenance Yard would remain in its existing location without development of a new maintenance yard. There would also be no removal of contaminated soil and site clean-up.

EB-29

Page ES-15, Environmentally Superior Alternative, second paragraph:

The fourth paragraph states, “However, these barriers are similar to those under the Proposed Project and are therefore not considered to pose greater challenges where the proponent cannot reasonably acquire, control or otherwise have access to the alternative site.”

The barriers are not similar in any way. Currently, the Applicant has a lease for the project site and for the use of the tidelands and uplands; no such property interest exists at the AES power plant site. Further, the Settlement Agreement obligates the City to place the measure on the ballot; no similar agreement exists with the City of Redondo Beach. This information should be incorporated into the analysis and assessment of the viability of the AES power plant site as an alternative to the Proposed Project.

EB-30

Pages ES-33 and ES-34 of Table ES-2:

The summary of the environmental impacts of the Proposed Project related to biological resources should be revised to include the appropriate mitigation measures, including the additional mitigation measures proposed by the Applicant in the comments provided further below in this letter.

EB-31

SECTION 1.0 INTRODUCTION**Page 1-1, second paragraph:**

This third sentence states, “Drilling and production facilities would be located at the 1.3-acre site with oil and gas pipelines extending southward offsite within the cities of Hermosa Beach, Redondo Beach and Torrance to the Torrance Refinery.”

This information is incorrect. Refer to the comment on Page ES-2, Subsection Description of Proposed Project, first paragraph above in this letter for information on the oil and gas pipelines that would be provided as a part of the Proposed Project.

EB-32

Page 1-1, second full paragraph:

The fifth sentence is lacking detail about the changes in public parking with the Proposed Project and should be revised as follows:

A lot immediately west of the Project Site at 636 Cypress Street would be developed to provide 20 spaces serving E&B employees on weekdays and replace 17 parking spaces, consisting of providing 15 free remote coastal public parking spaces in the evenings and on weekends at the existing City Maintenance Yard and two on-street parking spaces along the south side of 6th Street, to replace spaces eliminated by the Proposed Project.

EB-33

Page 1-2, second full paragraph:

The second sentence states, “Decisions on relocation and design of the City Maintenance Yard will not be part of the ballot measure and will be considered by the Hermosa Beach Planning Commission and City Council, as necessary.”

EB-34

Refer to the comment on Page ES-1, second paragraph, above in this letter.

Page 1-3, Table 1.1, Assessor’s Parcel Numbers:

Add the following text to include Hermosa Beach as a location where pipelines would be placed in the road ROW:

EB-35

Pipelines: (R.O.W. Cities of Hermosa Beach, Redondo Beach and Torrance)

Page 1-4, last paragraph:

The following revisions to the text should be provided to clarify the information being provided:

The City of Hermosa Beach will consider the information in the Final EIR (FEIR) and certify the Final EIR (including adoption of Findings and Statement of Overriding Considerations) ~~prior to deciding whether to place to placing~~ a measure on the ballot asking the voters to approve or disapprove the Project, as required by the Settlement Agreement. The decision to approve or deny E&B’s Project will then be made by Hermosa Beach voters (see Project History, Section 1.8.1, below). The conclusions of the EIR will also serve to inform the voters in their role as decision-makers for the Proposed Project. Mitigation measures identified in the EIR to reduce impacts will be incorporated into the Project (essentially providing conditions which must be met if the Project is approved) and identified for voters on the ballot measure, as part of the Development Agreement.

EB-36

Page 1-5, Subsection 1.2.1.1 Local Regional Agencies, fifth paragraph:

This paragraph should be revised as follows:

The City of Redondo Beach will use the EIR in its consideration of a Coastal Development Permit for installation of pipelines within the Coastal Zone, and any permits required for the construction of the gas metering station.

EB-37

Page 1-6, bullet items under Oil Development Project:

Add an additional item to the list of Coastal Commission actions related to the Oil Development Project:

- Amend the Hermosa Beach Coastal Land Use Plan to change the Land Use Map designation from Open Space to Industrial;
- Amend the Hermosa Beach Coastal Land Use Plan to add policies to regulate oil and gas recovery as proposed in Appendix P;
- Amend the City’s Preferential Parking Program (existing Coastal Development Permit CDP 5-84-236);
- Adopt a Development Agreement for the Project;
- Approve a Coastal Development Permit for demolition and removal of facilities to allow construction of the parking lot at 636 Cypress Street;
- Approve a Coastal Development Permit for the Project.

EB-38

Page 1-6, bullets under City Maintenance Yard Relocation, permanent and temporary:

The lists include approvals for a Coastal Development Permit (CDP) for demolition and removal of facilities at the existing City Maintenance Yard, as well as the required amendment to the City's Preferential Parking Program. The requirement for these two items seems redundant to the requests to the California Coastal Commission that will be made by Applicant. Clarify the need for these separate activities that could be processed as one CDP.

EB-39

In addition, the list of approvals should be reorganized to provide the temporary City Maintenance Yard Project approvals first and the permanent City Maintenance Yard Project approvals second.

Page 1-7, Subsection 1.2.3 Impacts Considered Less Than Significant, first paragraph:

The first paragraph should be revised as follows:

Based on the findings of the Initial Study and the NOP Scoping Process, the following environmental topics are excluded from analysis in this DEIR because it was determined that the Proposed Project is ~~would~~ believed to have no potential for significant environmental effects related to these issues.

EB-40

Page 1-9, second bullet at top of page:

The second bullet should be revised as follows:

- Amend the Hermosa Beach Municipal Code, including the "Oil Production" Code (Hermosa Beach Municipal Code, Chapter 21-A), to amend the prohibition on process operations to allow oil and gas processing and treatment activities. Oil and gas processing shall be defined as treatment activities that involve the chemical separation of oil and gas constituents and the removal of impurities. Processing activities would include oil stripping; hydrogen sulfide and carbon dioxide removal systems; depropanizers, debutanizers, or other types of fractionation; sulfur recovery plants; wastewater treatment plants; and separation and dehydration of oil/gas/water.

EB-41

Pages 1-9 and 1-10, bullet item list for City Maintenance Yard Relocation, permanent and temporary:

Refer to comment on ES-1, second paragraph, above in this letter regarding the future discretionary actions by the City for the Proposed City Maintenance Yard Project.

EB-42

Page 1-10, last bullet item in list:

Last bullet in list is probably not intended to be a bulleted item, but a separate paragraph.

EB-43

Page 1-12, Appendix list:

Appendix F, listed on this page, is not included on the CD that accompanied the Draft EIR. Indicate where these documents can be viewed by the public.

EB-44

Page 1-12: Section 1.4.2, first paragraph:

The fourth paragraph states, "...this EIR uses the well-established significance criteria adopted by the County of Santa Barbara. These criteria have been found to be acceptable and utilized by the California Coastal Commission in particular."

EB-45

The Draft EIR does not seem to apply the Santa Barbara Environmental Risk Significance Criteria, but instead appears to utilize a different standard (1/1,000,000). The City should identify the authority for this standard.

Page 1-16, fourth full paragraph:

The first sentence states, "E&B will pay Macpherson \$30 million for those rights, including Macpherson's existing Conditional Use Permit and Lease."

EB-47

This statement is incorrect. Clarify that E&B has already paid this amount to Macpherson.

Page 1-17, last paragraph:

The last paragraph indicates that an approval is required from State Lands Commission. Please clarify, since it is our understanding that no additional approval is required from the State Lands Commission.

EB-48

SECTION 2.0 PROJECT DESCRIPTION**Page 2-1, Section 2.0, first paragraph:**

To assist the reader in understanding the relationship and requirements for both the City and the Applicant, it would be useful to add a reference to the Lease and Settlement Agreement contained in the Appendix to the Draft EIR.

EB-49

Page 2-1, second paragraph:

The second sentence states:

In order to clear the current City Maintenance Yard site (called the Project Site) for the construction of the proposed oil and gas facility, the City Maintenance Yard would be temporarily relocated during Phase 1 of the Proposed Project. If it is determined that the production of oil and gas on the Project Site would be economically viable (Phase 2 of the Proposed Project), construction of the permanent City Maintenance Yard would be completed once Phase 3 of the Proposed Project begins. The permanent Proposed City Maintenance Yard Project has two options: a Parking Option, which would add a net 97 parking spaces with a below grade parking garage, and a No Added Parking Option, which would have the same amount of parking as is currently available.

EB-50

This paragraph is unclear. The relocated City Maintenance Yard would be needed by the City during both Phase 1 and Phase 2, whether the relocation is to a temporary site or the permanent site. This should be clarified. It should be revised to more clearly identify existing parking spaces and the number of spaces that would be added and/or deleted with each of the parking options. The clarification should be reflected in the other sections of the Draft EIR where the discussion of the permanent Proposed City Maintenance Yard Project occurs.

Page 2-2, Section 2.1, first paragraph:

The end of the first sentence states, ". . . (pursuant to a lease granted by the State of California to the City). . ." There is a grant to the City, not a lease. See comment on page ES-2 above.

EB-51

Page 2-2, Section 2.1, second paragraph:

For clarity, add the following information at the end of the last sentence:

"As indicated below, the permanent City Maintenance Yard and the oil and gas facility on the Project Site would be constructed at the same time during Phase 3 of the Proposed Project."

EB-52

Page 2-4, Section 2.2, first paragraph:

For clarity, the last sentence should be revised as follows:

“The City is the lead agency which is preparing and certifying the EIR. ~~and in this case the decision makers are~~ Project approvals will be made by the electorate of the City of Hermosa Beach.”

EB-53

Page 2-7, first paragraph, first full sentence:

The referenced parking is part of the City Maintenance Yard. Revise text as follows:

“In addition, within the boundaries of the Project Site, there is an asphalt parking area ~~to the south~~ in the southerly portion of the City Maintenance Yard that provides 15 parking spaces for employees (Monday through Thursday between the hours of 6:00 a.m. and 6:00 p.m.) and for the public after hours (6:00 p.m. to 6:00 a.m.) and on weekends and holidays.”

EB-54

Page 2-10, Section 2.4 Proposed Oil Project Phases, last paragraph:

Refer to the comment on page ES-4, third paragraph, second sentence.

EB-55

Page 2-21, Table 2.4:

This table is confusing and the notes are hard for the reader to follow. The second and third column headings should be revised to indicate that the trucks are 3-plus axle and 2-axle, respectively. The total maximum number of trips provided in the last column are just additive and do not reflect the number of trips per day that would be associated with the project site. In addition, this table does not fully reflect information provided by the Applicant in the Planning Application documents.

EB-56

Page 2-38, Decision not to Proceed – Abandonment, second paragraph:

“The site would then be available for City or other development proposals, or for the temporary City Maintenance Yard to be relocated back to this site.”

As the City Attorney has acknowledged in comments to the City Council, the Lease does not automatically terminate if the voters do not approve the proposed project. Any future use would need to be consistent with the Lease.

EB-57

Page 2-33, last paragraph:

Figures 2.11 and 2.12 do not reflect the designated truck routes that would be used for the transport of oil during Phase 2. The corrected figure, provided in the Planning Application documents should be used.

EB-58

Page 2-38, Section 2.4.2.3:

The period is missing at end of the paragraph in Section 2.4.2.3.

EB-59

Page 2-41, Implementation of Remedial Action Plan, last sentence:

“The DTSC and the RWQCB have indicated that the contamination is below the levels of concern for the area and that groundwater remediation would not be necessary for the site.”
Provide the source for this statement.

EB-60

Page 2-59, Section 2.4.5, first paragraph:

“The drill rig would operate continuously for 24 hours per day, seven days per week, until the appropriate depth and bottom-hole location for each well has been reached. It is estimated it would take approximately 30 days to drill each well.”

EB-61

As written, this paragraph implies that drilling each well would require that the drilling process would occur for 24 hours a day for 30 days. The 30 day time frame for each well includes time for placing the drill in position, installing rigging, and after the actual drilling, the relocation of the drilling rig to the next well location position. This text should be revised to reflect the other activities that occur within the overall 30-day time period

Pages 2-65, 2-66 and 2-67, Phase 4 Safety and Security Systems:

While this section purports to include “Safety and Security Systems” included in the project design, it does not seem to include all of the project safety measures and features included in our Project Application documents. The text does reference Section 4.8, Safety, Risk of Upset, and Hazards, but the design features should be discussed more thoroughly here in the Project Description.

EB-62

Page 2-72, first paragraph:

“The Applicant has requested that the City supply the required 17 replacement spaces as part of the City Maintenance Yard relocation. If the No Added Parking option is constructed, then the 17 spaces would be provided on a permanent basis at the proposed temporary parking lot at 636 Cypress Avenue (see section 2.4.5). The City has not agreed to supply any replacement spaces regardless whether the Parking option or No Added Parking option were to be constructed.”

EB-63

The statement that the “17 spaces would be provided on a permanent basis at the proposed temporary parking lot at 636 Cypress Avenue” is not accurate. Refer to the comment on pages 4.10-3 through 4.10-4, Subsection Proposed Project Offsite Parking Locations provided on Section 4.10 below.

Page 2-72, fourth paragraph:

Correct typo: the correct address is 601 Cypress Street, not 602 Cypress.

EB-64

Pages 2-83, portion of sentence at top of page:

Correct the information in this text as follows:

“. . . amendments to the City of Hermosa Beach Coastal Land Use Plan, ~~and~~ a Coastal Development ~~Permits~~ Permit, and the Development Agreement for the Proposed Project.

EB-65

Pages 2-83, 2-84 and 2-85, Table 2.15, State Agencies:

The Development Agreement approval is not listed in the actions of the California Coastal Commission. Additionally, no amendment to the Lease Agreement is proposed for the California State Lands Commission.

EB-66

Page 2-85, Table 2.16:

Discretionary action items listed should be modified, per comments made above regarding Page ES-1, second paragraph 17 spaces would be provided on a permanent basis at the proposed temporary parking lot at 636 Cypress Avenue.

EB-67

SECTION 3.0 CUMULATIVE PROJECTS

Page 3-2, Section 3.1.2, second paragraph:

Provide the timeframe for the AES Power Plant project and the rationale for identifying as a cumulative project.

EB-68

Page 3-2, Section 3.1.2, third paragraph:

Explain the rationale for inclusion of the Anita Traffic Lane Modification Project in this cumulative analysis, since it is scheduled for completion before the Proposed Project could be placed on the ballot.

EB-69

Page 3-2, Section 3.2.1, fourth paragraph:

Explain the rationale for inclusion of the Harbor Development Project in this cumulative analysis, since it is scheduled for completion before the Proposed Project could be constructed, assuming it is approved by the voters in the City of Hermosa Beach.

EB-70

SECTION 4.0 ENVIRONMENTAL SETTING**Page 4-1, Section 4.0.1 Assessment Methodology, third paragraph:**

The fourth and fifth sentences discuss that “this EIR uses the well-established significance criteria adopted by the County of Santa Barbara” and that the criteria has been utilized by the Coastal Commission. This paragraph needs to further describe the criteria and indicate the environmental topics in Section 4.0 of the Draft EIR that were analyzed using the criteria.

EB-71

Page 4-2, Section 4.0.2 Oil Project Impact Analysis:

Provide the California Environmental Quality Act (CEQA), the CEQA Guidelines, or other legal citation for the categories of impacts using the terms: Class I, Class II, Class III and Class IV. The use of this “short-hand” was used inconsistently in the document.

EB-72

Page 4-3, Section 4.0.3, Formulation of Mitigation Measures and Mitigation Monitoring Program, second and fourth paragraphs:

Reference is made to “Applicant-proposed measures.” The Applicant is assuming this is a reference to the Applicant-proposed project design features and operational characteristics defined in the Planning Application documentation submitted to the City. These are key to the overall project design and operations and were developed by the Applicant’s design team and other technical consultants so that the Proposed Project would be in compliance with the 1993 Conditional Use Permit conditions of approval and reduce the potential significant effects of the Proposed Project to the extent feasible. These design features and operational characteristics should be included within each of the respective analyses of the environmental topic in Section 2.0, even if these project design features and operational characteristics are ultimately identified as mitigation measures in the Draft EIR.

EB-73

Page 4-3, EM-1, bottom of page:

With respect to EM-1, any agreements between the Applicant (E&B) and the City will be entered into in a manner consistent with the provisions of the Lease and Settlement Agreement and the implied covenant of good faith and fair dealing. In addition, there should be an acknowledgement of the Development Agreement and its role in the project implementation.

EB-74

SECTION 4.1 AESTHETICS AND VISUAL RESOURCES

Page 4.1-4, Section 4.1.1.3 Assessment of Key Observation Points, first paragraph:

Private views are not legally protected under CEQA and, while the City may evaluate potential impacts to private views, any mitigation measures to reduce potential impacts would be legally infeasible as the City cannot create a private property right using the CEQA process

EB-75

Pages 4.1-7 Section 4.1.2.1, Subsection Proposed Oil Project Site and 4.1-12, Section 4.1.2.2 Light and Glare:

On Page 4.1-7, the Project Site is described as “. . . located in a densely developed area. The parcel is immediately surrounded by light manufacturing and open space land uses. One- and Two-family residential and open space land uses border the light manufacturing district (See Figure 2.4, Project Description).” This seems like an accurate description of the general area.

EB-76

However, on Page 4.1-12, the Project Site area is described as “. . . located within a dense residential area with some commercial and industrial uses, characterized by low to medium ambient nighttime artificial light levels.”

There seems to be a contradiction in the characterization of the conditions surrounding the Project Site. The Project Site conditions are more accurately reflected in the characterization on Page 4.1-7, and the characterization on Page 4.1-12 should be revised to reflect consistent language describing the Project Site area.

Page 4.1-14, Section 4.1.3.3, Subsection City of Hermosa Beach Municipal Codes, third bulleted item:

Does Section 17.28.030H apply to the Project Site? The existing City Maintenance Yard is surrounded by M-1 Light Manufacturing and OS Open Space zoning.

EB-77

Page 4.1-15, top of page:

Do the Open Space provisions cited here also pertain to the relocated City Maintenance Yard component of the Proposed Project? If so, this should be made clear, and a consistency assessment with proposed plans for the relocated City Maintenance Yard should be included in the visual analysis.

EB-78

Pages 4.1-15 and 4.1.16, 4.1.3.4 Subsection City of Redondo Beach General Plan and 4.1.3.5 subsection City of Torrance General Plan:

Are these General Plan discussions relevant to the Proposed Project, given the fact that the construction that will occur in both Redondo Beach and Torrance will be pipelines? As a note, there will be a gas metering station will constructed in Redondo Beach.

EB-79

Page 4.1-26, next to last bulleted at bottom of page:

- “Except for the drill rig and drawworks, no equipment or appurtenant structures shall exceed 16 feet in height from grade as defined by the Oil Code (CUP Section 2. Land Use Development, Condition 5).”

EB-80

The Proposed Project was designed to comply with this condition in the Conditional Use Permit. However, the CUP contemplates the imposition of mitigation measures that are more restrictive or are necessary to mitigate effects of the project. Refer to discussion of wall height below as

well as to the wall height discussion in the comments provided below on Section 4.2, Air Quality, and Greenhouse Gases, and Section 4.11, Noise, of the Draft EIR.

Page 4.1-29, Section 4.1.5.4 Proposed Oil Project Viewshed Mapping:

Given the “inherent limitations” in the viewshed mapping using the digital terrain model and the three-dimensional representation of the buildings only (meaning vegetation screening is not accounted for) and including that the “map does not indicate ‘how much’ of the rig would be visible,” Figures 4.1-1 and 4.1-2 are very misleading and not an accurate representation of the viewshed. This methodology is inaccurate without any threshold or criteria by which to evaluate the images; particularly when the Draft EIR later states: “Distant views to the Project Site are typically limited by the presence of buildings.” The viewshed mapping implies that the drill rig is plainly visible from across the City, but many of the simulated views of the Proposed Project show that this is not the case, including views not that far away from the facility (2,000 to 3,000 feet). This is another example of an overstatement of the potential impacts.

EB-81

Page 1-37, Figure 4.1-3:

The selected locations include only areas within a certain radius of the Project Site where the drill rig, workover rig, and walls may be seen. Aren’t there additional locations within the same distance from the project site where the drill rig, workover rig, and walls cannot be seen at all?

EB-82

Page 4.1-44, Figure 4.1-7a:

Should the lower image be labeled “Parking Option” as opposed to “No Added Parking Option” which is depicted on Page 4.1-45?

EB-83

Page 4.1-92, Mitigation Measure AE-1b:

The visual images provided for in the Draft EIR did not assess the visual condition of a permanent 32-foot wall, with all accompanying design features, as proposed in Mitigation Measure AE-1b. The visual simulation which depicted the 32-foot wall was for a temporary sound attenuation wall. An expanded visual analysis, with all described/required design features in Mitigation Measure AE-1b should be provided. The required design features proposed in the mitigation measures should also include materials to address security concerns, as well as potential for graffiti, maintenance, longevity, and visual compatibility with the surrounding area. Feasibility of an extended wall height must also consider construction limitations and the need to reduce the landscape setback in some locations.

EB-84

Page 4.1-95, Mitigation Measure AE-2a:

Consideration of the materials to be used on the exterior of the sound attenuation wall referenced in this mitigation measure should also be cognizant of the ability of the sound attenuation materials inside the wall to deal with heat and exhaust from equipment inside the wall. Landscaping associated with any expanded wall height should also be considered, since the scale and requirements of the existing CUP (and visual depictions in this section of the Draft EIR) were based on a 16-foot high wall.

EB-85

Page 4.1-95, Mitigation Measure AE-2b:

Mitigation Measure AE-2b contains a requirement that wall footings shall be designed to limit encroachment into planted areas. If there is a requirement to extend the wall height to 32 feet, there may be structurally issue that conflict with the design and landscape requirements.

EB-86

SECTION 4.2 AIR QUALITY AND GREENHOUSE GASES

Page 4.2-1, first paragraph:

The fifth sentence states, “The Proposed City Maintenance Yard Project operational emissions would be equal to the current City Maintenance Yard emissions and are therefore not assessed.” Therefore, the analysis provided in Section 4.2, Air Quality and Greenhouse Gases, of the Draft EIR assumes that the Proposed City Maintenance Yard Project’s operational emissions would be equal to the emissions generated by the existing City Maintenance Yard. This assumption does not take into account changes from the existing conditions that would occur with the relocation, changes in the facility design, and operations of the Proposed City Maintenance Yard Project at a different location that should be included into the analysis of air quality during operations.

EB-87

Pages 4.2-4.2-5 and 4.2-6, Table 4.2.2:

The sulfur dioxide (SO₂) National Primary Standard listed as 0.5 parts per million (ppm) 3-hr is actually the National Secondary Standard. The Primary and Secondary Standards are defined as follows:

- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

EB-88

This error should be revised on Table 4.2-2.

Table 4.2-2 does not seem to duplicate any exact table on the South Coast Air Quality Management District (SCAQMD) website. The column heading, “Most Relevant Public Health Effects” in Table 4.2-2 appears to have been modified from a table in Appendix B of the report titled, “Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, 2005,” <http://www.aqmd.gov/prdas/aqguide/>. The table in Appendix B has a column heading labeled “Most Relevant Effects.” The descriptions provided in that table are more accurate than the descriptions provided in Table 4.2.2 because Table 4.2-2 contains effects which are not health related and, therefore, inconsistent with the column heading (for example see Nitrogen Dioxide). The following provides examples of the inconsistencies in Table 4.2-2 with the table provided in Appendix B to the “Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, 2005”:

EB-89

- The health effects for hydrogen sulfide (H₂S) listed in Table 4.2-2 are not the same as those listed in the table in Appendix B. Table 4.2.2 lists the health effects as “Odor annoyance at low concentration, acute and potential fatality at higher concentrations”, whereas the table in Appendix B lists the “Most Relevant Effects” as “Odor (rotten egg smell), Headache.”
- Vinyl Chloride is listed in Table 4.2-2, but does not appear in the table in Appendix B.
- Health effects from SO₂, PM₁₀, PM_{2.5}, Lead, and Visibility Reducing Particles have been re-written in Table 4.2-2 from the information provided in the table in Appendix B.

Pages 4.2-3 through 4.2-9:

The discussion of health effects for each of the pollutants does not match the information provided in Table 4.2-2 on pages 4.2-5 and 4.2-6. There is no reference provided for the health effects discussed. This information should be revised to provide the source of this information.

EB-90

Page 4.2-9, first paragraph:

The first complete sentence states, "Although health-based standards have not been established for VOC, health effects can occur from exposures to high concentrations of VOC because of interference with oxygen uptake." A reference for this statement is not provided. The meaning of "high concentrations of VOC" and "interference with oxygen uptake" is not clear and should be defined. This sentence should be revised to provide this information.

EB-91

Page 4.2-9, sixth paragraph:

The last sentence provides a discussion of the conclusions regarding ozone in the most recently published SCQAMD air quality management report. The last sentence of this discussion states, "However, due to the movement of pollutants and the meteorology of the Basin, air pollution from sources within the entire Basin contributes to the air quality exceedances in the inland areas." This may be factually correct, however sources, including mobile sources, in the inland areas also contribute to the air quality in the City of Hermosa Beach. Further, this statement implies that the Proposed Project may worsen the air quality in inland areas. This statement should be revised to provide justification for these conclusions.

EB-92

Page 4.2-7, Table 4.2-3:

Table 4.2-3 does not provide the location of the "South Coast LA Air Monitoring Station." This table should be revised to provide this information.

EB-93

Page 4.2-15, Subsection Calculation of Greenhouse Gas Emissions, first paragraph:

The second sentence states, "GHG emissions are a global issue because emissions from one location could affect the entire planet, and they are not limited to local impacts." This statement is incorrect. Emissions from one location are unlikely to affect global climate change as it is the sum of all global emissions that directly impacts CO₂ concentrations in the atmosphere. This paragraph is confusing in its entirety and should be revised. The Proposed Project represents an extremely small fraction of the total global GHG emissions.

EB-94

Page 4.2-17, first paragraph, bulleted items:

The first bulleted item should be revised to read, "Gasoline combustion represents...."

The second bulleted item should be revised to read, "...attributed to less emissions from electricity consumption and gasoline combustion sources."

EB-95

Page 4.2-18, Subsection Impacts of GHG Emissions:

This sentence states that the "Atmospheric CO₂ concentration are currently around 392 ppm..." This is inconsistent with the statement provided on page 4.2-12, sixth paragraph, last sentence which states, "Atmospheric CO₂ concentrations currently approximate 370 ppm." These two statements need to be reconciled and text revised as appropriate.

EB-96

Page 4.2-19, third full paragraph:

The second sentence states, "Climate change could occur at many different locations throughout the world due to, in very small part, the additional GHG emissions from this Proposed Project."

EB-97

This statement is incorrect; it is unlikely that emissions from the Proposed Project would affect climate change because the emissions are minuscule in comparison to global GHG emissions. This paragraph and the following paragraph should be rewritten or deleted.

EB-98

Page 4.2-20, Subsection 4.2.1.4 Existing Site Emissions:

The emissions from the existing City Maintenance Yard were not quantified for this analysis. This would not allow the analysis of the Proposed Project to take into account changes from the existing conditions at the project site with the implementation of the Proposed Project. The analysis should be revised to include the existing conditions at the project site with the existing City Maintenance Yard.

EB-99

Page 4.2-21, second paragraph:

This paragraph utilizes undefined terms including "... emit large quantities" and "any amount of non-criteria pollutants." This paragraph should be revised to further provide discussion of what these phrases are intended to mean.

EB-100

Page 4.2-21, third paragraph:

The third sentence should be revised as follows: "The CARB California Toxic Emissions Factors (CATEF) database lists toxic air contaminants from some oil field operations."

EB-101

Page 4.2-22, first paragraph:

This list of rules and regulations have incorrect titles and should be revised as follows. In addition, Rule 1118 would not be applicable to the Proposed Project and should be deleted.

- Rule 402. Nuisance - ~~A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons;~~
- Rule 462. Organic liquid loading ~~emission limits;~~
- Rule 463. Organic liquid storage ~~emission control requirements;~~
- Rule 1110.2. Emissions From Gaseous - And Liquid-Fueled Engines ~~limits;~~
- ~~Rule 1118. Control of emissions from refinery flares;~~
- Rule 1134. Emissions of oxides of nitrogen from stationary gas turbines ~~limits;~~
- Rule 1148.1. Oil and gas production wells—~~addresses emissions of volatile organic compounds (VOCs) from the wellheads, the well cellars and the handling of produced gas at oil and gas production facilities;~~
- Rule 1148.2. Notification and Reporting Requirements For Oil And Gas Wells And Chemical Suppliers;
- Rule 1166. Volatile organic compound emissions from decontamination of soil ~~procedures and requirements;~~
- Rule 1173. Control of volatile organic compound leaks and releases from components at petroleum facilities and chemical plants;
- Rule 1176. Sumps and Wastewater Separators ~~VOC emissions from wastewater systems limits and required controls;~~ and
- Rule 1178. Further reductions of VOC emissions from storage tanks at petroleum facilities.

EB-102

Page 4.2-32, Table 4.2-6:

Table 4.2-6 has missing and incorrect information as discussed below and the table should be revised to include this information.

- Table 4.2-6 defines the significance threshold for odors as “Nuisance defined as more than six odor events per year.” However, the South Coast Air Quality Management District’s (SCAQMD’s) significance threshold for odor is stated as, “Project creates an odor nuisance pursuant to SCAQMD Rule 402.” Refer to Attachment 2 for the March 31, 2014 comment letter regarding the analysis of the potential impacts related to odors that was previously submitted to the City.
- The thresholds for TACs provided in Table 4.2-6 are different than the thresholds defined in the SCAQMD document titled “SCAQMD Air Quality Significance Thresholds,” revision March 2011. The correct thresholds are shown below:
 - Maximum Incremental Cancer Risk \geq 10 in 1 million
 - Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million)
 - Chronic & Acute Hazard Index \geq 1.0 (project increment)
- The Federal AAQS significance thresholds for SO₂ and lead are not included.

EB-103

Page 4.2-33, Subsection 4.2.4.1 Design Features:

Revise the second sentence as follows: “The Applicant has proposed several design features in addition to these ~~permitted~~ requirements that would reduce air quality impacts such as:....”

EB-104

Page 4.2-33, fourth paragraph:

In general, this section of the air quality analysis is incomplete. The design features and operational characteristics of the Proposed Project that provide emission controls were given to the City in the Planning Application documentation. This subsection should be revised to provide that information for each phase of the Proposed Project.

EB-105

Page 4.2-34, Subsection 4.2.4.2 Conditional Use Permit Requirements:

The 10th and 13th bulleted items are duplicated.

The following 1993 Conditional Use Permit (CUP) conditions of approval that address air quality were not included. The analysis should be revised to include these conditions of approval.

- All project site activities shall be conducted such as to eliminate escape of gas in accordance with best available control technology and practices which shall be reviewed and approved by the City. (Section 11. Odors/Vapor/Air Pollution, Condition 4)
- All requirements of AQMD shall be met at all times. (Section 11. Odors/Vapor/Air Pollution, Condition 5)
- A state-of-the-art scrubber shall be employed for the exploratory phase to eliminate odors from waste gases, and any flame shall be enclosed. (Section 11. Odors/Vapor/Air Pollution, Condition 6)
- Operators shall not blow lines to the atmosphere, except in an emergency, as defined by the C.U.P. and reported to the City in accordance with the notification requirement. (Section 11. Odors/Vapor/Air Pollution, Condition 8)

EB-106

- Construction equipment and vehicles shall be maintained in proper tune. (Section 11. Odors/Vapor/Air Pollution, Condition 9)
- Odor control will be further enforced by the SCAQMD under Rules 402, 466, 466.1 of their regulations, and the commercial recovery system shall be employed for the permanent facility. (Section 11. Odors/Vapor/Air Pollution, Condition 12)

Page 4.2-35, fifth paragraph:

The second sentence indicates that the analysis used a distance of 250 feet for onsite dirt road travel. The assumption of 250 is an overestimate of the on-site dirt road travel that could occur during construction. The maximum width of the project site is approximately 240 feet. The width from the southwest corner to the northeast corner is 335 feet and the width from the southeast corner to the northwest corner is 306 feet.

EB-107

Page 4.2-35, fifth paragraph:

The analysis assumed that emissions associated with the soil excavation for the Proposed City Maintenance Yard Project are “similar” to those estimated at the project site. This is provided without any basis. In addition, the emissions from the excavation for the soil remediation activities on the project site (the existing City Maintenance Yard) are overestimated and, therefore, the analysis for the Proposed City Maintenance Yard Project is overestimated. Refer to the comment on page 4.2-36, paragraph 3 below for additional discussion of this overestimation of the emissions.

EB-108

Page 4.2-36, third paragraph:

This paragraph discusses that the analysis used nonane (C9) to estimate emissions from excavation of the contaminated soils at the project site. The test data referred to in the analysis was obtained from the Phase II Environmental Site Assessment (Brycon 2012) submitted as part of the November 2012 Planning Application. The second sentence states, “Historical sampling (Brycon 2012) shows that the highest concentrations of VOCs (C4-C12) are located between 10 and 35 feet deep with the highest concentrations of C13+ being located nearer the surface.” This is an incorrect interpretation of the information provided in the Brycon report. The maximum VOC concentration was located in sample GP10 at 35 feet, which is not planned for excavation by the Applicant and, therefore, not a part of the Proposed Project. The analysis does not provide an explanation for the calculation of the VOC emission rate of 0.00174 g/s on page B-25 of Appendix B of the Draft EIR.

In addition, the third sentence indicates that the analysis uses the highest concentrations of toxic VOCs (benzene, etc.), found between depths of 25 and 40 feet, to estimate the potential effects of toxic air contaminants. Further, the analysis assumes that the entire soil column, from the surface to 40 feet, would be excavated. As stated in the November 2012 Planning Application, excavation of contaminated soils would not occur below 15 feet below the ground surface. The highest concentration of benzene in the upper 15 feet of the soil column should have been used in the analysis. Emissions from the remediation activities appears to be significantly overstated because the analysis in the Draft EIR assumes that the entire volume of contaminated soil would be excavated and disposed of off-site, contrary to the Proposed Project defined by the Applicant in the November 2012 Planning Application. The Draft EIR assumes that the contaminants are evenly distributed throughout the entire soil column, whereas the highest concentrations of VOC are found at depths which are proposed by the Applicant to be treated by in-situ methods and,

EB-109

therefore, would not be excavated. The analysis should be changed to reflect the actual planned remediation defined for the Proposed Project in the Planning Application.

Page 4.2-38, Mitigation Measures:

Mitigation Measure AQ-1b should be revised as follows:

AQ-1B The Applicant shall implement a NO_x reduction program including the following, or equivalent, measures to the satisfaction of the SCAQMD (this mitigation is applicable to both the Proposed Oil Project and the Proposed City Maintenance Yard Project):

- All off-road construction equipment shall be tuned and maintained according to manufacturers' specifications.
- Any temporary electric power shall be obtained from the electrical grid, rather than portable diesel or gasoline generators.
- All off-road diesel construction equipment with greater than 100-horsepower engines shall meet Tier 3 NO_x requirements.
- Limit onsite truck idling to less than 5 minutes.
- A copy of the certified tier specification, best available control technology documentation, or the CARB or SCAQMD operating permit for each piece of equipment shall be provided to the City and SCAQMD when each piece of equipment is mobilized kept on site during all operations.

EB-110

Page 4.2-41, first paragraph:

Refer to the comment on Page 36, third paragraph above for a discussion of the incorrect assumptions about the excavation of the contaminated soil on the existing City Maintenance Yard.

EB-111

Page 4.2-42, Subsection 4.2.4.4, second paragraph:

The second sentence needs to be revised as follows: During Phase 1 & 2, the flare would be used to combust the produced gas because none of the gas would be used onsite or transported offsite.

EB-112

Page 4.2-43, first full paragraph:

Refer to Attachment 2 for the March 31, 2014 comment letter regarding the analysis of the potential impacts related to odors that was previously submitted to the City for a discussion of "leakers."

EB-113

Page 4.2-43, second full paragraph:

Drilling emissions were included in operational emissions for the Proposed Project. According to the SCAQMD, drilling operations should not be considered an operational activity. Please explain why the drilling emissions were included with the operational emissions when the drilling activities would be temporary (occurring for a period of approximately 4 months in Phase 2 and 2.5 years in Phase 4).

EB-114

Page 4.2-44, Table 4.2-9:

In Table 4.2-9, the VOC, NO_x, PM₁₀, and PM_{2.5} as a result of the operations of the Proposed Project, which included temporary drilling activities, are shown to exceed the thresholds of significance. In addition, the emissions from the enclosed ground flare are significantly higher than calculated in the Air Quality Impact Analysis in Appendix C to the November 2012

EB-115

Planning Application. Please provide an explanation of this significant difference in conclusions (Draft EIR states NO_x emissions of 151 pounds/day and the Planning Application stated 45 pounds/day).

Page 4.2-45, third paragraph:

The first sentence states, “During routine maintenance or emergency scenarios, the produced gas would be routed to the flare instead of to the gas processing equipment.” This sentence should be revised to indicate that produced gas would only be routed to the flare during an upset condition or an emergency and not during routine maintenance.

EB-116

Page 4.2-45 Mitigation Measure AQ-3:

Mitigation Measure AQ-3a should be revised to clarify that this measure only applies to Phase 4 of the Proposed Project. During Phase 4, the flare would be equipped with a pilot light burning 100% of the time. The flare for Phase 4 would only be used: during monthly testing for approximately one hour per month; for the destruction of released gases during operational upsets, during which the Applicant would limit the quantity of gas that is combusted to 525 MMBtu (equivalent of 105 MMBtu/hour for 5 hours); or during an upset event when, for the safety of employees and the public, flaring may be required to occur for more than 5 hours. Mitigation Measure AQ-3a should be revised as follows:

EB-117

- AQ-3a The Applicant shall limit flaring during Phase 4 to a total of 5 hours per day at the full flaring capacity (or to an equivalent volume of flared gas) during all emergency or routine flaring events in order to ensure that NO_x emissions are reduced below the thresholds. Lower NO_x emission combustors or other equivalent measures can also be used to satisfy the requirement.

Page 4.2-47, first full paragraph:

The first full paragraph needs to be revised as follows to provide the correct phase:

Modeling parameters are listed below based on Applicant and manufacturers' information.

- For the Phase 4 flare, the exhaust stack diameter: 3.5 feet, the exhaust gas exit temperature: 2000 deg F and the exhaust gas exit velocity: 15.3 feet/second;
- For the Phase 4 flare, the exhaust stack diameter: 10 feet, the exhaust gas exit temperature: 2000 deg F and the exhaust gas exit velocity: 15.3 feet/second;
- For the Phase 4 microturbines, there would be 5 separate stacks, one associated with each microturbine, with the following characteristics each: exhaust stack diameter: 1 foot, exhaust gas exit temperature: 325 deg F, exhaust gas exit velocity: 10.6 feet/second.
- All stacks would be 16 feet high the height of the wall from grade.

EB-118

Refer to the comment on page 4.2-47, third paragraph below regarding the stack heights.

Page 4.2-47, third paragraph:

Applicant's proposal for Phase 4 of the Proposed Project did not include a permanent 32-foot high wall surrounding the Project Site as proposed by mitigation measures in Section 4.1, Aesthetics, of the Draft EIR. The air dispersion modeling for the analysis provided in Section 4.2 of the Draft EIR assumed a 32-foot high wall, but maintained the microturbines stack height

EB-119

and flare height at the originally proposed 16 feet in height. As a result, this could create potential safety and health risk for the on-site air quality due to the aerodynamic building downwash and other phenomenon cause by eddies created by air movements that would need to be addressed. Therefore, the Applicant is proposing that the microturbines (or heater-treater) stack height and flare height be increased to approximately 32-feet in height. To accomplish this, the Conditional Use Permit contemplates the imposition of mitigation measures that are more restrictive or are necessary to mitigate the effects of the project.

EB-120

Page 4.2-49, Subsection Residual Impacts:

This paragraph includes that “microturbines are not critical to the functioning of the facility.” The ability to generate electricity for on-site use is a definite benefit for the Proposed Project, but an additional important benefit of the microturbines would be to generate heat for assisting in the separation of oil and water as part of the produced oil process and to be able to burn natural gas liquids, if they exist. This statement should be revised.

EB-121

Page 4.2-49, fourth paragraph:

The concentration of H₂S that can be detected by humans is not referenced. The reference for this information should be provided.

EB-122

Page 4.2-50, first paragraph:

Refer to Attachment 2 for the March 31, 2014 comment letter regarding the analysis of the potential impacts related to odors that was previously submitted to the City.

EB-123

Page 4.2-50, second paragraph:

The reference for the odor threshold of pentane, 2 ppm (New Jersey 2007), is not available at the New Jersey Department of Health website. The 2009 version of the document does not list an odor threshold for pentane. The text should be revised to provide the correct reference.

EB-124

Page 4.2-51, first, second, third, and fourth paragraph:

Refer to Attachment 2 for the March 31, 2014 comment letter regarding the analysis of the potential impacts related to odors that was previously submitted to the City.

EB-125

Pages 4.2-51 and 4.2-52, Mitigation Measure 5b:

Mitigation Measure AQ-5b should be deleted because it is not necessary to install tank pressure monitoring on a tank that would be connected to a vapor recovery system where the tank pressure relief valve (PRV) would also be connected to a vapor collection system. The tank could not vent to the atmosphere from the PRVs during an over pressure condition. Therefore, tank pressure monitoring and alarms would not be required. A breakdown would occur only if there was a violation of the permit condition or District rule.

EB-126

Page 4.2-52, Subsection Residual Impacts:

Refer to Attachment 2 for the March 31, 2014 comment letter regarding the analysis of the potential impacts related to odors that was previously submitted to the City.

EB-127

Page 4.2-53, second paragraph:

Drilling emissions should be amortized over life of the Proposed Project to be consistent with other construction related emissions. This correction should be provided.

EB-128

Page 4.2-53, fourth full paragraph:

As discussed in the comment on Pages 4.2-51 and 4.2-52, Mitigation Measure AQ-5b above, the tanks and tank pressure relief valves (PRVs) would be connected to the vapor collection system. PRVs associated with tanks would not vent to atmosphere. The vapor collection system has built in redundancy to reduce the potential for compressor failure. In the event of a complete vapor collection system shutdown, the tank would vent to the flare. Therefore, a tank pressure monitoring system would not be required.

EB-129

Page 4.2-57, Subsection Toxic Air Contaminants:

The analysis does not include an evaluation of the reduced risk associated with use of TIER 3 engines equipped with diesel particulate filter (DPF).

EB-130

Pages 4.2-54 and 4.2-55, Mitigation Measure AQ-7a:

Mitigation measure AQ-7a requires the use of electric workover rigs in place of diesel powered workover rigs in order to reduce the cancer risk determined by the health risk assessment provided on pages 4.2-57 through 4.2-66 to below the applicable threshold value of 10 in a million. The Applicant has contacted manufacturers of workover rigs who have informed us that, although it would be possible to build a workover rig that utilizes an electric drive/source, they are not aware of any company currently manufacturing them. The analysis of toxic air contaminants in the Draft EIR used EMFAC emissions factors for the diesel powered workover rig that is appropriate for the unmitigated emissions, but did not consider the use of more modern diesel engines that can achieve much lower emissions.

The California Air Resource Board (CARB) and EPA have promulgated regulations that reduce emissions of particulate matter from new diesel engines and lowers the emissions from operators of diesel powered equipment. These regulations will continue to reduce particulate matter from on-road and off-road diesel powered equipment. The Applicant has reviewed a new diesel powered workover rig equipped with a CARB approved Tier IV engine that tested well below the Tier IV emission standard of 0.015 gr/bhp-hr. The Applicant proposes that Mitigation Measure AQ-7a be revised so that it does not preclude the use of a diesel driven workover rig if it can be demonstrated that, at the time such a rig is required to be used at the project site, it can be demonstrated that the diesel drive workover rig will meet the PM emission limit necessary to ensure cancer risks within the threshold limit based on the final approved design of the facility. If it cannot be demonstrated that a diesel drive workover rig will comply with the requirement, Applicant will then commit to using the electric drive/source.

EB-131

Therefore, Mitigation Measure AQ-7a should be revised as follows:

- AQ-7a All diesel equipment used at the project site shall meet EPA Tier 3 emission requirements and be equipped with a CARB Level 3 diesel particulate catalyst filter to reduce Diesel PM emissions. ~~All workover rigs shall utilize electric drive/sources and shall not utilize diesel generators or engines. Any workover rig operated at the proposed project site shall be allowed to operate only if it can be demonstrated, by the submittal of appropriate models to the City, that the PM emission levels are at or below the level required to ensure that the health risk thresholds will not the threshold limit for cancer risks.~~

In addition, Mitigation Measure AQ-7 should be revised as follows:

AQ-7 The vapor recovery on crude tanks shall achieve ~~a minimum of 99 percent recovery of fugitive emissions~~ SCAQMD-mandated Best Available Control Technology (BACT).

EB-132

Draft EIR Appendix B, Page 1179:

Draft EIR Appendix B, page 1179 provides the health risk assessment model that is labeled “E&B Oil Project-Phase 4: Unit Emission Rate with 16’Wall BDW, All So”. The model data provided by MRS was for a 32-foot wall. Appendix B should be corrected to reflect the correct model wall height proposed in the mitigation measures in Section 4.1, Aesthetics, of the Draft EIR. The model results should be incorporated into the analysis in Section 4.2, Air Quality and Greenhouse Gases.

EB-133

SECTION 4.3 BIOLOGICAL RESOURCES

Page 4.3-1, second paragraph:

The fourth sentence states, “The onshore and offshore areas that could be potentially affected by an oil spill are described as general Project areas throughout the rest of this section.”

This statement sets the tone for this section and demonstrates the insufficient and general approach the analysis in Section 4.3, Biological Resources, of the Draft EIR took in defining the environmental setting and assessing the potential impacts on biological resources as a result of an 80 to 90-barrel (BBL) single oil spill event, during a storm event, from the pipeline along Herondo Street near Valley Drive. This generalized approach does not provide adequate information or analysis to support the conclusions of this section. Refer to the comments on Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR and Attachment 4 for the April 8, 2014 letter regarding the analysis of pipeline spills that was previously submitted to the City.

EB-134

Page 4.3-1, third paragraph:

This paragraph indicates that environmental documents that examine the Southern California Bight (SCB) region were used in the preparation of the analysis of biological resources. There is no basis for the examination of biological resources in the SCB (consisting of the 400 miles of coastline from Point Conception, in Santa Barbara County, to just south of Ensenada, Mexico), for an inland project consisting of 1.3 acres. Further, it is unclear why wildlife and plant species that are not even known to the region, such as Marine Turtles “Though uncommon in the region (Page 4.3-4)” were examined.

EB-135

To provide clarification of the geographical context of the areas examined in the analysis, this section should be revised to include exhibits the show the study area boundaries for the “general Project areas,” the Santa Monica Bay, and the Southern California Bight region.

Pages 4.3-1 through 4.3-3, Subsection 4.3.1 Environmental Setting:

The environmental setting subsection only describes the existing conditions for the current City Maintenance Yard area (the project site for the Proposed Oil Project). This subsection should be revised to address the environmental setting for the Proposed City Maintenance Yard Project for both the temporary and permanent facilities. These revisions to the environmental setting should discuss the existing setting and biological resources that have the potential to be impacted by the

EB-136

Proposed City Maintenance Yard Project including: the adjacent land uses such as the Hermosa Valley Greenbelt located immediately to the east which, as described for the Proposed Oil Project site, also includes existing vegetation and possible habitat; the landscaping along Valley Drive which has street trees that could provide possible roosting, nesting, and foraging opportunities; and the proximity of the Proposed City Maintenance Yard Project site to the Hermosa Beach coastline including the Sandy Beach onshore resource. This information needs to include a discussion of the existing drainage for the Proposed City Maintenance Yard Project site and any pipelines and outflows that occur onto the sandy beach habitat or other location(s). This drainage and its potential effect on biological resources should be analyzed later in this section.

Pages 4.3-1 through 4.3-4, Subsection 4.3.1.2 Offshore Resources:

The first sentence of subsection 4.3.1.2 Offshore Resources needs to include a discussion of the Proposed City Maintenance Yard Project site. The future activities at the Proposed City Maintenance Yard Project site could have the potential to affect offshore areas through the use, transport, handling, and disposal of paints, oil, gasoline, solvents, and other materials that could be detrimental to the offshore environment in the event of a spill. These activities and their potential effect on biological resources should be analyzed later in this section.

EB-137

Page 4.3-2, Subsection Sandy Beach, last paragraph:

The second sentence states, "Several stormwater lines that drain off Valley Drive run perpendicular to the proposed Pipeline route and outflow onto the sandy beach habitat."

This section should reference the stormwater lines depicted in Figure 4.8-3 on page 4.8-37 in Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR. In addition, information regarding the design of the storm drain should be provided. According to Los Angeles County Flood Control District drawings, all stormwater along Valley Drive south of 6th Street is captured in catch basins located at 2nd Street and Herondo Street, which then drain into the 9-foot by 11-foot concrete box storm drain in Herondo Street that drains to the Herondo Street Diversion before draining into the Pacific Ocean via the outlet that is approximately 200 feet from the ocean. There are no other stormwater lines that drain off Valley Drive between 6th Street and Herondo Street and run perpendicular to the proposed pipeline route and outflow onto the Sandy Beach habitat.

EB-138

Based on Figure 4.8-3 and the design of the storm drain discussed above, an exhibit showing the location of the existing onshore shore sensitive plant communities and potential wildlife habitats should be provided. Based on this information, the analysis should provide a detailed discussion that is reflective of a reasonable study area for the Proposed Project, including the Proposed Oil Project and the associated off-site pipelines and the Proposed City Maintenance Yard Project. Based on this information the analysis should model the trajectory and the fate of an oil spill in order to make conclusions about the off-site oil pipeline location to sensitive habitats in the general Project area.

EB-139

Page 4.3-3, top of page:

The first full sentence at the top of the page states, "There was no vegetation observed along the sandy beach habitat or any signs of any additional vegetative communities in the general area. The entire beach area is heavily used by people recreating in the area." This indicates that there would be no biological resources at the outflow onto the sandy beach and, therefore, no impacts would occur to the Sandy Beach habitat.

EB-140

Page 4.3-3, Section 4.3.1.2 Offshore Resources, first paragraph:

The first sentence states, “The offshore areas that could potentially be affected by the Proposed Oil Project are located in the south-central part of the Santa Monica Bay near the city of Manhattan Beach, California (Figure 2.1).”

EB-141

This sentence should be revised to state “near the City of Hermosa Beach” not the City of Manhattan Beach.”

Page 4.3-3, Section 4.3.1.2 Offshore Resources, third paragraph:

The third paragraph states, “The wide variety of habitats found in the SCB encourages a similarly rich and varied marine life. In particular, the Channel Islands are important breeding grounds for several diminishing populations of marine birds and marine mammal species. Since the Channel Islands are situated some distance from a heavily populated coastline in southern California, they also represent the best examples of pristine environments in the southern California area.”

The discussion should be revised to qualify this statement by advising the reader that this is not an area at risk from the worst-case single oil spill event contemplated in Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR. This statement as well as others in the remainder of the discussion in Subsection Offshore Resources may be somewhat informative, but provide the impression that the SCB is the general area that could potentially be impacted by the worst-case single oil spill event contemplated; this is simply not the case.

EB-142

San Nicholas Island, which is the closest of the Channel Islands, is over 30 miles from the stormwater line outlet on the beach in Hermosa Beach and any potential source of the 80 to 90 barrels of oil from the single oil spill event contemplated in Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR. Offshore response resources, as part of the Applicant’s Oil Spill Contingency Plan, would have substantial time to intervene on such a small amount of oil (refer to the comment on Page 4.3-17, Lempert-Keene-Seastrand Oil Spill Prevention and Response Act below). Furthermore, no appreciable oil slick that could affect the Channel Islands would be created because of the nature of the onshore pipeline spill and the characteristics of the oil found within the Torrance Oil Field; the oil would be intermittent, consisting of small stringers or clumps. With this type of spill, the probability of any of the “substantial” impacts discussed in Section 4.3.4 would not happen.

Therefore, the discussion of the existing conditions and the impact analysis should be revised to reflect this information.

Pages 4.3-10 through 4-3-13:

The conclusions about the potential presence or absence of the species described are inconsistent. A conclusion about the potential presence or absence should be made clear for each of the species described.

EB-143

Page 4.3-17, Lempert-Keene-Seastrand Oil Spill Prevention and Response Act:

Although premature at this point in the entitlement process, at the request of the City of Hermosa Beach, the Applicant prepared a detailed discussion of the Marine Facility Oil Spill Contingency Plan that would be prepared for the Proposed Project. The purpose and intent of the plan would be to provide for the “best achievable protection of coastal and marine resources” and “ensure that all areas addressed by the plan are at all times protected by prevention, response, containment and clean-up equipment and operations” (subsection 815.07(c)). The plan would be

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prepared “consistent with the State Marine Oil Spill Contingency Plan and not in conflict with the National Oil & Hazardous Substances Pollution Contingency Plan, or the applicable Federal Area Contingency Plans” (subsection 815.07(d)). The plan would be submitted to the Office of Spill Prevention and Response (OSPR) so that it is received by OSPR at least 180 days prior to the beginning of operations. The detailed discussion of the Marine Facility Oil Spill Contingency Plan that would be prepared for the Proposed Project was previously submitted to the City of Hermosa Beach as Attachment G to the Response for Planning Application Completeness Review, dated April 11, 2013. This document has been provided again to the City as Attachment 5 to this letter.

Page 4.3-18, Section 4.3.4, second paragraph:

This second paragraph states, “The following section describes the level of impact for each of the significance criteria described above in Section 4.3.4.”

EB-145

The correct reference should be Section 4.3.3.

Page 4.3-20, last paragraph:

The last sentence states, “In contrast, large Pipeline spills occurring during rain events which could allow oil to enter stormdrains and subsequently spread out into coastal habitats would substantially degrade their value, and would represent a potential long-term impact to biological resources.” This statement results in the conclusion to Impact BIO.2 that states, “A rupture or leak from oil Pipelines has the potential to result in a substantial adverse effect on native species and habitats, sensitive species, and biologically important habitats associated with the Pacific Ocean.” The impact is listed as being significant and unavoidable.

EB-146

Refer to Attachment 4 for the April 8, 2014 letter regarding the analysis of pipeline spills that was previously submitted to the City. The analysis of Impact BIO.2 should be revised to incorporate the conclusions of the analysis provided in the letter dated April 8, 2014.

Pages 4.3-21, 4.3-22, 4.3-23:

The Draft EIR provides no substantive discussion on the fate of the oil (how the oil will interact and be affected by the environment once released) and the other factors that should be considered in the determination of a potential impact. The Draft EIR incorrectly gives a generalized characterization of the effect of the single-event oil spill during a storm event contemplated in Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR, with 80 to 90 barrels flowing in the ocean, causing every imaginable substantial scenario that could happen in the Southern California Bight. Without a substantive discussion, there is no basis to support the conclusion that this scenario “has the potential to result in a substantial adverse effect on native species and habitats, sensitive species, and biologically important habitats associated with the Pacific Ocean.”

EB-147

Furthermore, a substantive discussion about the fate of the oil once in the marine environment would provide a much clearer picture related to the risk of offshore resources. Small intermittent stringers or clumps of oil would not pose a risk to offshore resources as is stated in the limited analysis in this section. The volume of any potential spill, should it ever occur, would produce very small patches that are easily removable from the environment. The discussion on Benthos, Plankton, Fish, Marine Birds, Shorebirds, and Marine Mammals gives the impression that this single event pipeline spill during a storm event would have a substantial adverse impact with an oil slick blanketing large areas of the ocean and shore; this is just not a possibility. One cannot

possibly reach this conclusion in the context of an actual spill scenario as described in the April 8, 2014 letter provided in Attachment 4.

For instance, on Page 4.3-22 the second paragraph states, “Because fish species can be economically important and because long-term loss can result from an oil spill, impacts to fish are considered to be significant.” There is simply no reasonable justification to conclude that there would be long-term loss of fish or a single fish for that matter.

In the discussion of Plankton in the first paragraph on Page 4.3-22, how does this spill even remotely impact plankton to the degree of substantial and adverse? What size spill would meet this test? For Benthos on Page 4.3-21, how much oil and what areas of coverage is anticipated that would result in a conclusion of a substantial and adverse impact?

EB-148

Should there ever be a spill, what small amount of oil that makes it to the ocean would sink to the bottom, likely weather, and begin to be consumed by microbes? Scientific studies have verified that naturally occurring microorganisms in the environment, primarily bacteria and fungi, have a huge capacity for breaking down, or degrading, oil. Oil is a natural product, generated from organisms that long ago used sunlight as their energy source through the process of photosynthesis. Components of crude oil are a great source of energy as food for microbes. Microbes have evolved the ability to use oil as their food source; in other words, to metabolize or biodegrade the compounds for energy and use them as raw material for growth. There is no discussion on this topic as it relates to the fate of oil.

EB-149

In addition, the Applicant would have an Oil Spill Contingency Plan that includes shoreline protection measures (avoidance of spill workers from sensitive species, such as the snowy plover). The United States Coast Guard (USCG), in coordination with State agencies, produces Area Contingency Plans that show sensitive areas along the coast of California and strategies to protect them. These are used in coordination with the Incident Command System (ICS) and the Applicant’s Spill Response Plan. Furthermore, the Oil Spill Contingency Plan requires the Applicant to mobilize the Oiled Wildlife Care Network to provide surveillance, protection, and care for wildlife resources in the event of a spill. Refer to the comment on Page 4.3-17, Lempert-Keene-Seastrand Oil Spill Prevention and Response Act provided above for a discussion of the Marine Facility Oil Spill Contingency Plan that would be prepared for the Proposed Project.

EB-150

It is incumbent that revisions be incorporated into Section 4.3, Biological Resources, of the Draft EIR and that the Final EIR provide a reasonable explanation and substantive discussion on the fate of the single event oil spill during a storm event (defined as the worst-case) to provide the reader context related to the spill scenario as set forth in this analysis. Because of the relatively small size of the spill that could have the potential to occur, the probability of a pipeline spill occurring, the Applicant proposed additional mitigation measures provided in the April 8, 2014 letter, the mechanism by which the oil could enter the ocean, and the comprehensive response and cleanup capabilities that would be provided consistent with the standard regulatory requirements and plans, there is no basis for the Final EIR to conclude that any spill could be considered significant and unavoidable.

EB-151

Page 4.3-24, Mitigation Measure BIO-2:

Mitigation Measure BIO-2 should be revised to reflect the requirements of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act as shown in the discussion of the Marine Facility Oil Spill Contingency Plan that would be prepared for the Proposed Project. As

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indicated above, this discussion was previously submitted to the City of Hermosa Beach as Attachment G to the Response for Planning Application Completeness Review, dated April 11, 2013. This document has been provided again to the City as Attachment 5 to this letter.

SECTION 4.4 CULTURAL RESOURCES

Page 4.4-18, Mitigation Measure CR-3a:

Mitigation Measure CR-3a should be revised as appropriate to indicate that the Archeological Monitoring Plan will provide measures that comply with the regulations and requirements that address work safety during building demolition and ground disturbing activities in Phase 1 and the implementation of the Remedial Action Plan (RAP) in Phase 3 of the Proposed Project.

EB-153

Page 4.4-18, Mitigation Measure CR-4:

Mitigation Measure CR-4 should be revised to reflect the implementation of the RAP for the Proposed Project. The RAP for the Proposed Project does not indicate that the project-related excavations would be to a depth that exceeds 45 feet in the former City landfill site. In addition, the mitigation measure should be revised as appropriate to indicate that the Paleontological Resources Monitoring and Mitigation Plan will provide measures that comply with the regulations and requirements that address work safety during building demolition and ground disturbing activities in Phase 1 and the implementation of the RAP in Phase 3 of the Proposed Project. Further, it should be noted that the offsite pipelines would not be installed at a depth that would be greater than 15 feet.

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SECTION 4.5 ENERGY AND MINERAL RESOURCES

No comment.

EB-155

SECTION 4.6 FIRE PROTECTION AND EMERGENCY RESPONSE

Page 4.6-1, second paragraph:

The following correction should be made, “The Proposed Oil Project, the Pipeline and the Proposed City Maintenance Yard Project would each have the potential for impacts on ~~Safety and Risk~~ fire protection and emergency response.”

EB-156

Page 4.6-1, Subsection 4.6.1, first paragraph:

The following correction should be made, “The environmental setting addresses the capabilities currently in place, such as equipment and resources of agencies, ~~such as~~ for the City of Hermosa Beach, Redondo Beach, Manhattan Beach, Torrance, El Segundo and the County of Los Angeles.”

EB-157

Page 4.6-1, Subsection 4.6.1.1, first paragraph:

The following correction should be made, “Response capabilities are associated with agencies with jurisdiction over the Project Area or that have mutual aid agreements or automatic aid agreements with that jurisdiction.”

EB-158

Page 4.6-2, Table 4.6-1:

Complete the information for the Torrance Fire Department to provide the location of the six fire stations, the respective distance and response time, and the respective equipment and staff at each station. Complete the information for Los Angeles County Fire Department (LACFD) Stations #18 and #19 to provide the equipment and staff. This information is necessary in order to conduct an analysis of the response capabilities and response times for these jurisdictions. In addition, provide the source of the information that is included on the table.

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Page 4.6-3, third paragraph:

Provide the date of the Hermosa Beach Fire Department *Annual Performance Report*.

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Page 4.6-3, sixth paragraph:

Provide the source of the “preliminary data on year 2013.”

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Page 4.6-4, first paragraph, first complete sentence:

Is there a typographical error in the quote “exceeding slow processing time”?

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Page 4.6-5, Subsection 4.6.2.1, Table 4.6-2:

The Center for Chemical Process Safety (CCPS) Guidelines and the Industrial Risk Insurers (IRI) are not applicable to the Proposed Project. The CCPS and the IRI guidelines address process safety issues in the design of chemical, petrochemical, and hydrocarbon processing facilities (i.e., a refinery) and not “upstream” crude oil facilities. Therefore, the references to the CCPS guidelines and IRI should be deleted from Table 4.6-2.

In addition, API 2510 would not be applicable to the Proposed Project since there would be no pressurized liquefied petroleum gas (LPG) produced on the project site and the 500-gallon propane tank, to be used for site operations, would fall well below the fire protection requirements of CFC Section 6108.1. API 2510 addresses the design, construction, and location of LPG installations at marine and pipeline terminals, natural gas processing plants, refineries, petrochemical plants, or tank farms. API 2510 covers storage vessels, loading and unloading systems, piping, and related equipment. Therefore, the references to API 2510 should be deleted from Table 4.6-2.

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Pages 4.6-7 and 4.6-8, Subsection Center for Chemical Process Safety:

As discussed in the comment about Table 4.6-2 provided above, delete the subsection titled Center for Chemical Process Safety. This information is not applicable to the Proposed Project.

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Page 4.6-8, Subsection Industrial Risk Insurers:

As discussed in the comment about Table 4.6-2 provided above, delete the subsection titled Industrial Risk Insurers. This information is not applicable to the Proposed Project.

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Pages 4.6-11, 4.6-12, 4.6-13, and 4.6-14, Table 4.6-3

As discussed in the comment about Table 4.6-2 provided above, delete the references to IRI and CCPS in the table title and the portions of the table titled “A. Inter-Unit Spacing Requirements (feet) – IRI,” “B. Intra-Unit Spacing Requirements (feet) – IRI,” “C. Plant Equipment Spacing Requirements (feet) – CCPS,” “D. Tank Spacing to other Areas (feet) – CCPS,” and “E. Storage Tanks Spacing Requirements (feet) – IRI, CCPS.”

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In addition, delete the portion of the table titled “G. Pressurized Liquefied Petroleum Gas Tanks Spacing Requirements – API.” As discussed in the comment about Table 4.6-2 provided above, API 2510 is not applicable to the Proposed Project.

Page 4.6-14, bullet list in second paragraph:

As discussed in the comment about Table 4.6-2 provided above, delete the references to IRI and CCPS as follows:

- The Project Site does not contain adequate water supply or fire foam supplies to meet the recommended CCPS, NFPA Standards, and the ~~IRI guidelines~~ or the CAL FIRE requirements;
- The Project facilities do not have sufficient capabilities in early fire detection according to the NFPA requirements;
- The Project equipment layout and access structure do not meet the ~~API~~, NFPA, and IFC, and ~~IRI~~ or CAL FIRE recommendations for equipment spacing and clearances;
- The Project Site is more than 10 miles (15 minutes) from an emergency response location with fire-fighting capabilities (i.e., a fire station or facility with fire-fighting and emergency response capabilities) or accessibility to the site is difficult or limited causing issues in terms of access, evacuations, and response;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;

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Page 4.6-16, Subsection Water Supply

The Hermosa Beach Fire Department (HBFD) and the West Basin Municipal Water District (West Basin MWD) have not indicated to the Applicant or their consultants that reclaimed wastewater would be used to fight fires at the project site. Fire flow water for the HBFD is from the City of Hermosa Beach’s potable water system, which is supplied by the California Water Services Company (CalWater). It would not be legal to interconnect the West Basin MWD reclaimed water, which is used for irrigation purposes, to a potable supply of water. Relying on only reclaimed water from the West Basin MWD’s reclaimed water line in the Greenbelt for fire fighting would not be prudent or practical.

In addition, based on discussions with the HBFD during the preliminary design of the Proposed Project, the November 2012 Planning Application for the Proposed Project indicated that during the construction of Phase 3 of the Proposed Project, “An additional fire hydrant would be provided adjacent to the project site as a part of the proposed project. The location would be determined by the Fire Department and installation would occur as a part of the construction completed in Phase 3. (page 63)” This was further reiterated to the City staff in the Response to Requested Clarifications submitted to the City on June 24, 2013 which stated, “The fire hydrant referenced on page 63 of the Planning Application Project Description was identified at the request of the City of Hermosa Beach Fire Department. The fire hydrant would be located on Valley Drive to the south of the entrance driveway. (page 5)”

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Therefore, subsection Water Supply should be revised as follows:

Water used to fight fires would be obtained from ~~the connection to the reclaimed water system that runs along the Greenbelt. The West Basin Municipal Water District would supply the reclaimed water. Potable water would be supplied to the site by California~~

Water Services Company (CalWater) for domestic uses. The closest fire hydrants are located near the corner of 6th Street and Valley Drive along 6th Street and at the corner of 6th Street and Cyprus Cypress Avenue. Flow testing by CalWater is conducted only upon request and payment. That is the only time these hydrants appear to be tested. CalWater indicates that there is a 4 inch hydrant (at 6th and Valley Dr.) and a 6 inch hydrant at 6th and Cyprus Cypress Avenue, both connected to the 6 inch main along Valley Drive 6th Street. Recent testing of these hydrants by CalWater indicate flows of more than 2,432 gpm at 20 psi and 3,011 gpm at 20 psi, respectively, which would be insufficient or only marginally sufficient (only one of the hydrants is above the minimum 3,000 gpm). The HBFD has indicated to the Applicant that the 3,000 gpm at the hydrant at 6th Street and Cypress Avenue would to supply adequate water service for Phase 2 of the Proposed Project to the site. An 8 inch main is also located along 4th and 2nd Streets.

During Phase 3 of the Proposed Project, the Applicant would provide an additional fire hydrant adjacent to the project site at a location determined by the HBFD. The installation of the additional hydrant would require the extension of an 8-inch water line, from an existing 8-inch water line at the corner of 8th Street and Valley Drive, by the Applicant. With the addition of a hydrant on Valley Drive, served by the existing 8-inch water line at 8th Street and Valley Drive, peak flows and pressures from the reclaimed water system might help to provide would provide sufficient water supply and the West Basin Municipal District indicates that its' reclaimed water can be used as water for fire protection for Phase 4 of the Proposed Project and vicinity.

Current requirements by NFPA and the LACFD indicate that water supplies should be from 3,000 to 5,000 gpm. The lack of As discussed above, adequate water supply would be provided by an existing hydrant (with 3,011 gpm at 20 psi) for Phase 2 and an additional hydrant provided by the Applicant for Phase 4 of the Proposed Project. Therefore, there would be sufficient adequate water supply for fire flows at the project site and no would be a significant impact would occur.

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continued

Page 4.6-16, Subsection Detection

The discussion of the Proposed Project's detection systems only references Phase 2 of the Proposed Project. At the request of the City staff, the Applicant provided a consolidated list of the design features for each phase of the Proposed Project that had been provided to the City in the Planning Application documentation. The list related to fire protection for Phase 2 of the Proposed Project included the following:

- The design of the facility would provide containment to ensure that oil from any of the temporary tanks or temporary processing equipment would be contained on the Project site if tank or equipment failure occurred during the 100-year storm event. This project design would be in place during Phase 2 of the Proposed Project.
- A comprehensive fire protection system as required by Federal, State, and local codes, ordinance, and regulations would be provided for the drilling and testing facilities on the Project site. The design and operation of the Proposed Project would occur consistent with the requirements of the California Fire Code (CFC) and the National Fire Protection Association (NFPA) Standards. The storage of hazardous materials, the installation and use of fire protection systems and devices, and safety for employees and emergency

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responders would occur consistent with the applicable laws, ordinances, regulations, and standards (LORS).

- Security on the Project site during Phase 2 would be provided by onsite personnel and a site security program, including a Close Circuit Television system, a gate access system, and intrusion and motion detection system, to control all access to and from the Proposed Project.

The list related to fire protection for Phase 4 of the Proposed Project included the following:

- A fire hydrant would be provided on Valley Drive to the south of the entrance driveway. The location would be determined at the request of the Hermosa Beach Fire Department and the City Public Works Department. The Proposed Project would provide for the off-site installation of an 8-inch water line from 8th Street to the defined location along Valley Drive.
- The design of the facility would provide containment to ensure that oil from the largest tank or processing equipment would be contained on the Project site if tank or equipment failure occurred during the 100-year storm event. This Project design would be permanently in place throughout the ongoing operation of the Proposed Project.
- The ground surface of the Project site would be paved with concrete or asphaltic concrete and serve as a suitable driving surface for emergency response equipment.
- Electrical equipment installed for Phases 3 and 4 would have an uninterruptable power supply for critical systems such as the production equipment safety systems. An emergency generator would be installed during the drilling of wells to provide power for the safe shutdown of the drilling operation in the event of a loss of power from SCE. [It should be noted that all isolation valves and automated valves would be designed to be “fail-close” which means that, if there is a loss of power, the facility would automatically shut down and all valves would close.]
- A comprehensive fire protection system as required by Federal, State, and local codes, ordinance, and regulations would be provided for the drilling and oil production facilities on the project site. The design and operation of the Proposed Project would occur consistent with the requirements of the California Fire Code (CFC) and the National Fire Protection Association (NFPA) Standards. The storage of hazardous materials, the installation and use of fire protection systems and devices, and safety for employees and emergency responders would occur consistent with the applicable laws, ordinances, regulations, and standards (LORS).
- The fire protection systems for the ongoing operation of the Proposed Project would include a foam injection system and automated detection and annunciation systems. The automated alarm systems would be installed for the detection of chemical and fire hazards to notify the onsite personnel that a potential problem is occurring. If it is determined that a chemical fire or fire emergency exists, the onsite operator would activate the emergency shutdown system and notify the Fire Department immediately.
- Security on the Project site during Phase 4 would be provided by onsite personnel and a site security program, including a Close Circuit Television system, a gate access system, and intrusion and motion detection system, to control all access to and from the Proposed Project.

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continued

This information should be included in the discussion of detection for fire protection and emergency response. In addition, the second paragraph of the subsection should be revised as follows to reflect that detection and alarm systems would be provided as a part of the Proposed Project. The language in the paragraph seems to convey that the detailed plans should have been available for review during the preparation of the analysis of fire protection and emergency response in the Draft EIR, when in fact, it would be premature to prepare the referenced plans until the approval of the Proposed Project has occurred and the detailed design process has been initiated. The section paragraph of Subsection Detection should be revised as follows:

The Proposed Project's site's fire protection systems would include an automated automatic alarm system and off-site fire hydrant system as required by the LACFD and the HBFD. However, preliminary Detailed design documents for the Proposed Project have not yet been developed to would address the details of the installation of fire detection and prevention protection systems, such as foam systems on crude oil storage tanks, flame detection, and flammable gas detection systems. Although these systems are anticipated to would be developed and implemented, consistent with the appropriate codes, standards, and regulatory requirements. Therefore, no failure to do so would be a significant impact would occur.

Page 4.6-17, third paragraph:

The discussion of the mutual aid agreements and the automatic aid agreements that the HBFD has with the other agencies is unclear. The first sentence in the third paragraph should be rewritten as follows:

For the capabilities of the providing a response, the distance to an LACFD Hazmat team is relatively long at 24 minutes, and the mutual aid agreement with Torrance does not include their HAZMAT unit, is not currently a part of the Hermosa Beach mutual aid agreement and the HBFD and the Torrance Fire Department do not have an automatic aid agreement.

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The mutual aid and automatic aid agreements with the various jurisdictions should be provided to allow for the evaluation of the potential impact to response capabilities and response times as well as the feasibility of Mitigation Measure FP-1f discussed further below.

Page 4.6-18, Mitigation Measure FP-1a:

Mitigation Measures FP-1a should be revised to reflect the comments provided above. In addition, Mitigation Measure FP-1a should be revised to reflect that the Applicant can only request that the fire hydrants be test annually and that it is the responsibility of CalWater to maintain the fire hydrant system and perform the test as requested since it is a public water system. NFPA standards do not apply to public water systems. Mitigation Measure FP-1a should be revised as follows:

FP-1a The Applicant shall ensure adequate (3,000-5,000 gpm) water supplies are available from the reclaimed water pipeline CalWater, the existing water lines and hydrant system for Phase 2, the extended waterline and proposed additional hydrant in Phase 4, or some other source for water supplies that provides sufficient water supply rates, pressure and duration to comply with the codes, and standards, and requirements of the LACFD and the HBFD. Installation of a fire pump, or installation of a piping connection to area water

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mains that can supply the flows, may be required to ensure the appropriate water flow and pressure requirements. The Applicant shall ~~ensure~~ request that all area hydrants and water supplies are tested annually by CalWater as ~~required by NFPA standards~~ for water flows and pressures, and shall ensure that the results are reported to the City of Hermosa Beach and the Hermosa Beach Fire Department.

Page 4.6-18, Mitigation Measure FP-1b:

Mitigation Measure FP-1B indicates that the Applicant “shall implement a community alert notification system,” yet page 4.6-17 indicates “Hermosa Beach has an alert system that could be utilized to assist in the notification of emergencies. Project would need to be integrated into this existing alert system.” Mitigation Measure FP-1b should be revised as follows to reflect this:

FP-1b The Applicant shall ~~implement~~ coordinate with the HBFD to integrate a community alert notification system for the Proposed Project into the City’s existing alert system to automatically notify area residences and businesses in the event of an emergency at the oil ~~field~~ and gas facility that would require residents to take shelter or take other protective actions.

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Page 4.6-18, Mitigation Measure FP-1c:

Mitigation Measure FP-1c indicates that the Applicant “shall fund an additional FTE position” and that it would be “for personnel with specific capabilities in inspection and code compliance associated with oil and gas production facilities.” The analysis regarding the inspection capabilities of the HBFD provided in the fourth paragraph on page 4.6-17 does not define the potential workload that would be needed to address the inspection requirements for the Proposed Project and, therefore, does not provide justification for the full time equivalent (FTE) position proposed in Mitigation Measure FP-1c. The Applicant does not believe the Proposed Project would necessitate an FTE position. However, the Applicant agrees to fund an additional FTE position (40 hour position). Any additional public benefit associated with the FTE position should be considered an extraordinary benefit under the Development Agreement.

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Page 4.6-19, Mitigation Measure FP-1e:

Mitigation Measure FP-1e indicates that the Applicant provide for “testing of evacuation plans of neighbors for an emergency scenario.” This is not done for other facilities of this type. Mitigation Measure FP-1b should be revised as follows to reflect this:

FP-1e The Applicant shall ensure that the emergency response planning includes development ~~and testing~~ of evacuation plans of neighbors for an emergency scenario at the facility, ~~and the Applicant shall implement programs to ensure that all immediate neighbors are included in the notification system.~~ The plan shall be reviewed and approved by the LACFD, HBFD, and the City. The plan shall reviewed by the LACFD, HBFD, and the City annually and updated as needed. The relevant portions of the plan shall be distributed to the public utilizing a method as determined by the reviewing agencies.

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Page 4.6-19, Mitigation Measure FP-1f:

Mitigation Measure FP-1f indicates three scenarios that could be used to provide a response by a hazardous materials (HAZMAT) unit to the Proposed Project in the case of an event that requires that type of response. The scenario that would require the Applicant to “provide for funding to

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provide additional equipment and to train a sufficient number of Hermosa Beach, Redondo Beach and/or Manhattan Beach Emergency Response personnel to provide first response HAZMAT capabilities” would require mitigation that is not proportional to the potential impact related to a HAZMAT event that could occur as a result of the Proposed Project. The most timely and economically feasible mitigation scenario would be to extend the mutual aid agreements between the City of Torrance and the HBFD to include response by the existing HAZMAT unit. Mitigation Measure FP-1f should be revised as follows:

- FP-1f The Applicant shall ensure and make funding available to 1) upgrade the dispatch system and procedures within Hermosa/Torrance/Redondo to implement a CAD-to-CAD system to improve dispatch times; and 2) extend the mutual aid agreements to become automatic aid agreements between the Hermosa Beach Fire Department and the Torrance Fire Department to include the Torrance HAZMAT unit, ~~or provide for funding to provide additional equipment and to train a sufficient number of Hermosa Beach, Redondo Beach and/or Manhattan Beach Emergency Response personnel to provide first response HAZMAT capabilities.~~

Page 4.6-20, Subsection Equipment Spacing, fourth paragraph:

The fourth paragraph discusses the installation of the 32-foot sound attenuation wall provided during the drilling phases of the Proposed Project, proximity of the enclosed ground flare to the adjacent soundwall, and the height of the 16-foot ground flare stack. The 32-foot sound attenuation wall would be composed of material that would be non-combustible and the separation between the soundwall and the flare stack would be consistent with the regulatory requirements. Refer to the comments on Section 4.2, Air Quality and Greenhouse Gases, provided above in this letter for a discussion of the height of the ground flare stack in response to Mitigation Measures proposed in the Draft EIR.

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Page 4.6-21, Mitigation Measure FP-2b:

Mitigation Measure FP-2b proposes that there be “automatic fire foam systems along the perimeter of the crude oil containment and wellhead area [well cellars].” The provision of an automatic fire foam system poses a risk to worker safety within confined areas such as the containment area or the well cellars. If the system is automatically triggered and the worker is unable to get out of the space in time, they could be suffocated. Mitigation Measure FP-1f should be revised as follows:

- FP-2b Fire protection measures specific to the crude oil containment system shall be provided, including the installation of ~~automatic~~ manually operated fire foam systems that will automatically foam in along the perimeter of the crude oil containment system, ~~and~~ wellhead area, and the area immediately adjacent to combustion or spark producing equipment within or immediately adjacent to the crude oil containment area. The system shall be that would be ~~automatically~~ and remotely activated in the event of a crude oil ~~spill fire~~. When the operator leaves an area of risk, they would activate the automatic foam system and alarm system which would notify the HBFD. The highest level electrical classification achievable shall be designated for all equipment located within the crude oil containment area and the wellhead area.

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Global Comments

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The residual impact discussions should be revised to reflect the comments provided above.

SECTION 4.7 GEOLOGICAL RESOURCES/SOILS

Page 4.7-1, first paragraph:

The last sentence in the paragraph indicates that the documents referenced as NMG Geotechnical 2012 and Geosyntec 2012 were provided by those entities as City consultants. The referenced NMG and Geosyntec reports were provided by the Applicant as Appendix D and H, respectively, of the November 2012 Planning Application. The statement should be corrected.

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Page 4.7-12, Subsection 4.7.3.1 Introduction:

The third sentence states, "In addition, wastewater injection would potentially induce seismicity in the vicinity of the Proposed Project during Phases 2 and 4." Provide the scientific support for this statement.

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Page 4.7-14, Subsection Phase 2:

Insert the following clarifying text in the first sentence of this paragraph:

During Phase 2 of the Proposed Oil Project, four wells (three oil wells and one water injection well) would be drilled utilizing an electric drill rig and temporary production equipment would be installed and used to process the extracted oil, gas, and water.

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Page 4.7-16, third full paragraph:

This paragraph states, "The permanent oil, gas, and water production equipment would be installed on the eastern portion of the Project Site. This would include storage tanks with a maximum height of 16 feet. The tank area on the Project Site would have a finished grade of 6 to 7 feet below ground surface, be surrounded by a 6- to 7-foot retaining wall in the interior of the Project Site, and a 16-foot split-face block wall around the perimeter of the Project Site. The storage tanks and any piping for the vapor recovery system would be below the height of the 16-foot perimeter wall."

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This paragraph should be expanded and revised to reflect any changes to the height equipment and wall height based on the proposed mitigation measures in Section 4.1, Aesthetics, and 4.11, Noise and Vibration, of the Draft EIR and as revised based on comments received during the public review period.

Page 4.7-19, third paragraph:

The paragraph states, "However, as discovered during the 1971 San Fernando earthquake and the 1994 Northridge earthquake, existing building codes are often inadequate to completely protect engineered structures from hazards associated with large ground accelerations. Therefore, potential seismic impacts and associated damage to structures from a major earthquake on the nearby Newport Inglewood and Palos Verdes faults, or any other regional fault, would be considered significant."

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As the result of both the 1971 and 1994 and earthquake referenced above, the building codes were changed to add additional requirements to account for the lessons learned as a result of these seismic events. The Proposed Project would be built to the latest adopted building codes in effect at the time of construction. Much of the damage during the 1971 and 1994 earthquakes were to older structures that did not meet the then current code that was substantially less

stringent than the codes which are in place today. In addition, the damage primarily occurred to structures (buildings, bridges, walls, etc.) and not to equipment similar to those proposed to be installed as part of the Proposed Project. This paragraph should be revised to correct this statement and include a discussion related to damage to facilities similar to the Proposed Project.

Pages 4.7-19 and 4.7-20, Mitigation Measure GEO-1b:

Mitigation Measure GEO-1b states, “All seismic related recommendations provided by NMG Geotechnical (2012) shall be incorporated into the Proposed Oil Project design. These measures shall include, but not be limited to the following.”

There are several items that are either misstated from the NMG Geotechnical 2012 report or should be modified as follows:

The second bulleted item of Mitigation Measure GEO-1b on Page 4.7-19 states:

- Ground improvement techniques, including high pressure grout injection, i.e., compaction grouting, shall be used in areas outside the landfill area to reduce seismically induced settlement and allow construction of conventional shallow foundations.

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The mitigation inaccurately reflects the recommendations in the NMG Geotechnical report, since it states that the high pressure grout injections shall be used in areas outside the landfill area to reduce settlement. Section 3.6 of the NMG Geotechnical 2012 report (page 23) states, “The most feasible ground improvement options to address the seismic settlement of left-in-place landfill material would be insitu grout injection. . .” This is only required for structures that would be adversely affected by settlement of 3.5 inches (i.e., critical equipment). The injection grout is only for within the landfill area and NMG Geotechnical has identified specific requirements for mapping, etc. as part of their recommendations. This does not include the entire project site. The mitigation measure should be revised to reflect this information.

The first bulleted item of Mitigation Measure GEO-1b on Page 4.7-20 states:

- Seismic design criteria for horizontal and vertical accelerations, identified in Tables 10 and 11 of the geotechnical report, shall be used during Proposed Project design.

Seismic design will need to be designed to the latest building codes at the time the building plans are submitted and not per Tables 10 and 11 in the NMG Geotechnical 2012 report. The information on these tables have already changed with the adoption of the 2013 California Building Code. This mitigation measure text should be revised to reflect the requirement for using the latest building codes which are in place at the time the building plans are submitted.

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The second bulleted item of Mitigation Measure GEO-1b on Page 4.7-20 states:

- The upper 2 to 4 feet of soil over the majority of the Project Site shall be excavated and replaced with compacted fill. Approximately 15 feet of soil shall be removed in the former landfill area and replaced with a minimum of 8 feet of compacted fill.

This statement is incorrect. The NMG Geotechnical 2012 report in Section 3.3 states that this requirement is to be implemented prior to placement of new fill. Most of the project site would not require fill material. In areas where there would be no requirement for fill, NMG does not require 2 to 4 feet of material to be removed and replaced. In areas that would be paved, the NMG Geological 2012 report (page 30) specifies that six inches of the subgrade is to be

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scarified, moisture-conditioned as needed, and re-compacted in place to a minimum of 90 percent relative compaction. In addition, Mitigation Measure GEO-1b requires a minimum of 8 feet of compacted fill in the former landfill area. This is not consistent with NMG's recommendation and conflicts with the Applicant's design for the Proposed Project as submitted in the November 2012 Planning Application. The NMG Geological 2012 report (page 22) states that the eastern portion of the project site would be excavated approximately 7 feet deeper than the majority of the pads with a retaining wall around the lower pad area. The pads would be at a minimum of 3 feet below design grades and re-compacted in order to provide a uniform fill blanket for the proposed tanks and compressors and other equipment. Mitigation Measure GEO-1b should be revised to reflect this condition.

Page 4.7-26, Mitigation Measure GEO-4b:

The Applicant submitted the Subsidence and Induced Seismicity Report as Appendix H to the November 2012 Planning Application for the Proposed Project. Appendix H defined a proposed Subsidence Monitoring Program as a design feature of the Proposed Project. This Subsidence Monitoring Program should be referenced in Mitigation Measure GEO-4b. As described in the Subsidence and Induced Seismicity Report, the proposed program would be submitted to the City of Hermosa Beach, the California Coastal Commission, and the California Division of Oil, Gas and Geothermal Resources for review and approval. To correctly reflect the design features of the Proposed Project, Mitigation Measure GEO-4b should be revised as follows:

GEO-4b In the event that the Global Position System monitoring indicates that significant subsidence as defined by the project action levels established in the Applicant's approved Subsidence Monitoring Program is occurring in and/or around the Proposed Project area, wastewater or water injection operations shall be increased to alleviate such subsidence. The Applicant shall coordinate with the California Division of Oil, Gas and Geothermal Resources in determining appropriate increased levels of wastewater or water reinjection operations in accordance with the approved Subsidence Monitoring Program. The Applicant will also coordinate with the City of Hermosa Beach, Public Works Department, to verify that subsidence has been mitigated sufficiently.

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Page 4.7-28, Mitigation Measure GEO-6:

Mitigation Measure EO-6 states, "...Foundations and pipeline design shall be completed by a Registered Civil Engineer."

The Applicant understands that a Registered Civil Engineer needs to ensure the design accommodates the potential for expansive soils. However, the actual design may well be done by a Mechanical Engineer and a design team which could include many disciplines. Therefore, the Applicant proposes that Mitigation Measure GEO-6 be revised as follows:

Geo-6 Foundations and pipeline design shall be ~~completed~~ reviewed and approved by a Registered Civil Engineer.

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SECTION 4.8 SAFETY, RISK OF UPSET, AND HAZARDS

Page 4.8-1, second paragraph:

The first sentence states, "Mitigation measures are also identified which would reduce the risk levels."

In general, it does not appear that the mitigation and Applicant's proposed design features related to the Proposed Project operations and drilling were considered in the quantitative risk analysis. Refer to the comment below for a list of the design features that have not been discussed or used in the Quantitative Risk Assessment (QRA) in the Draft EIR.

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Page 4.8-2, Section 4.8.1 Environmental Setting:

The Environmental Setting section states that the City Yard "does present some acceptable risk to the public or the environment, including the risk of small spills of oil, accidents related to releases from vehicle gasoline tanks or releases from the onsite propane tank." Explain the frequency and nature of these events and the basis for determining that the risks are acceptable.

In addition, identify the existing pipelines in the City, including both oil and gas pipelines, as this is also part of the existing setting.

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Page 4.8-2, Section 4.8.1.1 Study Area and Scope:

Was the 500-foot study area selected as a conservative distance to ensure that all potential impacts were studied? Presumably, the 500-foot study area does not reflect any pre-determination that impacts will actually occur within 500 feet of project site.

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Page 4.8-3, Subsection Facility Quantitative Risk Assessment Approach, second paragraph:

The first sentence states, "The main objective of the QRA is to assess the facility's risk of generating serious injuries or fatalities to members of the public, and to develop mitigation measures that could reduce these risks."

It is not clear if the mitigation measures and design features were incorporated into the QRA or just added as a qualitative statement after the QRA was generated. Is this the case? If the mitigation measures and design features were not included into the quantitative risk assessment, then the assessment overestimates (more than would actually occur) the risk of the Proposed Project. This could lead to a substantial overestimation. Therefore, would it be correct to assume that this would not be the true risk?

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Page 4.8-4, fourth full paragraph:

The fourth sentence states, "Buildings, vegetation, terrain, and other types of obstructions would prevent persons exposed to the fire from experiencing the full effects, and would reduce the probability that the person would suffer a serious injury or fatality."

What effect did the facility's perimeter wall have on reducing or redirecting any gas releases from the facility? Was this considered during the modeling? What height wall was used in the model, 16 feet or 32 feet?

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Because the facility's perimeter wall provides a substantial vertical barrier and all gas releases would be located at ground level, wouldn't this direct most of the gas upward and away from receptors? Was this modeled? If not, include this in the model when determining hazard zones.

Page 4.8-4, fifth full paragraph:

The first sentence states, “Release scenario frequencies are determined through failure rate analysis and fault trees, which detail the general conditions and equipment-specific frequencies that could lead to a release.”

The Applicant submitted on three separate occasions project design features and operational characteristics that would improve the reliability and integrity of the system and significantly reduce failure rate and, therefore, have a positive impact on reducing the failure rate analysis. Refer to the comments below for a description on the project design features and operational characteristics related to safety features designed to reduce risk.

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Page 4.8-5, Figure 4.8-1:

The flow diagram indicates to the reader that the mitigation measures/design features provided by the Applicant were not included in the qualitative analysis of the QRA. If this is correct, the Final EIR must include this information in a revised risk analysis, since these design features would be critical to assess risk of the Proposed Project because these design features are enforceable and must be used to assess the risk of the Proposed Project.

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Page 4.8-6, first paragraph:

The first sentence states, “In general, a conservative (estimating more risk than would actually occur) approach is taken in conducting the analysis.” Provide the basis for estimating risk in this manner, including the elimination of human intervention and automatic shutdown systems. If these systems are proven to work, then the risk model should take that into consideration. If the risk model overestimates many of the variables, it will be unrealistic and unreliable. In addition, don’t the failure rates account for some human intervention and use of shutdown systems (see Page 4.8-8, first paragraph, first sentence)?

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Page 4.8-6, first bulleted item, top of page:

This bullet states:

Minimal piping friction effects. For flammable gas releases, consequence analysis assumed that release volumes were located at the break source and all releases were assumed to behave like a release from a short pipe length or a hole in a vessel. Piping lengths, which would increase the friction and reduce the release rates, were not included. For example, if a scenario includes two exchangers, nine vessels, two filters, and an estimated 240 meters of piping, it was assumed that this entire inventory was released as though it was contained within a single vessel at the unit temperature and pressure and released through a short pipe segment. In reality, the gas would have to travel through piping and equipment to get to the release point. This would reduce the release rate and the subsequent impact zone.

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The environmental analysis for risk should use a model capable of taking into consideration the effect of friction on gas volumes. The Draft EIR goes on to state, “This would reduce the release rate and the subsequent impact zone.” If this analysis, in fact, would reduce the impact zone, is that not exactly what should be demonstrated? This would allow a reasonable estimate of a worst case scenario.

Page 4.8-6, first bulleted item, next to last sentence:

This sentence states:

In addition, for flammable releases, the peak release rate was used to determine the hazard zone. This approach produces larger hazard zones since the release rate would most likely decrease over time, thereby reducing the size of the impact zone over time.

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Based on the approach as described above, the hazard zone is overestimated. If the hazards zones in reality would not be this big, the hazard zone description is overstated. If so, we request a reanalysis of these hazard zones so that they represent what would happen in reality so that a reasonable estimation of worst case scenario can be determined.

Page 4.8-6, second bulleted item:

This bullet states:

Minimum human intervention and shutdown systems were included. It was assumed there would be no human intervention in the event of a crisis situation. Manual shutdown systems were assumed not to be activated or activated only after a sufficient amount of material was released, which would allow the hazard zones to reach their maximum extents (given the dispersion and meteorological conditions at the time of the release). All automatic shutdown systems that can isolate portions of the plant were assumed to fail, and the failure rates of these automatic shutdown systems were included in the fault tree analysis. However, it was assumed that compressor low pressure shutdown systems would prevent the system from continuing to operate and compressing additional gas from the wells in the event of an equipment failure.

The Applicant provided information and material on two occasions (November 2012 Planning Application and Response to Requested Clarifications, submitted June 24, 2013) that described in detail plant safety and control systems that would be used during drilling and operations. In the Planning Application, Appendix B - Plant Safety and Control Systems Report, detail has been provided that the project safety systems (systems, training, programs) exceed all of the current regulatory onshore requirements for oil and gas facilities. In addition, the Response to Requested Clarifications, Attachment H provides a summary of many of these upgrades.

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The point of these documents was to provide design criteria that would be incorporated into the quantitative portion of the QRA. Furthermore, we fully expected these design features to be part of the ongoing monitoring plan to ensure the Proposed Project was a substantial improvement over "business as usual" practice. A revised analysis should be prepared and incorporate these design features. The revised analysis should also weigh the improvements against any other onshore facility built in the Los Angeles Basin. Once again we provided this information so the environmental document could include this in the quantitative portion of the QRA. Additionally, these items should be included in the ongoing monitoring plan to ensure this project is operated at a much higher level of care and safety.

Additional analysis should recognize these design features listed below and the QRA must incorporate these features or the analysis does not properly reflect the design of this facility or standards for the Proposed Project.

Drilling:

During drilling, a Class III Blowout Preventer (BOP) would be included. The BOP would include four remote-controlled, hydraulically operated BOPs consisting of an annular BOP, two

BOPs equipped with pipe rams, and one BOP equipped with blind-shear rams. The blind-shear rams installed in the BOP stack would be capable of shearing any drill pipe (including workstring and tubing) in the hole under maximum anticipated surface pressure. The BOP stack and drilling program would be evaluated by a third-party professional engineer (Professional Engineering Certification [30 CFR§ 250.416]) as follows:

- The professional engineer would verify that the BOP design is appropriate for the drilling program and the expected reservoir pressures. The professional engineer would also inspect the BOP to verify that there is no existing damage.
- The shear rams would be tested according to 30 CFR § 250.416. A section of drill pipe, the same as used in the drilling program, would be placed in the BOP and then the shear ram would be activated. The BOP would then undergo a pressure test to ensure that a proper seal would be created. After the shear ram is tested, the BOP would be examined to confirm there was no damage to the BOP created by the test. In addition, the sheared drill pipe would be examined to determine that the shear ram would be capable of creating a clean cut.

Operations:

- A hazard and operability study (HAZOP) would be conducted prior as part of the final design. A HAZOP is a structured and systematic examination of a planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel or equipment. A HAZOP is a qualitative technique based on guide-words and is carried out by a multi-disciplinary team (HAZOP team) during a set of meetings.
- The production facility safety equipment and procedures for the Proposed Project would be based on the American Petroleum Institute Recommend Practice for Analysis, Design, Installation, and Testing Basic Surface Safety System (API) (API RP 14C).
- SAFE charts would be used to verify the design and installation of a safety system (API 14C). This would assist in determining if a safety device is operable, properly calibrated, and accomplishes the intended control function.
- Redundant safety systems would be provided for additional protective measures. All critical systems would have primary and secondary safety devices (such as high level alarms and pressure safety valves). The safety devices would be designed through standardized hazard analysis procedures (HAZOP, SAFE Charts, etc.).
- The Proposed Project would be equipped with an approved integrated safety-control system that would cause shut-in of all wells and shutdown of the complete production facility in the event of fire, pipeline failure, or other catastrophe. A complete testing of the safety-control system would be conducted every six months.
- The Proposed Project's plant safety and control systems would provide a closed-loop system for oil and gas handling. The oil and gas would be contained within closed tanks and vessels at all times and the closed-loop system is a design that does not allow for the venting or emitting of gases into the air -atmosphere as part of the normal operation of the facility. All tanks and process vessels would be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to the vapor recovery unit. In addition, all pressure relieving devices would be connected to an enclosed ground flare. As a result, the closed-loop system is self-contained and would not allow for venting of gases to the air, even during any emergency venting of gases.

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continued

- The Proposed Project would have isolation valves that would be used to shut in areas of the facility during an emergency situation. The isolation valves would be automatic and have a quick response time in order to limit any potential release. The isolation valves would automatically shut down when either the loss of pressure in a particular segment of the facility is noted or when there is an increase in pressure. In addition, automatic shutdowns that can terminate all facility production and shut off flow from producing wells would be installed. These shutdowns would close off the process from the source and help prevent larger releases. The locations of the isolation valves would be at the boundaries of the Project site, the process vessels, and any areas that have the potential for a large release determined during the risk assessment design and the hazard analysis studies prepared during the detailed final design of the Proposed Project. The locations of the segments are provided in the E&B Oil Development Project Quantitative Risk Analysis (QRA), dated July 3, 2013.
- Fail safe systems components. System's being "fail-safe" means not that failure is impossible/improbable, but rather that the system's design prevents or mitigates unsafe consequences of the system's failure; that is, if and when a "fail-safe" system "fails," it is "safe" or at least no less safe than when it is operating correctly. For instance, actuated or automatic valves that revert to a pre-determined position after the actuating force is removed are referred to as "fail-safe" valves (i.e. isolation valves used to isolate or close down a system or well will fail in the closed position).
- The Proposed Project would have an integrated safety control system that would be actuated by the devices discussed below. These devices would be installed and maintained in an operating condition at all times. As discussed below, the devices would be periodically tested and the testing may be witnessed and approved by the Applicant's operations personnel. The Applicant would maintain records at the Project site showing the present status and past history of these device, including the dates and details of inspections, testing, repairs, adjustments, and reinstallation or replacement. The devices for the Proposed Project's safety control systems are described below:
 - o Safety Devices on Vessels and Tanks. All production vessels and tanks would be equipped with safety devices that would cause shut-in of the wells connected to the vessel or tank. The Applicant would test the safety devices on a monthly basis and document the testing as discussed above. The safety devices would include the following:
 - § All separators would be equipped with high-low-pressure shut-in sensors and high-low level shut-in controls.
 - § All pressure surge tanks would be equipped with a high-and-low-pressure shut-in sensor and high-low-level shut-in controls.
 - § Atmospheric surge tanks would be equipped with a high-level shut-in sensor.
 - § All other hydrocarbon-handling pressure vessels would be equipped with high-low-pressure shut-in sensors and high-level shut-in controls unless they are determined by the Applicant's operations personnel to be otherwise protected.
 - o Pressure Relief Valves. The Applicant would test the pressure relief valves every six months and document the testing as discussed above. The pressure relief valves would include the following:

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continued

- § All pressure vessels would be equipped with relief valves connected into a gas vent line. All gas vent line systems would be equipped with a scrubber or similar separation equipment.
- § A relief valve would be set no higher than the safe working pressure of the vessel to which it is attached.
- § Pilot-operated pressure-relief valves would be equipped to permit testing with an external pressure source. Spring-loaded pressure relief valves would either be bench-tested or equipped to permit testing with an external pressure source.
- o Well Head Surface Safety Valves. The well head surface safety valves would include the following:
 - § All wells capable of flowing oil or gas and all artificial lift wells capable of afterflow when the source of power is shut off would be equipped with an automatic, fail-close, wellhead surface safety valve. High-low pressure sensors would be located in the flowline close to the wellhead and would be set to cause shut-in of the valve in the event of abnormally high or low flowline pressures. In addition, each valve would be connected to the integrated safety control system on the facility.
 - § All well head surface safety valves would be tested by the Applicant monthly for operation and holding pressure. If the valve fails to test properly, it would be repaired or replaced and again tested for proper operation. Pressure sensors would be operated and tested by the Applicant monthly for proper pressure settings. The Applicant would document the testing as discussed above.
 - § Artificial lift wells not equipped with a well head surface safety valve would have safety devices installed to shut off the source of power in the event of abnormally high or low flowline pressures. The source of power would be controllable by the integrated safety system.
- o Emergency Shutdown Systems (EDS).
 - § Multiple ESD systems would be located throughout the facility. The locations would be in strategic areas where they can be quickly activated.
- o Combustible Gas Detector and Alarm System. An automatic combustible gas detector and alarm system would be installed and maintained in accordance with the following:
 - § Gas detection systems would be installed in all areas containing gas handling facilities or equipment and in enclosed areas that are classified as hazardous areas as defined in the California Administrative Code, Title 24, Part 3.
 - § All gas detection systems would be capable of continuously monitoring for the presence of combustible gas in the areas where the detection devices are located.
 - § A diagram of the gas detection systems showing the location of all gas detection points would be posted in a prominent place on the Project site.
 - § The gas detection systems would be tested monthly by the Applicant, and may be witnessed and approved by the Applicant's operations personnel. The Applicant would maintain a record of the tests on the Project site.

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continued

- § Infrared cameras will be used to provide facility inspections of components.
- o A fixed hydrogen sulfide (H₂S) gas detection and alarm system would be installed on the Project site and continuous monitoring would occur during drilling, workover, and well servicing activities. The gas detection and alarm system would include the following:
 - § The detector and alarm system equipment would be capable of sensing a minimum of five parts per million H₂S in the air, with sensing points located at the perimeter of the Project site perimeter, the gas handling facilities, select drilling locations, the small office building, and other areas where H₂S might accumulate. The H₂S detection devices would activate audible and visible alarms if the concentration of H₂S reaches 5 parts per million in the air.
 - § In the event H₂S is detected by any device, frequent inspections of all areas of poor ventilation would be made with a portable H₂S detection instrument. H₂S detector ampules or other approved devices would be available for use by all personnel.
- o Operator Training
 - § The operators would be trained through systematic training courses (30 CFR § 250.1501). The typical training program utilized is API T2.
- o Safety and Environmental Management Systems Program (30 CFR § 250.1902). The following would be addressed in the Safety and Environmental Management Systems Program for the Proposed Project:
 - § General
 - § Safety and Environmental Information
 - § Hazard Analysis
 - § Management of Change
 - § Operating Procedures
 - § Mechanical Integrity
 - § Pre-startup Review
 - § Emergency Responses and Control
 - § Investigation of Incidents
 - § Auditing
 - § Recordkeeping
 - § Stop Work Authority
 - § Employee Participation Plan
 - § Reporting Unsafe Working Conditions
- o Preventative Maintenance.
 - § Safety devices would be inspected monthly.
 - § Mechanical Integrity would be tested as follows: API 510 (Vessels) - Inspection intervals will follow Section 6 of API 510; API 570 (Piping) - Inspection intervals will follow Section 6 of API 570; and API 653 (Tanks) - Inspection intervals will follow Section 6 of API 653.

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continued

- o Fugitive Emission Inspections would occur as follows:
 - § Inspections to be conducted monthly
 - § Infrared camera imaging weekly

Page 4.8-6, third bulleted item:

This bullet states:

Maximum release volumes were assumed producing the worst case consequences. All releases were assumed to release the entire volume of the equipment or the entire volume of the gas gathering system. In reality, numerous valves and bottlenecks would prevent a release of the majority of the gas inventory in the field through a given pipe or equipment rupture.

The environmental analysis for risk should use a model capable of taking into consideration the effect of friction on gas volumes. The Draft EIR goes on to state, "This would reduce the release rate and the subsequent impact zone." If this analysis, in fact, would reduce the impact zone, is that not exactly what should be demonstrated? This would allow a reasonable estimate of a worst-case scenario.

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Page 4.8-7, Subsection Failure Frequencies, second paragraph:

The fifth sentence states:

These industry-wide failure rate databases incorporate a range of equipment, differing in design standards and equipment age. Therefore, the failure rates are considered an average of a group of equipment that might include some older equipment and some relatively new equipment.

As stated in the comment above, the design standard for this Proposed Project substantially exceeds onshore oil and gas project requirements. Provide a discussion on how the frequency failure rate would be improved for this class of project compared to an industry-wide failure rate that is based on "differing in design standards and equipment age." Furthermore, indicate how this would be incorporated into the quantitative portion of the QRA.

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Page 4.8-7, last paragraph:

"Rates can also be based on what is called a demand basis, which is a probability that if the equipment is called upon, it will not work."

Based on the design features provided by the Applicant, what adjustments were made to the "it will not work" frequencies based on redundant systems (computer safety system included), third party operator training, fail safe components, automated system, etc.

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Page 4.8-8, Table 4.8-1:

Provide a side by side comparison of this table and the adjustments made in a new analysis based on the design criteria provided by the Applicant.

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Page 4.8-11, Table 4.8-2:

Explain the numbers in Table 4.8-2. What does it mean to say that the "frequency per year" of electrocution is 1.5×10^{-6} or that the "interval" is 774,500? Similarly, for explosion and rupture of pressurized device?

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Page 4.8-11, Subsection Pipelines, first and second paragraphs:

These paragraphs state:

Transportation by pipeline is one of the safest forms of transportation for oil or natural gas. Nonetheless, failures do occur, resulting in fatalities, injuries, and property damage. The recent failure of a 30-inch gas transmission pipeline in a residential area of San Bruno, California, garnered extensive media coverage when it caused seven fatalities and numerous serious injuries and destroyed homes. The San Bruno release reportedly continued for more than 1 hour, which exposed the surrounding area to extensive thermal radiation damage. Spectators reported flames as high as 1,000 feet and damage occurred as far as 600 feet from the release location.

The gas pipeline installed along Valley Drive as part of the Proposed Project would operate at a potentially higher pressure than the gas pipeline in San Bruno (up to 225-465 psi for the Proposed Project compared to 375 psi at San Bruno), but would only be 4 inches in diameter (depending on location) for the Proposed Project (compared to 30 inches in diameter for the San Bruno pipeline). However, it could still create significant risk levels.

Except for the information specific to our pipeline, the discussion related to, and the comparison of, the San Bruno gas pipeline incident is unnecessary and must be removed. Including this information gives the reader the impression that the situation in San Bruno is similar to our project, when in fact, they are substantially different. Details of this incident reveal the following:

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NTSB officials said PG&E took almost 95 minutes to shut off the gas spewing from the pipeline in San Bruno. The NTSB contends that a lack of automatic shut-off valves and valves that can be closed remotely contributed to the slow response. For the Proposed Project, the pipeline, by law, requires automatic shut off valves.

When the utility relocated the pipeline in 1956, the seams (ERW) running along the length of the pipe were welded only on the outside, a defect that led to the rupture and a problem that officials said could have been easily discovered with visual external or internal (MFL) inspections. Also, the company mistakenly listed the pipeline section as seamless in its records, when, in fact, it was welded.

Electric resistance welded (ERW) pipe is manufactured by cold-forming a sheet of steel into a cylindrical shape. Current is then passed between the two edges of the steel to heat the steel to a point at which the edges are forced together to form a bond without the use of welding filler material. Initially this manufacturing process used low frequency A.C. current to heat the edges. This low frequency process was used from the 1920's until 1970.

Over time, the welds of low frequency ERW pipe was found to be susceptible to selective seam corrosion, hook cracks, and inadequate bonding of the seams, so low frequency ERW is no longer used to manufacture pipe.

NTSB also took aim at the California Public Utilities Commission and the federal Pipeline and Hazardous Materials Safety Administration for contributing to the tragedy. They said that in 1961 the Public Utilities Commission exempted all natural gas pipelines built before 1961 from pressure testing. The federal government did the same for pipelines built before 1970.

The San Bruno pipeline was at least 50 years old. The duration of the Proposed Project is only 35 years. Furthermore, pre-1970 low frequency ERW pipe is now no longer manufactured and is not allowed by law for the construction of a new pipeline.

In addition, some of the greatest advancements in pipeline integrity have occurred, specifically the use of In-Line-Inspection (ILI) tools also known as smart pigs. These tools, along with pressure testing, provide valuable information on the integrity of a line allowing operators to foresee changes before those changes become a problem. The San Bruno line was incapable of being inspected by ILI and was exempted from pressure test requirements.

The comparison to a pipeline constructed and inspected under to today's standard has a dramatically improved risk profile. The environmental document should exercise great caution when looking to give the reader a reference frame for topics such as these. The environmental document should recognize that the San Bruno incident would have been prevented based on the design and operation of the current legal requirements for pipeline construction which will be utilized in the Proposed Project.

Page 4.8-11, subsection Pipelines, third paragraph:

“Gas pipeline failure frequencies in this report utilized the DOT failure rates for gas pipelines within California. The base rate of pipeline failure is 4.65×10^{-4} incidents per mile.”

The reference to the pre-1970 ERW pipe that failed along the seam weld, corrosion along the seam weld included, from the inventory of causes that made up the failure frequency within California should be removed.

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Pages 4.8-43 through 4.8-50, Section 4.8.2.2:

This section does not include a discussion related to the California Department of Fish and Wildlife Service Office of Spill Prevention and Response (OSPR). The environmental analysis should include the functions of this regulatory agency, including a discussion of the major components and protections this program offers:

- Approved spill plan through the agency
- Certificate of Financial Responsibility (COFR)
- Membership in an oil spill response organization (OSRO)
- Annual drills with agency oversight

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Page 4.8-54, Table 4.8-9:

This Table 4.8-9 is missing several of the agencies listed in Table 2.15 of Section 2.0, Project Description, of the Draft EIR.

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Page 4.8-55, last paragraph:

This paragraph states:

A safety and risk impact is considered significant if any of the following apply:

- The estimated probability and consequences of an accident falls within the red or amber zone of the SBC 2000 Safety Thresholds FN curve; or
- Existing or proposed emergency capabilities (including oil spill response plans and other plans that would be used for emergencies) are not adequate to effectively mitigate spills and other accident conditions.

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The Proposed Project has more than adequate emergency response capabilities to mitigate spills. The Office of Spill Prevention and Response regulations are in place to ensure the project has adequate emergency response. Under these significance criteria, the project spill risk would be less than significant with mitigation, which is also proposed in the Applicant's Planning Application.

The Applicant will be required to file and get approval for an Oil Spill Contingency Plan through the California Office of Spill Prevention and Response (OSPR). The Oil Spill Contingency Plan requires annual drills and table top exercises to ensure personnel are properly trained, response organizations are available and functioning, and response equipment meets the Oil Spill Contingency Plan standards and response times. OSPR would also require the Applicant to become a member of an Offshore Response Organization (OSRO). As part of the Oil Spill Contingency Plan, the Applicant and OSRO would be required to have appropriate onshore and offshore response capabilities to clean up the "worst case" oil spill. This includes offshore cleanup and onshore cleanup protection strategies that can be quickly deployed to contain and clean up spills. In addition the applicant would have to file with OSPR and Certificate of Financial Responsibility (COFR) to ensure there are financial resources available to cover clean up expenses.

In addition, the applicant's spill response plan that includes shoreline protection measures (avoidance of spill workers from sensitive species – snowy plover). The United States Coast Guard (USCG) in coordination with State agencies produces Area Contingency Plans that show sensitive areas along the coast of California and strategies to protect them. These are used in coordination with the Incident Command System (ICS) and the applicant's spill plan. Furthermore, the oil spill response requires the applicant to mobilize the Oiled Wildlife Care Network to provide surveillance, protection, and care for wildlife resources in the event of a spill.

Page 4.8-56, Section 4.8.4.1, Design Features:

Comments provided above, which address design features, should result in the revision of the analysis to indicate an understanding of the Applicant's proposed design features and operational characteristics that are above and beyond the requirements for normal onshore oil facility operations.

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Page 4.8-62, first full paragraph:

The third and fourth sentences state, "The release was modeled as a rupture with a sustained release of reservoir fluids. The rupture case assumed a break of 3 inches (leak releases are addressed under scenario 2). The release was modeled at a conservative well head pressure of 1,000 psi. Possible consequences include toxic, flame jets and flammable vapor clouds."

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The Draft EIR states that drill stem tests were used to develop a scenario to evaluate a release during drilling. Review the information provided below regarding drilling scenarios and the use of pressures identified in drill stem tests for modeling. This information should be provided in the revised analysis.

Pages 4.8-61 and 4.8-62, Scenario 1: Releases During Drilling:

The Applicant has reviewed release Scenario 1 as stated in the Draft EIR for the Proposed Project. The Draft EIR predicts a peak flow rate of 42 Kg/ sec (92.4 lbs/ sec), but using an

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appropriate model, the peak flow rate is 0.226 Kg/ sec (0.585 lbs/ sec). The Applicant provides the following response and additional analysis.

The Draft EIR proposed a scenario that included the following information: 1,000 meters of 10" pipe, all natural gas, at a pressure of 1,000 psi that suddenly ruptures and releases through a 3" hole. The authors constructed the pressure portion of this scenario utilizing Redondo Beach wells drill stem tests. The 1,000 psi is a rounding up of a single 800 psi surface pressure noted on a drill stem test from well CRB #5. The 1,000 meters of 10" pipe with natural gas was an attempt to replicate a condition that may be encountered while drilling.

Unfortunately, this is not an acceptable methodology for predicting this type of scenario, but rather a simple calculation that ignores several important variables that would have been considered using an appropriate model. The resulting flow rate in and of itself should have been an immediate indication that the methodology was unacceptable. More specifically, this over simplification and misuse of available data has resulted in a prodigious and unjustifiable peak flow rate compared to any historical well in the Torrance oil field or the Los Angeles Basin.

Use of an appropriate model must be utilized for this scenario. Various models exist to evaluate a release during drilling, e.g., Boots and Coots and OLGA, which are based on industry standards with over 30 years of development. These multiphase flow simulators model time-dependent behaviors, or transient flow. Dynamic simulation is necessary and used extensively to determine transient behavior in wellbores.

For an issue as important as health and safety, the Draft EIR should utilize the best scientific information and models available when assessing the risk for Scenario 1. Below, there is a discussion on drill stem testing compared to actual drilling that will: provide clarity between these two substantially different activities and a general explanation why the scenario presented in the Draft EIR is unrealistic; and also provide an appropriate model to determine a conservative worst case peak flow rate from a well.

Drill Stem Tests v. Actual Drilling

In the Draft EIR, it is noted that drill stem tests were conducted to ascertain the flowing capability of the City of Redondo Beach wells. It is important to understand the circumstances under which a drill stem test is conducted and how this is different from actual drilling, which is the activity that could ostensibly produce the blowout scenario as presented. It is critical to discuss the importance of understanding a key well control method utilized in the process of drilling and to discuss the drill stem testing process that is addressed in the blowout scenario.

During the drilling of a well, drilling mud is utilized to maintain wellbore stability, hold back fluids from the reservoir(s), lift rock cuttings, and cool the bit and drill string. The City of Redondo Beach wells were drilled with drilling mud of densities ranging from 74 to 78 pounds per cubic foot (pcf). At a depth of 2000 feet, the pressure exerted on the reservoir by the drilling fluid would range from 1,028 to 1,083 psi. From the public records at the Division of Oil, Gas, and Geothermal Resources, the drill stem tests' final shut-in pressure can be utilized to estimate pressure gradient(s) for the City of Redondo Beach lease. The records indicate that a maximum reservoir pressure gradient is 0.46 psi/ft. Based upon a slightly more conservative estimate of 0.47 psi/ft, the reservoir pressure at a vertical depth 2000 feet will be 940 psi. This is the pressure at the bottom of the hole, not the surface. The difference in the pressure of the mud and reservoir results in an overbalance of 88 to 143 psi. This fluid overbalance, combined with the

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continued

use of pumps, chokes, and other standard well control equipment, is more than sufficient to prevent a kick that could lead to a blowout condition. The exercise of evaluating a blowout condition is discussed below further.

A drill stem test is completely different. A drill stem test is specifically designed to enable fluids to flow into the drill pipe through a valve. A packer or set of packers is set to isolate the hydrostatic head of the drilling fluid in the annulus of the wellbore. This is necessary to determine pressures in the reservoir and direct fluids flowing from the reservoir into the drill pipe through a valve.

Prior to commencing the inflow test, a minimal amount of mud is left in the drill pipe to reduce the hydrostatic head on the reservoir. In well CRB#5 discussed on page 4.8-61 of the Draft EIR, a drilling mud cushion of 270 linear feet was left in the drill pipe. Because the hole was directionally drilled, it is necessary to convert the drilling mud cushion into a vertical fluid column to properly calculate the pressure exerted by the drilling mud in the pipe prior to opening a valve to allow reservoir fluids to flow into the drill pipe. For well CRB#5, the 270 linear feet converts to a vertical column of 100 feet. With a drilling mud of 78 pcf, the 100 feet provides 54 psi of pressure inside the drill pipe.

Once the valve is opened, the reservoir fluids flow into the wellbore at some pressure greater than the mud cushion into the drill pipe inside diameter of approximately 3 inches and through a choke set which can be adjusted. The fluid then flows through a hose and into a 5 gallon bucket of water to ascertain the qualitative and subjective characteristic of the flow based upon the driller's observation, i.e. weak, strong or very strong. As noted on page 4.8-61 of the Draft EIR, the surface pressure reached 800 psi during one of the drill stem tests on well CB#5. While this drill stem test provides a good indication of flow potential during a controlled flow, it does not represent flow characteristics during actual drilling in which engineered drilling mud is placed in the well to maintain control of the wellbore or the dynamic flow characteristics of multiphase flow.

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continued

Blowout Scenario Model Predicts Unrealistic Gas Volumes Which Cannot be Substantiated in Actual Well Records

Regarding the blowout (loss of well control) scenario defined on page 4.8-62 of the Draft EIR, as it has been explained to the Applicant by the City's consultant, assumes a 1000 m pipeline (3280 feet) of 10" diameter suddenly has a 3" diameter rupture at 1000 psi at surface. In this scenario, the pipe is completely filled with gas, for simplicity, and the initial rate, or peak rate is 42 kg/s of methane that equates to a rate of 189 million cubic feet per day.

Appendix C, Risk Assessment Calculations, of the Draft EIR shows a peak rate of 42 kg/s would only last for a second or two. At this rate, the first second would release over 2000 standard cubic feet of gas, a volume 320 times greater than the largest produced gas volume for an equivalent time duration recorded in the history of the City of Redondo Beach wells. While this may be easier to model, it in no way represents actual drilling. As noted earlier, wells are drilled with drilling mud and this is a key well control measure for preventing fluid inflow and maintaining wellbore stability. Additionally, if at any time the wellbore pressure or stability is compromised during drilling in the Torrance Oil Field reservoirs, there would not be a scenario where the wellbore is devoid of all fluid (drilling mud, water, and oil) other than gas. Any fluid influx would occur at a significantly lesser rate as a result of a much reduced pressure differential than assumed in the Draft EIR blowout scenario.

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The Applicant retained Boots and Coots, a Halliburton Division, to assist with the modeling of this scenario. Boots & Coots has extensive engineering knowledge and modeling capabilities. They use a numerical simulation model that was developed to study the effect of the discharge from multiple reservoirs and evaluate the effect of reservoir depletion on the total discharge volume. The numerical simulation prepared by Boots & Coots consists of the following modules:

- Well trajectory and geometry modules to determine the flow path geometry
- Reservoir performance module for determine the fluid influx from various sections of the wellbore
- Reservoir fluid (oil and gas) properties
- Reservoir depletion
- Multiphase flow models
- Surface exit flow analysis
- Numerical solver module for calculating flowing bottomhole pressure and fluid influx rate from each reservoir

Refer to Attachment 7 for a report titled, “Analysis of Potential Well Flow during Drilling Operations, Boots & Coots,” prepared by Boots & Coots, April 2014. This report provides the complete simulations discussed in these comments.

Page 4.8-65, Subsection Scenario 9, Crude Oil Spill Outside Containment, first and second paragraph:

This subsection states, “This scenario involves a crude oil spill that could affect areas outside of the facility site. It encompasses all of the crude oil processing equipment at the site as well as the drainage systems failure. Section 4.3, Biological Resources, addresses potential impacts to biological resources.

This scenario assumes that all tank and piping areas at the Facility would drain to a bermed area. In order for the releases to spill outside of the berm containment, an operator would need to open the drain valve or leave a drain valve open during a subsequent inspection.”

There is no drain that allows fluid to leave outside the proposed the facility. This scenario could not occur and, therefore, should be deleted from the analysis in the EIR.

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Page 4.8-67, first paragraph following Table 4.8-11:

The second sentence states, “The rate used for blowouts during drilling was the BOEMRE rate, which is the most conservative.”

The BOEMRE blowout rate is not appropriate. The blowout rate should be changed from 5.20E-03 to 4.95E-04. Refer to Attachment 8 for the document titled “Technical Note #3a, Review of MRS Blowout Frequencies,” prepared by Bercha International Inc., March 24, 2014. This document addresses this issue.

EB-215

Page 4.8-74, Subsection Comparison to Applicant Studies:

The sixth sentence states, “This EIR included those two additional scenarios in order to assess the range of risks that could occur. Crude oil fires and drilling blowouts were not assessed in the Bercha Report.”

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Both scenarios were assessed. This statement is incorrect and should be deleted. Refer to Attachment 8 for the document titled “Technical Note #3a, Review of MRS Blowout Frequencies,” prepared by Bercha International Inc., March 24, 2014. This document addresses this issue.

Page 4.8-86, first full paragraph:

The paragraph states:

For the Proposed Oil Project pipeline with newer pipe (average age over the life of the Project of 20 years), elevated temperature, pipe type and coating type of average, the failure rate utilized in this EIR is the 5.27 spills per 1,000 mile years calculated from the CSFM database as it is considered to be the most conservative.

EB-217

Refer to Attachment 4 for the April 4, 2014 letter regarding the analysis of pipeline spills that was previously submitted to the City for a discussion of this issue.

Pages 4.8-67 through 4.8-76, Section 4.8.4.5 Frequency Analysis of the Proposed Oil Project Site and Pipelines:

Probabilities of events used in the MRS Fault Tree for the analysis in the Draft EIR are generally from outdated sources. Generally pre-1990 failure rates are higher than more current ones, such as 2000-2010, due to improvements in technology, regulations, and operations. As an example, the Wash-1400 study published in 1975 is attributed by MRS to give a failure rate for “PSV fails wide open” of 2.13E-03/yr. The reference used by Bercha for such events, dated 2005, gives a vastly lower rate for PSV failure of 2.0 E-05/yr, which is 107 times lower. It is unclear why MRS sought out and used obsolete and outdated references which generally give excessive values, when they could have simply referred to those in the Bercha report (provided in the Planning Application documents), which are current and publicly available.

EB-218

Refer to Attachment 9 for the document titled, “Technical Note 3, MRS Leak and Rupture Release Fault Trees and Risk Spectrum Review and Updates,” prepared by Bercha International, Inc., April 12, 2014.

Pages 4.8-70 and 4.8-71, Figures 4.8-5 and 4.8-6:

Figures 4.8-5 and 4.8-6 should be revised based on the analysis in the Attached technical reports.

EB-219

Page 4.8-78 - Mitigation Measure SR-1a:

Mitigation Measure SR-1a includes a requirement for a seismic analysis as a part of the annual audit. This would not be practical as building codes would change over the life of the project and the Proposed Project would be grandfathered under the code that existed at the time of construction. To require a seismic review annually, implies that the Applicant would be required to update their equipment at any time during the life of the project. Therefore, it is proposed that Mitigation Measure SR-1a be revised and an additional proposed mitigation measure be provided as follows:

- SR-1a The Applicant shall cause to be prepared an independent third-party audit, under the direction and supervision of the City, of the gas and crude oil plants and pipelines, once constructed, including the well pads, to ensure compliance with Fire Code, applicable API and NFPA codes, EPA RMP, OSHA PSM, and SPCC and emergency response plans requirements. ~~The review shall include a seismic assessment of equipment to withstand earthquakes prepared~~

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by a seismic engineer in compliance with Local Emergency Planning Committee Region 1 CalARP guidance. All audit items shall be implemented in a timely fashion, and the audit shall be updated annually, as directed by the City and the Los Angeles County Fire Departments.

Additional Proposed Mitigation Measure: The final design of the Proposed Oil Project shall be in accordance with the latest applicable California Building Code and Applicant shall provide as part of the review and approval of the construction documents, a seismic assessment of equipment to withstand earthquakes prepared by a registered Structural Engineer in the State of California.

Page 4.8-78, Mitigation Measure SR-1b:

Mitigation Measure SR-1b should be revised as follows:

- SR-1b The Applicant shall ensure that ~~no spark producing equipment is located within~~ the crude oil spill containment areas shall be designed as Class 1, Division 1 areas according to the NFPA and NEC, ~~or that spark producing equipment is sufficiently isolated from the crude oil containment area,~~ in order to reduce the potential for crude oil fires.

EB-221

Page 4.8-79, Mitigation Measure SR-1g:

Mitigation Measure SR-1g should be revised as follows:

- SR-1g Produced gas shall be continuously monitored for hydrogen sulfide and, if H₂S levels in the produced gas exceed 100 ppm, the well with the highest H₂S shall be shut in to reduce H₂S levels in the produced gas below 100 ppm and abandoned as per DOGGR requirements.

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SECTION 4.9 HYDROLOGY AND WATER QUALITY

Pages 4.9-1 and 4.9-2, Subsection 4.9.1.1 Proposed Oil Site Topography and Drainage:

The second paragraph on page 4.9-1 states, "Onsite drainage flows as sheetflow across mostly paved surfaces, away from a slight knoll located in the southeast portion of the site. Two drainage sumps are located onsite, including a sump drain in the entry driveway and a sump drain at the base of a ramp drive in the lower level of the building. The outlet of the latter sump drain is unclear. However, the sump drain within the driveway, as well as all other site runoff, flows into the Los Angeles County Flood Control District storm drain system before ultimately discharging into the Pacific Ocean, at an outfall at the end of Herondo Street."

Section 4.9 does not define the environmental setting or address current impacts of the Proposed Project related to hydrology or water quality based on the current activities at the existing City Maintenance Yard (vehicle maintenance, washing, storing of chemicals, etc.). On page 4.9-2, Subsection 4.9.1.4, the second paragraph states, "The total discharge from the Project Site during a 100-year frequency storm was determined to be 3.93 cubic feet per second, representing a 24-hour volume of 0.54 acre-feet, or 23,522 cubic feet." This would represent 175,959 gallons of stormwater runoff during this 24-hour storm event. Provide a baseline of the current contaminated runoff per year based on rainfall exposure with the existing City Maintenance Yard

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activities. This would provide the correct environmental setting for the Proposed Project. With the exception of the construction activities that would occur under a Stormwater Pollution Prevention Plan (SWPPP), with the implementation of the Proposed Project, no stormwater runoff would leave the project site. This would result in a positive net environmental benefit related to stormwater runoff and water quality.

Additionally, the second paragraph on page 4.9-1 states, "A portion of the runoff from the Herondo Street storm drain is diverted to the sanitary sewer system prior to ocean outflow, thus reducing discharge of poor water quality from the storm drain (E&B Natural Resources 2012)." Verify the source of this information and further explain what this statement means. How does the selective diversion of stormwater occur and what portion is diverted to the sanitary sewer system such that it reduces discharge of poor water quality?

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Did the Draft EIR confirm and account for this diverter system when analyzing the potential spill at the corner of Herondo Street and Valley Drive during a 0.5-inch rain event or any spill event? If not, the analysis of oil spills should be revised to reflect the effectiveness of this system in eliminating the potential of an oil spill (large or small) from reaching the ocean.

Page 4.9-1, Section 4.9.1.3, first paragraph:

The reference to the Torrance Refinery is incorrect. The refinery in Torrance should be correctly identified as the Exxon Mobile Refinery. This corrected reference should be made throughout the document. Also refer to the comment on Page ES-2, Subsection Description of Proposed Project, first paragraph provided above for the correct information regarding the off-site pipelines as described in the Planning Application documents.

EB-225

Page 4.9-5, first paragraph:

The first paragraph states, "Groundwater beneath the Project Site was encountered in borings, at depths between 48 and 49 feet below ground surface (NMG Geotechnical 2012), which is equivalent to elevations of approximately 4 to 5 feet above mean sea level." This subsection describes groundwater reservoirs beneath Los Angeles County. Page 4.9-4, also states, "The Proposed Project Sites are located along the westerly edge of the West Coast Basin, west of a series of injection wells that serve as the West Coast Groundwater Barrier Project (Figure 4.9-2)."

The purpose of this barrier project is to stop seawater intrusion east of the barrier project as shown in Figure 4.9-2. This subsection should be revised to discuss important items such as: How much water is re-injected daily as part of the barrier project? How many injection wells are there in the barrier project? Are there beneficial uses of any groundwater below or west of the Project Site? Are there any beneficial uses of groundwater anywhere west of the barrier project in the City of Hermosa Beach? Where does the City of Hermosa get its water (drinking or otherwise) and how much is consumed each day?

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Based on the information provided in this subsection, there are no rivers, streams, or beneficial groundwater sources that could be impacted by the spill scenario as described in Section 4.8, Safety, Risk of Upset and Hazards, of the Draft EIR. The analysis should be revised to reflect this.

Page 4.9-5, Subsection 4.9.1.6 Water Quality:

As part of this subsection, a discussion should be added to address the existing condition of offshore oil seeps currently located in the Santa Monica Bay. There are no discussions about this

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topic in the Draft EIR although it is very relevant to the definition of the environmental setting related to the analysis of the potential for impacts from oil spills and the potential for contamination of the Santa Monica Bay.

There are numerous papers discussing natural seepage and rates within the Santa Monica Bay (K. A. Kvenvolden & C. K. Coopers, "Natural Seepage of Crude Oil into the Marine Environment"). In some areas, such as the Santa Barbara Channel, it is estimated 295 BBLs of oil naturally seep into the ocean waters each day. A University of California, Santa Barbara study stated, "natural seepage of hydrocarbons from the ocean floor...has been significantly reduced by oil production." Organizations such as Stop Oil Seeps California (www.soscalifornia.org) can provide valuable reference information on this topic that can be utilized to expand the discussion that should be added to the analysis of water quality in the EIR.

In addition, a recent publication entitled, "Natural Offshore Oil Seepage and Related Tarball Accumulation on the California Coastline - Santa Barbara Channel and the Southern Santa Maria Basin; Source Identification and Inventory," Thomas D. Lorenson, Frances D. Hostettler, Robert J. Rosenbauer, Kenneth E. Peters, Jennifer A. Dougherty, Keith A. Kvenvolden, Christina E. Gutmacher, Florence L. Wong, and William R. Normark (http://pubs.usgs.gov/of/2009/1225/of2009-1225_text.pdf April 2014) is a significant study that discusses naturally occurring oil and tarball accumulation. Again, this would provide another source that can be considered in the revision of the analysis of water quality in the EIR.

Because oil seepage is part of the Santa Monica marine environment, the Applicant requests that a discussion about oil seeps and the existing impact on the Santa Monica Bay be provided in the analysis. As is the case in the Santa Barbara area, the Proposed Project could have a net environmental benefit by reducing natural seepage in the Santa Monica Bay.

Page 4.9-9, subsection 2012 Los Angeles County NPDES Permit:

The second sentence states, "The City of Hermosa Beach, along with other cities in Los Angeles County, is transitioning to the new 2012 permit and is preparing a watershed management plan for compliance with the new permit, which will include even more stringent rules governing stormwater runoff for development projects. Depending on when the Proposed Project proceeds, it may be subject to SUSMP requirements or even more stringent requirements in the 2012 permit. Currently, the SUSMP is still required, but the rules may become more stringent in the near future."

This language gives the reader the impression that there would be stormwater runoff from the project site with the implementation of the Proposed Project. The Project Application documents, specifically the two Preliminary Standard Urban Stormwater Mitigation Plans (SUSMPs) prepared for Phases 2 and 4 of the Proposed Project at the request of the City, clearly state that there would be no stormwater runoff from the Project Site during Phase 2 drilling and testing and Phase 4 development and operation (during the construction periods, stormwater would be addressed through SWPPPs prepared for Phases 1 and 3). During Phases 2 and 4, when there would be drilling and production activities, the Proposed Project would be designed to handle a 100-year storm event plus all the volume within the tanks and vessels. Although the Draft EIR recognizes that storm water would be contained on-site and injected with the produced water, the analysis provided in Section 4.9 does not seem to incorporate the information provided in the Preliminary SUSMPs prepared for the Proposed Project. The analysis should be revised to

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include the information from the Preliminary SUSMPs and the design features of the Proposed Project that address hydrology and water quality.

Page 4.9-11, Subsection Groundwater Recharge or Level, third paragraph:

The first sentence states, “Groundwater in the West Coast Basin, which underlies the Proposed Project area, is primarily recharged from the West Coast Basin Barrier Project.”

This statement gives the reader the impression that fresh groundwater sources west of the West Coast Basin Barrier Project are recharged with potable water from the West Coast Basin Barrier Project. The West Coast Basin Barrier Project is a program designed to prevent seawater intrusion from impacting groundwater sources just west of the injection wells and east of the barrier project. The barrier project does not provide a source of potable water on the west side of the barrier and this information is essential to the analysis in the EIR because it helps to define the existing groundwater quality beneath the project site and provides clarity and the reality under which the potential impacts of the Proposed Project should be analyzed; specifically the pipeline spill scenario as described in Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR and discussed below.

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Page 4.9-12, first paragraph:

The first paragraph states, “There are no domestic water supply wells located in the vicinity of the Project Site. However, in the general area of the Project Site, there is at least one well that pumps water for onsite industrial water.” Where do domestic water supplies (including wells, surface reservoirs, etc.) for the City of Hermosa Beach come from? How far away from the Project Site is this source located, assuming they are wells or surface reservoirs located within Los Angeles County? Are they located east of the West Basin Barrier Project?

The Draft EIR identifies a well that pumps water for onsite industrial purposes in the general area. Where is this well and what is the distance of the well to the Project Site? Is it west or east of the West Basin Barrier Project? What is known about the quality of the water from this well? What is the pumping depth of the well? What do the logs, if any, say about the other zones above the water source? Are there any water quality analyses from these other zones? Depending on the location of this well, it may be very pertinent to providing the detail lacking in the discussion related to groundwater quality near the Project Site. Overall, it is important to understand this information if there is an actual risk to domestic water supplies based on the oil spill scenario described in Section 4.8, Safety, Risk of Upset and Hazards, of the Draft EIR.

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Page 4.9-12, Subsection Drainage Patterns, second paragraph:

The third sentence states, “In addition, runoff at the Project Site would be substantially decreased as a result of the Proposed Oil Project.”

This statement should be revised to note that the stormwater runoff from the project site would be eliminated, except during construction, with the implementation of the Proposed Oil Project. It appears the elimination of stormwater runoff from the Project Site would be considered a beneficial effect and should be reflected as such in the EIR.

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Page 4.9-13, Subsection 100-year Flood Hazards, Levee or Dam Failures, Seiche, Tsunami, or Mudflows, third paragraph:

The third sentence states, “During Phases 2 and 4, all Project Site runoff would be contained onsite as a result of construction of two well cellars that would capture all precipitation.”

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The Project Application documents, including the Preliminary SUSMPs for Phase 2 and Phase 4 of the Proposed Project, describe that containment includes not only the well cellars, but also the bermed areas constructed as part of Phase 2 and the large containment area for the tanks constructed in Phase 3 for use in Phase 4. This information should be described as part of the overall containment system included as part of the Proposed Project.

Page 4.9-14, Subsection Project Site, first paragraph:

The discussion in this subsection stops short of addressing the impacts related to clean-up of the existing soil contamination on the project site. The EIR should weigh the clean-up against the long-term positive environmental benefit from the clean-up of the existing soil contamination. It appears the clean-up activities would be a beneficial effect and should be reflected as such in the EIR. The resulting benefits of the clean-up of the proposed New City Maintenance Yard should also be identified as a positive benefit.

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Pages 4.9-16 and 4.9-19, Impact HWQ.2:

The impact statement states, “A rupture or leak during oil drilling operations, from pipelines, or from other infrastructure could substantially degrade surface water and groundwater quality.”

Based on the discussions and proposed mitigation measures contained in the Draft EIR, including the sequence of events inherent to such a small event, there is no scenario that would result in the conclusion that the Proposed Project would “substantially degrade surface water and groundwater quality,” resulting in a finding of a significant and unavoidable impact.

This section contemplates one scenario with variations that could potentially affect surface or groundwater. This scenario is a pipeline rupture outside the facility along the oil pipeline that could cause a spill of crude oil. On Page 4.9-16, last paragraph, the Draft EIR states, “Small leaks or spills, which are contained and remediated quickly, may have minor or negligible impacts to water resources. In contrast, large spills outside of the facility, such as those that could be produced from a pipeline rupture, could spread to surface waters and/or groundwater and may substantially degrade water quality, with potential long-term impacts to beneficial water quality.”

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On Page 4.9-17, first paragraph, the Draft EIR states, “Similarly, spills could result in significant, long-term contamination of groundwater in dune and alluvial sediments beneath the spill site, if present, as these soils are generally unconsolidated and permeable. Although most of the Project Site and surrounding area would be paved and impermeable, pipeline spills could occur underground and/or spill into areas that might be unpaved and permeable. Therefore, the impacts could be significant.”

Under this description the event would be localized. Furthermore, the mitigation measures (many of which were proposed as design features in the Applicant’s Project Application documents), such as leak detection, would ensure that this event would be noticed and the clean-up response swift and comprehensive.

The analysis in the Draft EIR gives no consideration to the sequence of events implied inherent in this scenario that would prevent significant, long-term contamination of groundwater resources. In the event of a rupture, the leak, even very small leaks, would be detected as described in the Applicant’s Leak Detection Program. As part of the Leak Detection Program, once detected, the pipeline system would be shut down, effectively stopping the leak except for potential drain down. Maximum drain down would only occur during surface spill which would

identify the leak location. Subsurface spills would not experience the same drain down effect which would dramatically reduce the spill size. As the Draft EIR states the “oil is heavier,” and this would make transport through sediments extremely slow and localized within a few feet of the pipeline. Assuming the leak never reaches the surface, current technology such as geometry tools and other devices would identify the leak location within days.

Furthermore, once the leak is initially detected, by law the Applicant would be required to respond immediately. Under the required Oil Spill Contingency Plan, the Applicant would have an on-call qualified third party response organization. In addition, the law requires the Applicant to make several agency notifications that would result in onsite regulatory oversight within hours of any detected leak. The regulatory oversight would include immediate response organizations such as the local fire department, Cal-EMA, California State Fire Marshal, and California Office of Spill Prevention and Response. As clean-up occurs, other agencies would be consulted for clean-up effectiveness including, among other things, protection of groundwater resources. Consulting agencies would include the Los Angeles Regional Water Quality Board, Department of Toxic Substances Control, and the Los Angeles County Fire Hazmat Division. At the request of the City, a detailed discussion of the Oil Spill Contingency Plan that would be prepared for the Proposed Project was previously submitted to the City as Attachment G to the Response for Planning Application Completeness Review, dated April 11, 2013. This document has been provided again as Attachment 5 to this letter.

Given the small spill volumes described, the immediate detection of any spill event, and the swift clean up response which would be required of the Applicant in compliance with the myriad of regulatory requirements, it is not understood how it is possible to conclude that there would be significant, long-term contamination of the groundwater resources. The Draft EIR provides no reasonable justification for a determination of significant and unavoidable impacts and this analysis should be revised.

In addition, on Page 4.9-16, last paragraph, the Draft EIR states, “No creeks are located in the vicinity of the Project Site, nor along the Proposed Pipeline route; however, the Pacific Ocean is located only a few blocks downhill from the Project Site and all storm drains in the Project Site vicinity and along the Pipeline route lead directly to the ocean.” This scenario contemplates a pipeline rupture where oil could reach the ocean though through a storm drain during a 0.5 inch rain event. Although the Applicant concurs with the assumption that spill events would not reach the ocean without a substantial storm event, Page 4.8-86, Section 4.8, Safety, Risk of Upset and Hazards, states, “The probability of any spill occurring during a 0.50 inch storm event in the Herondo Street area would be 0.4% over the life of the Project.” The Draft EIR concludes this event would substantially degrade water quality, or specifically water quality in the Pacific Ocean.

Should a rupture occur, the leak would be detected. Once detected, the pipeline system would be shut down, effectively stopping the leak except for potential drain down. Since a leak would be on the surface, the leak location would quickly be identified. Page 4.9-19, first sentence states, “The installation of a check valve into the crude oil pipeline at Herondo Street would reduce the potential spill volumes from a spill at that point by about 1,250 gallons (30 BBL) by eliminating the draindown of the pipeline from the segment from Herondo Street to Prospect Avenue.” This mitigation measure alone provides for a substantial reduction in the volume of oil that could be released and, based on the spill projections on Page 4.9-17, any resulting spill would be between 80 and 90 barrels.

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The Draft EIR also provides no insight or description of the fate of this oil the second it contacts the rain water and makes it way to the ocean through the storm drains. First, there would not be an immediate volume of 80 to 90 BBLs of oil injected into the storm drain. It would be slow releasing of oil over several minutes if not hours. It is likely a large portion of this oil could be contained on the street by onsite response equipment that would be deployed in minutes of a notification.

The oil that is not contained would cool quickly and begin to coagulate into larger and smaller clumps or streamers before entering the storm drain. Once in the storm drain, the oil could potentially stick to storm drain walls and likely be reduced by other friction action. What remaining oil navigates this system would ultimately make its way to the storm drain discharge located approximately 200 feet from the ocean. This additional 200 feet of sand would collect some portion of the spill. What little oil remained would likely be substantially diluted before hitting the waves and immediately be driven back to shore. Oil traveling beyond this point, if any, would be localized.

Although each potential scenario provides different challenges, this would be a very small spill. As discussed in Attachment 5, the Applicant would be required to file and get approval for an Oil Spill Contingency Plan through the California Office of Spill Prevention and Response (OSPR). The Oil Spill Contingency Plan requires annual drills and table top exercises to ensure personnel are properly trained, response organizations are available and functioning, and response equipment meets the spill plan standards and response times. OSPR would also require the Applicant to become a member of an Offshore Response Organization (OSRO). As part of the Oil Spill Contingency Plan, the Applicant and OSRO would be required to have appropriate onshore and offshore response capabilities to clean up the “worst case” oil spill. This includes offshore cleanup and onshore cleanup protection strategies that can be quickly deployed to contain and clean up spills. In addition, the Applicant would have to file with OSPR a Certificate of Financial Responsibility (COFR) to ensure there are financial resources available to cover clean-up expenses. The Draft EIR seems to assume that a large portion of the 80 to 90 BBLs would make its way to the ocean and not be cleaned up. In addition, the Draft EIR has taken an overly broad approach in making the significance determination (oil in ocean), without serious consideration to the actual fate of the oil and the response measures which would be required to be in place to ensure proper clean-up.

The Draft EIR provides no reasonable justification for a determination of a significant and unavoidable impact under this scenario. The predicted size of the spill, along with mitigation measures proposed in Section 4.9, Hydrology and Water Quality, and Section 4.3, Biological Resources, of the Draft EIR contradict this significant and unavoidable determination. In addition, the Draft EIR provides no scenario or sequence of events that results in such a determination.

The Applicant has prepared an analysis of the oil pipeline spill probability taking into account updates to the pipeline spill probability presented in the Draft EIR based on the updated 2013 Office of the State Fire Marshal (OSFM) spill frequency and Applicant proposed additional pipeline design criteria that would reduce the causes in the California State Fire Marshal (CSFM) Incident Causal Distribution identified in Section 4.8, Safety, Risk of Upset, and Hazards, of the Draft EIR. Refer to Attachment 4 for the April 8, 2014 letter previously submitted to the City. The analysis of impact HWQ.2 should be revised to reflect the analysis and proposed additional mitigation measures provided in Attachment 4. As discussed above, the analysis of the oil

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pipeline spill probability and the additional proposed mitigation measures discussed in the letter provided in Attachment 4 would support a determination that the potential for an impact from this scenario could be reduced to a less than significant level.

Page 4.9-17, Mitigation Measure HWQ-2a:

Mitigation Measure HWQ-2a should be revised as follows:

HWQ-2a The Applicant shall properly maintain the associated crude oil pipelines, storage tanks, and processing facilities within and outside the Project Site, including smart-pigging according to State of California Office of the State Fire Marshal requirements and the standards outlined by the Department of Oil, Gas and Geothermal Resources, and the Los Angeles Regional Water Quality Control Board. The Applicant shall visually inspect on-site storage tanks and processing equipment at least daily and provide a visual inspection of the crude oil pipeline right-of-way inspections on a weekly basis.

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Page 4.9-18, Mitigation Measure HWQ-2b:

Mitigation Measure HWQ-2b should be revised as follows:

HWQ-2b The Applicant shall install a leak detection system for crude pipelines to the ~~Torrance Refinery~~ selected valve box location. The system shall include pressure and flow meters, flow balancing, supervisor control and data acquisition system, and a computer alarm system in the event of a suspected leak. Temperature, pressure, and flow shall be monitored at each pipeline entry and exit. If any variable deviates by more than 10 percent of the normal operating range, the system shall trigger both audible and visual alarms. Flow balancing shall be conducted every ~~5~~ 15 minutes, 1 hour, 24 hours, and 48 hours with the accuracy defined once the system is established and tested.

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SECTION 4.10 LAND USE/RECREATION/POLICY CONSISTENCY ANALYSIS

Page 4.10-2, last paragraph:

Revise the second paragraph as follows:

The Proposed Pipeline would then continue in one of three routes and valve box options (see Section 2.0, Project Description) to an area refinery ~~located in the City of Torrance~~.

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Page 4.10-3, Subsection Proposed Relocated City Maintenance Yard, first paragraph:

As indicated in the comment on Page ES-4, fourth paragraph, first sentence, the information about the number of parking spaces for each option and the temporary and permanent conditions is confusing. The discussion should be revised to concisely state the number of parking spaces currently available, the number that would be relocated with each of the parking option and where they would be replaced, and the total number of parking with the completion of the temporary and permanent conditions.

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Page 4.10-3, subsection Proposed Relocated City Maintenance Yard, second paragraph:

The first sentence states, "The relocation of the City Maintenance Yard and the onsite parking spaces at the existing City Maintenance Yard would occur prior to initiation of any site clearance of the Project Site at 555 6th Street."

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This information should be revised to reflect the relocation timing described in the Project Description and as clarified in the comment on Page ES-4, fourth paragraph, first sentence above.

Pages 4.10-3 through 4.10-4, subsection Proposed Project Offsite Parking Locations:

The following sentence is incorrect and should be changed to reflect the Updated Parking Plan submitted to the City on January 8, 2014. “The Project proposes that the 17 replacement parking places be located at the new City Maintenance Yard location, or if no added parking is constructed there, the 17 replacement spaces would be located at the Cypress Parking Lot (The City has indicated there is no agreement to provide for parking at a relocated City Maintenance Yard.)” In addition, the Parking Plan provided in Appendix A to the Draft EIR is an older version and should be replaced with the Updated Parking Plan that is provided again to the City as Attachment 6.

In the January 2014 Updated Parking Plan, the discussion of long-term parking is as follows:

With respect to the permanent provision of the 17 replacement parking spaces, the Applicant proposes the following approach. The threshold issue to consider is whether any parking spaces will be provided as a part of the City’s relocation of the City Maintenance Yard. The City Maintenance Yard currently includes 15 parking spaces that are utilized by City employees and others for Yard operations, and these spaces are available for public use only on weekends and at night. Any new location for the City Maintenance Yard activities will also require parking for Yard operations, and those parking spaces could be utilized as permanent public parking spaces on weekends and at night, similar to how the existing parking spaces are utilized. If the replacement spaces are provided in this manner with the relocation of the City Maintenance Yard, the Applicant would be bound by the provisions of the lease regarding payments to the City for its costs to relocate the City Maintenance Yard.

If the relocation of the City Maintenance Yard does not provide for the relocation of the public parking spaces, then the Applicant proposes to provide 15 replacement public parking spaces as well as the additional two public parking spaces prior to the commencement of the project, subject to the provisions of the lease regarding Applicant’s payments for the City’s costs to relocate the City Maintenance Yard. The Applicant proposes to provide these replacement public parking spaces by utilizing the parking spaces provided by the Applicant at the off-site temporary parking area or by providing other suitable public parking spaces acceptable to the City in coordination with the City’s parking program consistent with the requirements of the City and the California Coastal Act, all subject to the terms of the lease.

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Page 4.10-5, Subsection 4.10.1.2 Recreation:

Why was Recreation the only land use that was discussed? The analysis should be revised to add additional information for the other land uses surrounding the project site and the temporary and permanent City Maintenance Yard relocation sites. This will be needed in order to provide and analysis of the land use compatibility with the Proposed Oil Project and the Proposed City Maintenance Yard Project.

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Page 4.10-6, Section 4.10.2.1 Federal:

The Draft EIR lists the EPA, the U.S. Army Corps of Engineers and U.S. Fish and Wildlife as having “regulatory authority.” However, the project does not require a Section 404 permit from the U.S. Army Corps of Engineers. Identify what regulatory authority is required by the U.S. Army Corps of Engineers.

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Page 4.10-6, last paragraph, last sentence:

In the last sentence on the page, it references the “CSLC.” Should this be the CCC?

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Pages 4.10-7 and 4.10-8:

The Draft EIR discusses Sections 30260 through 30264 of the Coastal Act, but fails to mention that Section 30262 expressly authorizes “oil and gas” development. The discussion provided characterizes these Coastal Act provisions as relating to “industrial” development, which is the broader category discussed in Section 30260. It is important that oil and gas itself is listed and described as “shall be permitted” in Section 30262. The text should be revised to clarify this.

EB-246

Page 4.10-9, paragraph at top of page:

This text should be revised to include a discussion of the General Plan Land Use designations for properties surrounding the existing City Maintenance Yard and for property around the sites for the Proposed City Maintenance Yard Project, both for the temporary and permanent conditions. This will allow a comparison and consistency analysis for this section.

EB-247

Page 4.10-9, Subsection City of Hermosa Beach Municipal Code:

This text should be revised to include a discussion of the zoning designations for properties surrounding the existing City Maintenance Yard and for property around the sites for the Proposed City Maintenance Yard Project, both for the temporary and permanent conditions. This will allow a comparison and consistency analysis for this section.

EB-248

Page 4.10-9, Subsection City of Hermosa Beach Oil Code:

The last sentence should be revised to read “...then the Oil Code will apply, as further defined in the ballot measure.”

EB-249

Page 4.10-9, Subsection City of Hermosa Beach Local Coastal Program:

...the Applicant and the City would each need to seek coastal development permits from the Coastal Commission for their respective parts, the Applicant for the Proposed Oil Project if approved by the voters, and the City for the City Maintenance Yard relocation, respectively.

The Draft EIR states that “...the Applicant and the City would each need to seek coastal development permits.” Both projects may need to obtain amendments to the Local Coastal Plan, and the Applicant and the City should coordinate the Land Use Plan amendment processes.

Also, given the land use designations for the Proposed City Maintenance Yard Project locations in the Land Use Plan, are these uses inconsistent with the City’s General Plan?

EB-250

Page 4.10-9 and 4.10-10, Subsection 1993 Conditional Use Permit (CUP) Conditions of Approval:

The discussion on the Conditional Use Permit (CUP) fails to note that it is an existing and valid entitlement pursuant to the Settlement Agreement and that the CUP is meaningful and in full force in terms of land use and zoning compatibility as well as with other land use policies. The

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list of CUP conditions in this section is not a comprehensive list, which either should be included here, or referenced in the relevant sections of the EIR.

Page 4.10-11, first paragraph:

This discussion should be revised to include information related to the City of Redondo Beach zoning ordinance and clarify what is needed for the gas metering station.

EB-252

Page 4.10-11, Subsection City of Torrance:

The first sentence states, “The Proposed Project oil Pipeline is routed through the City of Torrance terminating at a valve box which would connect to an existing pipeline to a refinery located in Torrance.”

EB-253

This information is incorrect. Please refer to the comment on Page ES-2, Subsection Description of Proposed Project, first paragraph provided above about pipelines connection to a valve box location in the Cities of Torrance and Redondo Beach, not directly to a refinery.

Page 4.10-12, Subsection 4.10.3 Significance Criteria:

The significance criteria provides thresholds of significance for recreation and tourism which are not included in the CEQA Guidelines Checklist. Have these thresholds been adopted by the City? How were these thresholds established? Why was recreation singled out for discussion from the other types of land uses in the City?

EB-254

Page 4.10-13, Impact LUPR.1 Description:

Impact LUPR.1 states, “The Proposed Project conflicts with established land use plans, policies and land use maps. However, the Proposed Project includes the necessary amendments to those plans, so technically, the “Proposed Project” does not create any conflicts, but resolves any potential conflicts. Similarly, the sentence which starts with “As currently written,...” should refer to the existing plans, as opposed to the “Proposed Project.” Or, the sentence could read: “As currently written, the existing [insert list of plans] does not provide for the development of an oil and gas facility.” Also, the proposed amendments are not mitigation measures; therefore, the Residual Impact should be Class III Less Than Significant.

EB-255

Page 4.10-13, Table 4.10-1, text regarding Coastal Land Use Plan:

Table 4.10-13, regarding the Coastal Land Use Plan, states, “The Plan does not provide guidance regarding whether oil and gas development is allowed in the industrial designation.”

EB-256

The Coastal Act, which provides the regulatory framework for all LCPs, expressly provides for the development of oil and gas, specifically Section 30262. Refer to the comment on Pages 4.10-7 and 4.10-8 above.

Page 4.10-15, first full paragraph:

The states, “The Proposed Project may be considered to be inconsistent with certain land use goals and policies pertaining to preservation of the City of Hermosa Beach’s small town beach community atmosphere...” and then goes on to state that those inconsistencies will be resolved by the vote of the people.

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Each of the General Plan goals and policies need to be addressed, giving due consideration to the fact that there is an existing Conditional Use Permit and that the project site is designated as Industrial in the City’s General Plan. In addition, the other General Plan goals and policies should receive equal attention, including Goal 6 (page 4.10-28) which states: “Maintain existing

land use standards and controls for the commercial and industrial districts.” Since the Consistency Analysis provided in Subsection 4.10.6 indicates that the Proposed Project is consistent with most of the City’s policies and goals, the analysis should be revised to reflect that determination.

Page 4.10-15, bulleted list:

This list is a duplicate of the list on Page 4.10-14, except there is an item in the list on Page 4.10-14 that discusses the Franchise Agreement. This list should be corrected to be consistent.

EB-258

Page 4.10-16, next to last bulleted item on list:

Revise this bullet item as indicated below:

- Franchise agreement and permits for the proposed oil and gas Pipelines and the gas metering station in the City of Redondo Beach.

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Pages 4.10-17 and Page 4.10-18, Subsection Incompatible in scale or use characteristics with any adjacent land uses, after first paragraph at top of page:

The discussion concludes that significant and unavoidable impacts would result from “industrial type impacts to adjacent open space and residential land uses.” The determination of whether “industrial” land uses are consistent with the City’s policies was determined when the City approved an “Industrial” land use designation for the project site in its General Plan. That action determined the consistency. Therefore, this analysis should be revised.

EB-260

The discussion in this section does not provide or identify which City requirement/policy allows the City to find that the existence of any residual noise, odor or visual impacts create a land use inconsistency? Unless there is an adopted policy which provides for such an assessment, this impact determination should be eliminated or modified with the elimination of noise and odor impacts discussed in those respective sections.

Pages 4.10-18 and 4.10-19, Table 4.10-2 and following discussion:

The Draft EIR should analyze whether the Proposed City Maintenance Yard Project could be developed on the property without any legislative changes. Given the existing uses on the site for both the temporary and permanent locations, e.g., storage facility and the land use designations of General Commercial and Industrial, it is unclear why any legislative changes are required. While it is understood that public facilities are authorized under the Open Space land use designation, uses associated with a City Maintenance Yard could also be performed in an Industrial land use designation, since that is where the current City Maintenance Yard functions. Also explain why portions of the Proposed City Maintenance Yard Project sites are Residential Medium Density.

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Page 4.10-19, last paragraph:

With respect to the timing of any legislative changes, refer to the comment regarding obligations of the City to relocate City Maintenance Yard under the existing Lease with the City.

EB-262

Page 4.10-20, Subsection Incompatible in scale of use characteristic with any adjacent land uses:

This analysis states: “There are no industrial land uses adjacent to the proposed location for the new City Maintenance Yard with most of the surrounding area in residential land use. Work activities associated with the City Maintenance Yard has the potential to generate noise and other impacts associated with maintenance work conducted outdoors. However, similar work is

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currently conducted at both the City Fire and Police Stations. Impacts to adjacent land uses from the relocation of the City Maintenance Yard are not expected to be significant.”

We disagree with the conclusion made in the last sentence of this discussion. The activities at the current City Fire and Police Stations do not represent similar activities that occur at the current City Maintenance Yard. Additionally, the Draft EIR considers any residual impacts of odor, noise, and aesthetics to create a potential inconsistency with the City’s land use policies based on adjacent uses (see above) for the Proposed Oil Project: however, the City does not consider a similar impact for the Proposed City Maintenance Yard Project. Also, the comparison of the existing City Fire and Police Stations is not particularly relevant for the permanent site of the City Maintenance Yard, which currently has a storage facility and parking uses.

Page 4.10-21, Subsection Degradation of a Recreation Area or Prolonged Interruption of Use:

The title of this subsection conflicts with the description of Impact LUPR.4 “Accidental oil release and potential cleanup from operation of the oil Pipeline would conflict with current and projected recreational users.”

The Draft EIR does not provide a substantive discussion as to the fate of oil in the event of a spill. To assume a one-time and relatively small spill event would degrade recreation is an unreasonable and unsubstantiated conclusion. Furthermore, the statement concerning prolonged interruption of use is not realistic.

Again, where is the City policy which states that an impact to recreation exists if a recreational area is degraded or subject to a prolonged interruption of use? Also, what does that mean? Does “degradation” mean a permanent degradation? Does “prolonged” mean months, years? As discussed above the comments on Section 4.9, Hydrology and Water Quality, of the Draft EIR, any spill would be minimized due to comprehensive regulatory programs to require immediate action. Further, the Draft EIR does not explain how a spill would be of a size to create degradation or prolonged interruption of use.

The Applicant understands that in the event of a spill there could be beach closures; however, the Draft EIR suggests a much larger area and prolonged period than a spill of this size could possibly generate. Again, the Draft EIR generalizes and overestimates the event with no substantive discussion on the event resulting in unreasonable outcomes such as the statement contained in the paragraph following the Impact Description quoted above.

EB-264

The environmental document must provide actual context and justification before reaching this conclusion. If the Draft EIR had approached this from a more specific scenario, they would have to conclude that this spill would cause intermittent, localized, and small isolated pockets of shoreline closure, not total beach closure (sand, volleyball, restaurants, jogging, biking, etc.). Also, some boating restrictions could apply, but again meeting the same magnitude as described for onshore closures. More importantly, these closures or restrictions would likely be less than 1 to 2 days. The analysis of the potential impacts to recreation should be revised to utilize existing models for onshore and offshore spill analysis (NOAA) to give perspective on this potential spill event. It is also suggested that response personnel or agencies with actual spill experience be consulted to provide context for this specific type of spill event.

The spill proposed would not cause degradation of recreational areas or prolonged interruption in use. Because it does not meet these significant criteria, the analysis cannot conclude that the

impact is significant and unavoidable. Refer to the comments above on Section 4.9, Hydrology and Water Quality, and Section 4.3, Biological Resources, concerning various spill scenarios. The analysis of the potential impacts to recreation should be revised to reflect the comments provided.

Page 4.10-21, middle of third paragraph:

The fourth sentence states, “Even without rains, the capacity of the storm drains is such that a spill could still reach the ocean, depending on the arrangement of sand at the mouth of the ocean discharge.”

This scenario is not contemplated anywhere else in the Draft EIR. The Applicant would ensure that there is an adequate sand arrangement at the mouth of the discharge, or in consultation with the Public Works Department, and provide a weir system capable of stopping any residual oil from a spill from entering the ocean. Prior to any proposed installation, the Applicant, in coordination with the City Public Works Department, will assess the low flow diverter system located on Herondo Street to determine if this unit meets the requirements to eliminate this identified impact.

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Page 4.10-22, Subsection Residual Impact, top of page:

Based on the discussions provided above, we strongly disagree with the conclusion stated in the last sentence of this paragraph. Based on evidence and information provided in the comments on Section 4.10, Land Use/Recreation/Policy Consistency Analysis, Section 4.9, Hydrology and Water Quality, and Section 4.3, Biological Resources, the analysis of the potential impacts to recreation should be revised to reflect the conclusion of less than significance with mitigation.

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Page 4.10-23, Section 4.10-6, first paragraph:

With respect to cumulative impacts, should the City consider the proposed General Plan Update in this discussion?

EB-267

Page 4.10-27 and 4.10-28, Land Use Element:

The City issued the 1993 CUP based on these same policies and the City has determined that the CUP is a valid entitlement and is applicable to the Proposed Project. Also, this analysis does not address Goal 6.

EB-268

Page 4.10-29, first full paragraph at top of page:

The Draft EIR should provide sufficient information regarding the Proposed Project’s consistency with the goals of the Land Use Element for consideration of the voters. It is not sufficient merely to state that the determination is to be made by the voters.

EB-269

Pages 4.10-29 through 4.10-31, Economic Element:

The Economic Element analysis should be revised to reflect the Applicant’s economic analysis and any relevant information from the City’s Cost Benefit Analysis. The last paragraph on Page 4.10-30 and continued on Page 4.10-31 does not sufficiently explain how the benefits of the Proposed Project could assist the City in achieving its Economic Element policies.

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Pages 4.10-31 and 4.10-32, Noise Element:

The analysis of the Noise Element, particularly Policy 4, should be updated to reflect additional noise mitigation measures proposed by the Applicant. Refer to the comments on Section 4.11,

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Noise and Vibration, of the Draft EIR for a discussion of revised mitigation measures and Attachment 3 for a discussion of the additional Applicant proposed mitigation measures for Phases 2 and 4 during drilling and production.

Page 4.10-32, Safety Element:

The Consistency Analysis discussion does not include the comprehensive range of safety measures that the Applicant has proposed or must comply with pursuant to regulatory standards. In addition, this analysis should be revised to reflect the comments on Section 4.8, Safety, Risk of Upset, and Hazards, to the Draft EIR.

EB-272

Page 4.10-35 and 4.10-36, section 4.10.7.3 City of Hermosa Beach Local Coastal Plan:

In the discussion of the City's Land Use Plan, the analysis should discuss the Coastal Development Permit that was issued by the California Coastal Commission for the MacPherson project in 1998. This becomes important because many of the Coastal Act policies are the same as they were then. Since this is the case, it should be possible to find the project consistent with all policies discussed in this section and the discussion which follows on Pages 4.10-38 through 4.10-40 about parking.

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Page 4.10-37, Coastal Development and Design:

The analysis states that the proposed project is inconsistent with Coastal policies on building heights; however, the California Coastal Commission issued a Coastal Development Permit for the MacPherson project, with higher structures that were an integral part of the project.

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Page 4.10-38 and 4.10-39, section 30250 – (a) (b):

Based on the information and comments provided on Section 4.8 Safety, Risk of Upset, and Hazards, the conclusion in this statement should be revised.

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Page 4.10-39 and 4.10-40, Sections 30260 and 30262, beginning bottom of page:

Oil and gas development is expressly authorized under the Coastal Act, so the statement, "...the Proposed Project may be determined to be inconsistent with other sections of the Coastal Act." should be revised.

EB-276

The conclusion in the last sentence under Section 3062 discussion which states, "Therefore, the Proposed Project could potentially be found consistent with Section 30250(b) of the Coastal Act." is consistent, not potentially consistent.

SECTION 4.11 NOISE AND VIBRATION

Page 4-11-21 and 4-11-22, Subsection Los Angeles County Code – Vibration Standards

The discussion includes the Los Angeles County Code as a reference for vibration standards. However, the discussion on page 4.11-22 states, "The County Code allows an exemption for oil well drilling and re-drilling performed in compliance with the conditions of permits issued by the County. However, since permits for the Project would be issued by the City of Hermosa Beach and not the County, the Project would not qualify for this exemption and the vibration limits in the County Code would still apply."

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This statement is confusing. Would the vibration standard from Los Angeles County still apply to the Proposed Project? Why is the exemption for oil well drilling and re-drilling not also

applicable? The discussion should more clearly address the use of the Los Angeles County Code in assessing the impacts of the Proposed Project.

Page 4.11-36, Mitigation Measure NV-1a:

For Phase 1, Mitigation Measure NV-1a states, “Increase the height of the noise barriers on the west and north sides of the site to 35-feet and upgrade the sound insulation performance of the barrier material from STC-25 to STC-32.”

Due to the proximity and nature of construction and demolition activities in Phase 1, it is necessary to have a sound attenuation wall that is movable and that would accommodate the construction activities including the demolition of the City’s existing buildings and the construction of retaining walls (freestanding). Engineering studies performed by Behrens and Associates, Inc. have concluded that the maximum height of a freestanding sound wall is 16-feet based on wind and seismic loadings. Construction of a higher freestanding sound attenuation wall would require a wall with some means to withstand wind and seismic loads, such as requiring the imbedding of “I” beams or some other type of foundation which would not allow for the required demolition, site clearing, and construction activities during this phase of the work. Therefore, the requirement to increase the height of the noise barriers on the west and north sides of the project site to 35-feet in Phase 1 is not practical or feasible. Upgrading of the insulation performance for the 16-foot wall is feasible.

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Mitigation Measure NV-1a should be revised as follows:

- NV-1a Increase the height of the noise barriers sound insulation performance of the noise barrier material on the west and north sides of the site ~~to 35-feet and upgrade the sound insulation performance of the barrier material~~ from STC-25 to STC-32.

Page 4.11-36, Mitigation Measure NV-1b:

For Phase 1, Mitigation Measure NV-1b states, “Increase the height of the noise barriers on the south and east sides of the site to 22-feet. The sound insulation performance of the barrier material in these locations may remain at STC-25.”

As discussed above, due to the proximity and nature of construction and demolition activities in Phase 1, it is necessary to have a sound attenuation wall that is movable and that would accommodate the construction activities including the demolition of the City’s existing buildings and the construction of retaining walls (freestanding). Engineering studies performed by Behrens and Associates, Inc. have concluded that the maximum height of a freestanding sound wall is 16-feet based on wind and seismic loadings. Construction of a higher freestanding sound attenuation wall would require a wall with some means to withstand wind and seismic loads, including requiring the imbedding of “I” beams or some other type of foundation and would not allow for the required demolition, site clearing, and construction activities during this phase of the work. Therefore, the requirement to increase the height of the noise barriers on the south and east sides of the site to 22-feet in Phase 1 is not practical or feasible. Upgrading of the performance standard for the 16-foot wall is feasible.

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Mitigation Measure NV-1b should be revised as follows:

- NV-1b Increase the height of the noise barriers sound insulation performance of the noise barrier material on the south and east sides of the site ~~to 22-feet. The~~

~~sound insulation performance of the barrier material in these locations may remain at from STC-25 to STC-32.~~

Page 4.11-36, Mitigation Measure NV-1c:

For Phase 1, Mitigation Measure NV-1c states, “The gates on the east and south sides of the site shall be constructed of solid (no holes) plywood or sheet metal and be designed to deliver a minimum sound insulation performance of STC-25. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides.”

The Applicant agrees that the gates need to be solid (no holes) and deliver a minimum sound insulation performance of STC-25. This can be achieved without the gates needing to be constructed of plywood or sheet metal in Phase 1 and the word “plywood” or “sheet metal” should be deleted.

Mitigation Measure NV-1c should be revised as follows:

- NV-1c The gates on the east and south sides of the site shall be designed and constructed of solid (no holes) plywood or sheet metal and be designed to deliver a minimum sound insulation performance of STC-25 and not contain any gaps or holes. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides.

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Pages 4.11-46 through 4.11-59, Project Phase 2 – Drilling and Testing:

Refer to Attachment 3 for the April 1, 2014 comment letter regarding the analysis of Phases 2 and 4 drilling and production noise levels previously submitted to the City.

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Page 4.11-55, Mitigation Measure NV-2a:

For Phase 2, Mitigation Measure NV-2a states, “Increase the height of the noise barriers on all sides of the site from 32-feet to 35-feet (35-feet is the maximum height allowed). Minimum sound insulation performance of the barrier material should be STC-32.”

This Mitigation Measure increases the height of the sound attenuation wall during Phase 2 from 32-feet to 35-feet and requires the sound insulation performance of the barrier material to be STC-32.

The Applicant agrees with Mitigation Measure NV-2a. However, there is a condition in the CUP (Section 2. Land Use Development, Condition 5) that states, “Except for the drill rig and drawworks, no equipment or appurtenant structures shall exceed 16 feet in height from grade as defined by the Oil Code.”

As provided for in the CUP, this condition should be clarified to allow the height of the temporary equipment and appurtenant structures to be at or just slightly above the height of the sound wall to ensure the safety of the air quality on the project site and the on-site workers.

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Page 4.11-55, Mitigation Measure NV-2b:

For Phase 2, Mitigation Measure NV-2b states, “The gates on the east and south sides of the site shall be constructed of solid (no holes) plywood or sheet metal and be designed to deliver a minimum sound insulation performance of STC-32. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides.”

The Applicant agrees that the gate needs to be solid (no holes) and deliver a minimum sound insulation performance of STC-32. This can be achieved without the gates needing to be

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constructed of plywood or sheet metal in Phase 2 and the word “plywood” or “sheet metal” should be deleted.

Mitigation Measure NV-2b should be revised as follows:

- NV-2b The gates on the east and south sides of the site shall be designed and constructed of solid (no holes) plywood or sheet metal and be designed to deliver a minimum sound insulation performance of STC-32 and not contain any gaps or holes. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides.

Page 4.11-63, Mitigation Measure NV-3a:

For Phase 3, Mitigation Measure NV-3a states, “Provide continuous, 35-foot high noise barriers along the west and north sides of the site. Minimum sound insulation performance of the barrier material should be STC-32.”

Due to the proximity and nature of construction activities which would occur in Phase 3 prior to the construction of the permanent wall, it is necessary to have a sound attenuation wall that is movable and which would accommodate the construction activities including the construction of permanent walls along the west and north sides of the project site (freestanding). Engineering studies performed by Behrens and Associates, Inc. has concluded that the maximum height of a freestanding sound attenuation wall is 16-feet based on wind and seismic loadings. Construction of a higher wall would require a wall with some means to withstand wind and seismic loading, such as requiring the imbedding of “T” beams or some other type of foundation and would not allow for the required construction activities during Phase 3.

The Applicant proposed in the November 2012 Planning Application to start construction of the permanent wall (now proposed to be a 32-foot high wall, see Mitigation Measures AV-1b and AV-2a in Section 4.1, Aesthetics and Visual Resources, of the Draft EIR) following final grading of the project site after the completion of the Remedial Action Plan (RAP) and construction of the remaining retaining walls on the site (possibly the 19th week of Phase 3). Therefore, the requirement to increase the height of the temporary noise barriers on the west and north sides of the site to 35-feet in Phase 3 prior to the construction of the permanent wall would not be feasible. Upgrading of the insulation performance for the 16-foot wall is feasible.

Mitigation Measure NV-3a should be revised as follows:

- NV-3a ~~Provide continuous, 35-foot high noise barriers~~ Increase the sound insulation performance of the noise barrier materials along the west and north sides of the site. Minimum sound insulation performance of the barrier material should be from STC-32 to STC-35.

Page 4.11-63, Mitigation Measure NV-3b:

For Phase 3, Mitigation Measure NV-3b states, “Provide continuous 25-foot high noise barriers along the east and south sides of the site. Minimum sound insulation performance of the barrier material shall be STC-25. The gates on the east and south sides of the site should be constructed of solid (no holes) plywood or sheet metal and be designed to deliver a minimum sound insulation performance of STC-25. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides.”

Due to the proximity and nature of construction activities which would occur in Phase 3 prior to the construction of the permanent wall, it is necessary to have a sound attenuation wall that is movable that allows for the construction of retaining walls and the permanent walls along the east and south sides of the project site (freestanding). Engineering studies performed by Behrens and Associates, Inc. have concluded that the maximum height of a freestanding sound attenuation wall is 16-feet based on wind and seismic loadings. Construction of a higher wall would require a wall with some means to withstand wind and seismic loads, such as requiring the imbedding of "I" beams or some other type of foundation and would not allow for the required construction activities during Phase 3.

The Applicant proposed in the November 2012 Planning Application to start construction of the permanent wall (now proposed to be a 32-foot high wall, see Mitigation Measures AV-1b and AV-2a in Section 4.1, Aesthetics and Visual Resources, of the Draft EIR) following final grading of the project site and construction of the remaining retaining walls on the site (possibly the 19th week of Phase 3). Therefore, the requirement to increase the height of the temporary noise barriers on the east and south sides of the project site to 25-feet in Phase 3 prior to the construction of the permanent wall is not feasible. Upgrading of the insulation performance for the 16-foot wall would not be feasible.

The Applicant agrees that the gate needs to be solid (no holes) and deliver a minimum sound insulation performance of STC-25. This can be achieved without the gate needing to be constructed of plywood or sheet metal in Phase 3 and the word "plywood" or "sheet metal" should be deleted.

Mitigation Measure NV-3b should be revised as follows:

- NV3-b ~~Provide continuous 25-foot high noise barriers along~~ Increase the sound insulation performance of the temporary noise barrier material on the east and south sides of the site. ~~Minimum sound insulation performance of the barrier material shall be from STC-25 to STC-32.~~ The gates on the east and south sides of the site ~~should~~ shall be constructed of solid (no holes) plywood or sheet metal and be designed to deliver a minimum sound insulation performance of STC-25 and not contain any gaps or holes. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides.

Pages 4.11-69 and 4.11-77 through 4.11-85, Development and Operations:

Refer to Attachment 3 for the April 1, 2014 comment letter regarding the analysis of Phases 2 and 4 drilling and production noise levels previously submitted to the City.

Page 4.11-82, Mitigation Measure NV-5a:

For Phase 4, Mitigation Measure NV-5a states: "Provide a continuous, 35-foot high noise barrier around the entire perimeter of the site. Minimum sound insulation performance of the barrier material should be STC-32."

This appears to conflict with Mitigation Measure AV-1b and AV-2a in Section 4.1, Aesthetics and Visual Resources, of the Draft EIR and needs clarification. Mitigation Measures AV-1b and AV-2a both require a permanent wall that incorporates the sound wall and that would meet the requirements for sound attenuation anytime during the life of the Proposed Project during drilling. It appears that this would be for the entire perimeter of the project site. In addition, the

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continued

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mitigation measures refer to a wall that would accommodate variation in height. Page 4.1-95 of the Draft EIR states “Design of the 32-foot wall which . . .” implying that the height of the wall is to be 32-feet. The height of the sound wall in Mitigation Measure NV-5a needs to be clarified.

Page 4.11-82 Mitigation Measure NV-5b:

For Phase 4, Mitigation Measure NV-5b states, “Provide solid (no holes) plywood or sheet metal gates for the east and south designed to deliver a minimum STC of 32. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides. The intent is to maintain the acoustical integrity of the STC-32 noise barrier in all locations.”

The Applicant suggests that the option to construct the permanent gate out of plywood be removed. Gates would be metal with sound insulation attached to the inside to provide the acoustical integrity of the STC-32 noise barrier.

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Mitigation Measure NV-5b should be revised as follows:

- NV-5b Provide solid ~~(no holes) plywood or~~ sheet metal gates for the east and south designed to deliver a minimum STC of 32. Any gaps above the gates must be closed off, by extending the acoustical barrier material from the sides. The intent is to maintain the acoustical integrity of the STC-32 noise barrier in all locations

Page 4.11-89 Mitigation Measure NV-6a:

For Phase 4, Mitigation Measure NV-6a states, “Increase the height of the masonry walls on the north and west sides of the site to a minimum of 27-feet.”

Mitigation Measure NV-6a appears to conflict with Mitigation Measure AV-1b and AV-2a in Section 4.1, Aesthetics and Visual Resources, of the Draft EIR and needs clarification. Mitigation Measures AV-1b and AV-2a require a permanent wall that incorporates the sound wall and that would meet the requirements for sound attenuation anytime during the life of the Proposed Project during drilling. It appears that this wall would be for the entire perimeter of the project site. In addition, the mitigation measures refer to a wall that would accommodate variation in height. Page 4.1-95 of the Draft EIR states, “Design of the 32-foot wall which . . .” implying that the height of the wall is to be 32-feet. The height and the material of the wall in Mitigation Measure NV-6a needs to be clarified.

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Page 4.11-89 Mitigation Measure NV-6b:

For Phase 4, Mitigation Measure NV-6b states, “Apply outdoor acoustical panels to all available surfaces of the north and west walls that face the production operations above a height of 10-feet above the ground. The purpose of the acoustical panels is to control reflection of production noise in the direction of the sensitive uses to the east and south. The acoustical panels shall offer the following minimum sound absorption performance: Center Frequency (Hz), 125, 250, 500, 1k, 2k, 4k - Sound Absorption Coefficient, 0.28, 0.68, 0.95, 0.86, 0.89, 0.72.”

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It is not clear how this relates to the permanent wall now required under Mitigation Measures AV-1b and AV-2a in Section 4.1 Aesthetics and Visual Resources of the Draft EIR. Mitigation Measure AV-2a refers to the design of the sound attenuation wall with an exterior façade. Provide a concise discussion of the mitigation measures, the justification of the wall heights, and the residual impacts after implementation of Mitigation Measures NV-6b and NV-6a.

SECTION 4.12 PUBLIC SERVICES AND UTILITIES

No comment.

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SECTION 4.13 TRANSPORTATION AND TRAFFIC**Page 4.13-14, first paragraph:**

The first full sentence should be revised as follows:

Traffic counts were collected at the Cities of Redondo Beach and Torrance (inland) intersections and roadway segments in mid-September 2012 when local schools were in session (at the request of those jurisdictions).

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Pages 4.13-42, 4.12-43, and 4.13-44, Mitigation Measures TR-1b and TR-1d:

The bottom of Page 4.13-42 states, “Although there would only be a limited number of truck trips that would occur while students are commuting (depending on the day), there exists the potential for student safety to be compromised while students are walking to school or for pedestrians during the entire period when trucks are traveling on Valley Drive.”

Page 4.13-43, first full paragraph, goes on to state, “Trucks are wider than cars and substantially less maneuverable...The lane width along Valley Drive is 11-12 feet, with pedestrian sidewalks located immediately adjacent in most areas (no landscape buffers). Trucks turning into or out of the Project Site, or driving down Valley Drive, could cause a safety hazard for pedestrians or vehicles driving north on Valley Drive as Valley Drive is only a collector street with limited width.”

At the bottom of Page 4.13-43, the Draft EIR states, “Mitigation measures would include...the installation of warning signs/yellow lights that warn drivers of the approaching area where trucks may be entering the roadway and converting Valley Drive to one-way (as recommended in the Beach Cities Livability Plan (WLCI 2011)) which would increase lane width.”

On Page 4.13-44, Mitigation Measure TR-1b states:

For Phases 1-3, the Applicant shall install, subject to the approval of the City Public Works Department, warning signs and blinking yellow lights one block north and south (if applicable with possible one-way on Valley Drive) of the Project Site warning vehicle traffic that trucks may be entering and exiting the roadway. Blinking lights shall only operate when trucks are utilizing the roadway (not 24 hours per day).

EB-293

To clarify, as indicated on Figure 12 – Existing Designated Truck Routes in the City of Hermosa Beach’s Circulation Transportation and Parking Element (March 1990, DKS), Valley Drive, from Pier Avenue to Herondo Street, is already designated as a Truck Route in the City. A majority of truck-related traffic generated by the Proposed Project would fall within the legal Caltrans definition of a truck (i.e., truck dimensions) and would be permitted to travel on Valley Drive (southbound only) without a special permit (e.g., oversize haul permit). Some project-related trucks and loads during a limited period in Phase 2 and 4 for the transport of the drill rig and equipment would be considered as “oversize” and a haul permit would be required from the City and the California Highway Patrol (CHP), possibly resulting in additional signage, flagmen, and load escort vehicles and personnel to provide advance warning for vehicles and motorists,

pedestrians, and bicyclists of the oversize load. Therefore, the addition of project-related truck traffic on Valley Drive would not be considered a significant impact.

In addition, on Page 4.13-44, Mitigation Measure TR-1d states:

For Phases 1-3, the Applicant shall, with the approval of the City Public Works Department, restripe Valley Drive south of Pier Avenue to be a southerly directed one-way street. No on-street parking shall be allowed for sufficient line of sight for trucks entering and exiting the Project site.

The Applicant concurs with Mitigation Measure TR-1b and TR-1d for the following reasons:

1. The conversion of Valley Drive to a one-way street, southbound, is consistent with the recommendations of the Beach Cities Livability Plan (August 2011, Walkable and Livable Communities Institute). However, in this plan, Ardmore Avenue would also be converted to a two-lane, one-way, northbound-only roadway, where both Valley Drive and Ardmore Avenue would act as a couplet-street consistent with its operation in Manhattan Beach to the north and Redondo Beach to the south.
2. With Valley Drive being two-lanes in the southbound direction, additional space would be created at the intersection of Valley Drive and 6th Street for the maneuvering of large trucks in to, and out of, the Project Site.

Daily and peak hour traffic volumes are generally low along Valley Drive and Ardmore Street and the intersection LOS is and is forecast to continue to be, satisfactory at LOS D or better, as shown in Section 4.13, Transportation and Traffic, of the Draft EIR. However, there is a concern that the Draft EIR did not quantitatively analyze the traffic impacts of the change in Valley Drive to a one-way street. The Draft EIR and its supporting Traffic Impact Analysis (TIA) should be revised to provide a quantitative LOS analysis of the surrounding intersections on the affected sections of Valley Drive and Ardmore Avenue when Valley Drive is converted to a one-way street. At a minimum, the study area should include:

1. Valley Drive/Pier Avenue
2. Valley Drive/11th Street
3. Valley Drive/8th Street
4. Valley Drive/2nd Street
5. Ardmore Avenue/Pier Avenue (new study area intersection)
6. Ardmore Avenue/8th Street (new study area intersection)
7. Ardmore Avenue/2nd Street (new study area intersection)
8. Monterey Boulevard/Pier Avenue (new study area intersection)
9. Monterey Boulevard/8th Street (new study area intersection)
10. Hermosa Avenue/8th Street (new study area intersection)

With a quantitative analysis prepared at those locations above, project-related traffic impacts due to the implementation of Mitigation Measure TR-1d would be determined (if any) and would also determine whether the conversion of Valley Drive to a one-way street would be an effective traffic operations improvement in the study area.

EB-294

Page 4.13-44, Mitigation Measure TR-1c:

Mitigation Measure TR-1c states: “The Applicant shall ensure that all trucks accessing the Project Site and utilizing the Pier Avenue/Valley Drive intersection are less than 65 feet long to prevent safety hazards at the double intersection on Valley Drive between Valley Drive and Ardmore Avenue.”

The November 2012 Planning Application documentation indicated the types of trucks that would be used for the construction and drilling activities during Phases 1 to 3 of the Proposed Project. This information provided on pages 38, 40 (Table 7), 66 (Table 15), and 69 of the Project Description and in the Traffic Impact Analysis in Appendix M to the Planning Application, described that large trucks with trailers would be used for a limited period in Phases 2 and 4 for the transport of the drill rig and equipment and that these trucks would be permitted loads due to the size and/or the weight of the drill rig and associated equipment being delivered. It is assumed that there would be 11 permitted loads during Phase 2 and Phase 4. Mitigation Measure TR-1c should be revised as indicated below to clarify the use of the intersection by some oversize trucks with a haul permit.

Related to the restriction of trucks that would not require a special permit as described above, please explain the rationale for determining that the length of the trucks utilizing the Pier Avenue/Valley Drive intersection should be less than 65 feet long. As indicated in the Planning Application, although the majority of the trucks would be less, the Applicant has planned to use some types of trucks that could be up to 70 feet in length during Phases 2 and 3.

Therefore, the Applicant requests that Mitigation Measure TR-1c be revised as follows:

TR-1c The Applicant shall ensure that all trucks accessing the Project Site and utilizing the Pier Avenue/Valley Drive intersection are less than ~~65~~ 70 feet long to prevent safety hazards at the double intersection on Valley Drive between Valley Drive and Ardmore Avenue. During the transport of the drill rig and associated equipment to and from the Project Site in Phases 2 and 4, the Applicant shall obtain a haul permit from the City and the California Highway Patrol and, provide as determined to be needed, signage, flagmen, and other traffic control measures.

EB-295

Pages 4.13-50 and 4.13-51:

The bottom of Page 4.13-50 states, “The permanent Proposed City Maintenance Yard would be accessed by a new driveway onto Valley Drive.”

In addition, the first paragraph on Page 4.13-51 states, “Although a driveway onto Valley Drive does not necessarily introduce significant risk, the Proposed City Maintenance Yard would have trucks entering and exiting the facility, with potentially limited line of sight from the Proposed City Maintenance Yard walls, which increases in safety concerns...The lack of separation between pedestrians and traffic all along Valley Drive is also a potential safety issue (discussed in the Pedestrian Safety Report) that could be remedied in this portion of Valley Drive if the sidewalks are reconstructed as part of this project. Therefore, the addition of a driveway onto Valley Drive with truck traffic would produce a potentially significant impact.”

EB-296

On Page 4.13-51, Mitigation Measure TR-4a states:

The City shall design the permanent Proposed City Maintenance Yard so that it does not enter/exit directly onto Valley Drive.

As noted above, Valley Drive is already designated as a Truck Route in the City. A majority of truck-related traffic generated by the Proposed City Maintenance Yard Project would fall within the legal Caltrans definition of a truck and would be permitted to travel on Valley Drive (southbound only) without a special permit (e.g., oversize haul permit). For trucks and loads that would be considered as “oversize”, a haul permit would be required from the City and would likely require additional load escort vehicles/personnel for that load to provide advance warning for vehicles and pedestrians/bicyclists of the oversize load. Therefore, the addition of truck traffic related to the Proposed City Maintenance Yard Project on Valley Drive would not be considered a significant impact.

In addition, the traffic analysis of the relocation of the City Maintenance Yard (Stantec, 2014) provided on page 4.13-49 of the Draft EIR only analyzed the Proposed City Maintenance Yard Project with continued access on Pier Avenue (at Bard Street) and Valley Drive (at 11th Place). With implementation of Mitigation Measure TR-4a, there would be no access on to Valley Drive which would shift all related traffic to the Bard Street/Pier Avenue intersection. There is a concern that the Draft EIR did not quantitatively analyze the traffic impacts of the change in access to Bard Street/Pier Avenue intersection only. Additional analysis may be required to analyze the impact (if any) of this shift in traffic access.

SECTION 4.14 WATER RESOURCES

No comment.

EB-297

SECTION 4.15 ENVIRONMENTAL JUSTICE

No comment.

EB-298

SECTIONS 5.0 ALTERNATIVES SCREENING AND 6.0 COMPARISON OF ALTERNATIVES

Section 5, Alternatives Screening and Section 6, Comparison of Alternatives:

The Proposed Project is governed by legal requirements, including those documented in the Lease, the CUP and the Settlement Agreement and the feasibility of all of the alternatives must be evaluated in light of those legal constraints. (Section 15364 of the CEQA Guidelines defines “feasible” to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.”)

The analyses which compares the Proposed Project to all of the alternatives needs to be updated to reflect the additional technical information provided by the Applicant in their comments on the Draft EIR with respect to noise, odors, and risk of upset, as some previously identified significant impacts may be reduced to a less than significant level.

EB-299

Pages 5-4 through 5-6:

What was the basis for the analysis and throw ratios that resulted in the information contained in Figure 5-1?

EB-300

Pages 5.11 through 5-14, AES Power Generating Station Alternatives Location:

The discussion on the AES Power Generating Station site as a viable alternative to the proposed project fails to consider the following:

- The analysis does not consider the implications and responsibilities established in the Lease, the Settlement Agreement, and the CUP. All of these documents are in effect and are not applicable to the AES Power Generation Station site.
- The discussion does not reference the extraction of the grant given to the City of Hermosa Beach by the State Lands Commission and the legal implications of accessing tidelands reservoirs of Hermosa Beach from a Redondo Beach location.
- The discussion does not reference any potential legal issues associated with accessing the Torrance Oil Field from a Redondo Beach location, including mineral rights of those located in Redondo Beach and Hermosa Beach.
- Emergency services capabilities, availability of reclaimed water for drilling purposes were not discussed. Royalties available to compensate the City of Redondo Beach to assist in funding any public service deficiencies would not be available, and royalties attributed to the City of Hermosa Beach through the Lease and Settlement Agreement was not considered in the analysis.
- Will the actions to be taken by the California Energy Commission (CEC) occur in a timeframe that would allow the Proposed Project to be included/incorporated into that proposed action?
- Will the actions being processed and reviewed by the CEC accommodate the siting of an oil development facility on the AES Power Generating Station site?
- If the AES Power Generating Station site is selected as the preferred project, what requirements would need to be met in order for the Oil Production Project to occur?
- The discussion does not consider the regulatory constraints associated with developing an oil and gas facility in Redondo Beach, including a potential vote of the residents.

EB-301

Page 5-17, Section 5.1.3.2 Reduced Wells Alternative:

The development scenario contemplated in this alternative may have no basis on what the Applicant would do if a fewer number of wells were drilled on the Project Site.

For example, the Draft EIR states, "Under this alternative, the Applicant would be allowed to drill for a period of only 1 year, which would enable only 12-14 wells to be drilled. With a shorter timeframe, most likely the Applicant would focus on the closest targets, thereby reducing the time of drilling per well and enable more than one well per month to be drilled."

This is an assumption of the Applicants' proposed well drilling program. There is no evidence to suggest that the Applicant would access the closest targets, or that the selected targeted well locations would allow more than one well to be drilled per a 30 day time frame.

There is also no information provided by the Applicant that would suggest that fewer number of wells would reduce the potential for a blowout.

EB-302

Page 5-19, Section 5.1.4.2 Trucking of Crude Oil, first sentence:

The reference is to activities in Phase 1. The correct reference should be to Phase 2.

EB-303

Page 5-24 through 5-26, Section 5.1.6 Project Objectives:

EB-304

The Project Objectives, which were identified on page 2-4 in Section 2, Project Description, of the Draft EIR are as follows:

As part of the Project Application, the Applicant provided its stated objectives for the Proposed Oil Project, which consist of the following:

1. Develop the Proposed Oil Project consistent with the 1993 Conditional Use Permit and the March 2, 2012 Settlement Agreement, with the utilization of directional drilling techniques from the Project Site, which is the current City Maintenance Yard;
2. Maximize oil and gas production from the Torrance Oil Field within the City's jurisdiction, thereby maximizing the economic benefits to the City;
3. Provide an oil and gas development project on the Project Site that utilizes the latest technology and operational advancements related to safety and production efficiency in order to provide a project that would be safe and would meet the applicable environmental requirements;
4. Conduct construction and drilling activities on the Project Site incorporating technological advancements, operational practices, and design features related to air quality, odors, noise, hazards, and water quality to minimize the potential impacts on the adjacent community and the environment;
5. Provide landscaping, hardscape, signage, lighting, and other design features to minimize the visual effects of the Proposed Oil Project on the adjacent community; and
6. Implement operational practices and incorporate design features to provide safe vehicular ingress and egress during temporary construction activities and the ongoing operation of the Proposed Oil Project."

The City's objectives identified on page 2-3 of Section 2, Project Description, of the Draft EIR are as follows:

1. Provide City Yard Maintenance facilities that support provision of high-quality City services in an integrated and cost-efficient manner;
2. Consolidate City facilities and functions for maximum efficiency and flexibility;
3. Minimize disruption of City functions during relocation of the City Maintenance Yard;
4. Ensure the relocated City Maintenance Yard is compatible with surrounding uses; and
5. Ensure there is no net loss of public and employee parking spaces as a result of both the Proposed Oil Project and the relocation of the City Maintenance Yard consistent with the Preferential Parking Program approved by the Coastal Commission.

None of the alternatives could feasibly obtain the basic objectives of the Proposed Project. Pursuant to the Lease, the CUP and the Settlement Agreement, the proposed project is to be located at the City Maintenance Yard. Not only do these legal requirements affect the feasibility of these alternatives, the Project Objectives incorporate the "Project Site." Further, the maximization of oil and gas production cannot be dismissed, particularly when the Draft EIR

EB-304
continued

states that production would be “incrementally less successful.” The Lease, CUP, and Settlement Agreement provide for a certain number of wells and a specific time frame within which the Proposed Project is to be performed. While the Draft EIR may evaluate these alternatives for purposes of CEQA, the Draft EIR must acknowledge these other issues in its evaluation of alternatives.

Further, the Draft EIR’s conclusions with respect to meeting the project objectives is not sufficient (no additional analysis is provided in Section 6). This Alternatives section should clearly identify whether each of the project alternatives meets the project objectives of the Applicant (stated above) and the City, as set forth in Section 2, Project Description, of the Draft EIR.

Section 6.1.2, AES Site Alternative:

This comparison of alternatives is based on a lack of information and consideration of the limitations discussed above. Significantly, the AES Power Generation Station site may not be compatible with an oil and gas development project and no analysis is provided to address the impacts of the power plant on the oil and gas facility or vice versa. Impact discussions are based on vague assessments of potential impacts, facility design and development scenarios, and rough combinations of impacts.

For example, with respect to Aesthetics, the Draft EIR appears to utilize the existing facility for a view simulation of the drilling rig, but a new facility is being proposed for the AES, and it is unclear how the oil and gas facility would fit with that new power plant.

As another example, Page 6-4, Section 6.1.2.2 Air Quality, second paragraph states, “If contaminated soils are encountered, emissions would be similar to those identified for the Proposed Project for the peak day.” There is no basis to support that statement.

EB-305

On Page 6-6, Mitigation Measures AQ.AES-1 states:

AQ.AES-1 The Applicant shall eliminate all microturbine emissions at the processing site and shall utilize only grid-based power for electricity. Flare activity shall be limited by immediately shutting down all wells in the event of an upset scenario. For additional heat requirements, electricity or some other source (the RBEP) shall be used to avoid localized impacts.

This mitigation measure is not practical. Microturbines, or heater treaters, are identified as integral to the Applicant’s project operations. Additionally, it has not been determined whether it would be practical or safe to immediately shut down all wells in the event of an upset scenario. What is the definition of “immediately?” What is the definition of an “upset scenario?” This mitigation measure is too general to be considered effective.

EB-306

On page 6-10, the Draft EIR states: “Under this alternative, the AES site would have more room than the Proposed Oil Project Site...” What is the basis for this statement?

EB-307

On page 6-14, the Draft EIR states that a vote of the people would be required and therefore, “the impact and mitigation for the project site is the same for this alternative as the Proposed Project.” The Applicant does not have an agreement with the City of Redondo Beach to place a measure on the ballot for this alternative. The process is not the “same.”

EB-308

On Page 6-40, the discussion states, “Under the AES alternative, the City Maintenance Yard would not need to be moved as the drilling site would be located at the AES site.” This sentence

EB-309

fails to acknowledge the existence of the Lease, and that the Lease would not necessarily terminate if the project were to be located in another location.

This analysis needs to be revised to address the inadequacy of the analysis discussed above.

Section 6.0, Comparison of Alternatives:

As in the discussion above, Section 6.0 of the Draft EIR, Comparison of Alternatives, also lacks any comparison of the project objectives with the various alternatives. This analysis needs to be revised to full examine the alternatives with respect to the implementation of the project objectives.

EB-310

APPENDIX P PROPOSED AMENDMENTS TO CITY COASTAL LAND USE PLAN

The proposed amendments to the City's Land Use Plan (Appendix P) do not seem to be consistent with the description of the Proposed Project and were not evaluated in the Draft EIR. Further, the proposed amendments to the Land Use Plan should be considered in conjunction with the provisions of the Lease, the Settlement Agreement, and the Conditional Use Permit. Any proposed amendments to the Land Use Plan must be consistent with the Coastal Act and achieve the intent of the Settlement Agreement. Finally, any proposed amendments must be consistent with the Coastal Act, but also other applicable laws and regulations with respect to various environmental disciplines, e.g., air quality, water quality, public health and safety.

EB-311

Page 1, Section A. Statement of Philosophy:

The proposed amendments to the City of Hermosa Beach Land Use Plan (Appendix P) will be included on the ballot measure to be considered by the voters in Hermosa Beach on whether to rescind the current ban on oil development and production currently in effect in the City. The Land Use Plan will also be considered by the Coastal Commission and, any modifications to the Land Use Plan suggested by the Coastal Commission and agreed to by both the City and E&B, will be incorporated into this document, as will be specified by the voters of the City in the ballot measure.

EB-312

Pages 1-2, discussion of Section 30101 of the Coastal Act:

This section discusses offshore oil and gas facilities, although the Proposed Project does not propose offshore oil and gas wells.

EB-313

Pages 1-5, editorial comments regarding the Coastal Act:

These sections quote Coastal Act provisions and provides editorial comments regarding the provisions. These editorial comments should be eliminated unless they have been expressly confirmed by the Coastal Commission or confirmed in some other legally recognized manner.

EB-314

Page 2, last sentence of text at top of page:

The text states, "Whether or not exploration, development and production of offshore or onshore oil and gas and its associated facilities is appropriate in the coastal zone is a determination to be made on a case-by-case basis."

The Proposed Project and the ability to develop an oil production project can only occur at one location in the City: the City Maintenance Yard. This statement seems to indicate there could be other locations in the City where an oil and gas development project could occur and that is not the case. This text should be clarified or eliminated.

EB-315

Page 5, Section C. Goals and Objectives:

The goals and objectives should recognize all of the applicable provisions of the Coastal Act which provide for the development of oil and gas facilities, including Section 30262.

The goals and objectives of the City should be consistent with the City's recognized goals in its existing land use plan (see pages 4.10-27 and 4.10-28 of the Draft EIR).

Goal 2 states, "To ensure that oil and gas development is conducted in a manner that is consistent with the City's beach culture, high quality of life, and environmental values."

In reviewing the Policies which follow on Pages 5 through 7, it is unclear which Policies support this Goal, especially as it relates to the City's "beach culture" and "high quality of life." How are these terms defined and which policies support this Goal?

EB-316

Page 6, Policy 4:

This policy should be consistent with the provisions of the Lease.

EB-317

Page 6, Policy 5:

This policy should be consistent with proposed project.

EB-318

Pages 6-7, Policies 7-14:

These policies should be consistent with applicable laws and regulations, including those related to public health and safety, environmental protection, water quality, air quality, coastal resources, oil and gas facilities, and shall also be consistent with the provisions of the Lease and the Settlement Agreement.

EB-319

Page 7, Policy 11:

Policy 11 states, "Oil and gas development has the potential to increase the city's greenhouse gas emissions and contribute to the adverse effects of climate change on coastal resources and human health. Greenhouse gas emissions generated by the development should be reduced or offset to achieve net zero carbon emissions."

The City has no formal policy that requires projects demonstrate and achieve net zero carbon emissions, and this policy should be modified.

EB-320

Attachment 2

E&B
Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

March 31, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: E&B Oil Drilling & Production Project
Draft Environmental Impact Report
Odors Analysis in Chapter 4.2 – Air Quality and Greenhouse Gases

Dear Mr. Robertson:

E&B Natural Resources Management Corp. (E&B) has conducted a review of the odors analysis in Chapter 4.2, Air Quality and Greenhouse Gases and Appendix B - Air Emission Calculations of the Draft Environmental Impact (Draft EIR) for the E&B Oil Drilling and Production Project (Proposed Project). The following discusses the key comments that we identified in our review.

Odor Threshold of Significance

The Draft EIR (Table 4.2-6, page 4.2-32) defines the significance threshold for odors as “Nuisance defined as more than six odor events per year.” However, the South Coast Air Quality Management District’s (SCAQMD’s) significance threshold for odor is stated as, “Project creates an odor nuisance pursuant to SCAQMD Rule 402.” Refer to Attachment 1 of this letter for the current SCAQMD Air Quality Significance Thresholds, including odors, dated March 2011.

SCAQMD’s Rule 402 does not provide a quantitative standard for determination of a nuisance. Rule 402 states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Based on review of Rule 402 (Refer to Attachment 2) and the SCAQMD Policies and Procedures, Public Nuisance Investigation Guidelines (Refer to Attachment 3), a finding of nuisance may be made after appropriate investigation by the SCAQMD to “observe, identify, or otherwise establish evidence of the emissions” and to confirm “the source of the emissions and eliminate other potential sources,” with documentation to support the condition based on a minimum of six to ten (10) complaints, and, if a public nuisance violation has occurred pursuant to Rule 402, issue a Notice of Violation (NOV).

Therefore, the significance threshold is defined as an odor nuisance warranting the issuance of an NOV pursuant to Rule 402.

SCAMQD records indicate several urbanized oil and gas facilities operating for decades, including our own sites, have not received an NOV for odors (Refer to Attachment 4 and Attachment 5). Thus, these existing facilities have sufficient controls to operate below SCAQMD's significance threshold for odors. As explained below, the Proposed Project incorporates additional design features to eliminate odors, such as the closed loop system. Therefore, the Proposed Project's potential air quality impacts with respect to odors should be less than significant.

Odor Design Features Proposed in Planning Application

The Draft EIR (page 4.2-33) briefly summarizes design features proposed as a part of the Proposed Project in the Air Quality Impact Analysis provided as Appendix C to the November 2012 Planning Application. Some of these proposed project design features were incorporated after the impact analysis of odors as mitigation measures (pages 4.2-51 and 4.2-52). The design features related to odors proposed in the Planning Application, further supplemented with annotations that provide clarification (*in italics*), are provided below:

- The Proposed Project's plant safety and control systems will be a closed-loop system. A closed-loop system is a design that does not allow for the venting or emitting of gases into the air as part of the normal operation of the facility. All tanks and process vessels will be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to the vapor recovery unit. *The vapor recovery unit also has a backup unit that eliminates downtime from the vapor recovery unit system.* In addition, all pressure relieving devices will be connected to an enclosed ground flare. As a result, the closed-loop system is self-contained and will not allow for venting of gases to the air, even during any emergency venting of gases. *This design criteria is substantially different than all other onshore facilities because venting from pressure safety valves and tank hatches have been eliminated and, therefore, eliminates these as possible sources of leak events.*
- The Proposed Project will be inspected for fugitive emissions as required by SCAQMD Rule 1173 "Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants." This requires that every valve, thread connection, coupling, and site glass be inspected. The Proposed Project will accept the limitation on allowable leaking components more stringent than those required by Rule 1173. *E&B is proposing to implement an enhanced Leak Detection and Repair (LDAR) program for the Proposed Project. E&B will inspect fugitive components monthly instead of quarterly, which will improve the effectiveness of the LDAR program. Additionally, E&B will agree to a no leak standard as part of their SCAQMD operating permit, which exceeds Rule 1173 standards that allow for a specific number of leaking components during an inspection. To further reduce emissions, E&B has agreed to implement an action level of 100 ppm for repair of fugitive components, well below the action level prescribed in Rule 1173 for all fugitive components except those in heavy liquid service.* In addition, Rule 1173 requires daily inspection of compressors, pumps, and pressure relief devices and inspection of all other components at least quarterly. New technology (such as thermal imaging devices) will be used to augment traditional methods of leak detection.

- The Proposed Project will have an Air Quality Monitoring Plan that will provide for the monitoring of total hydrocarbon vapors and hydrogen sulfide (H₂S) on the project site during drilling and production operations. Monitors installed within and at the edge of the facility will be triggered if total hydrocarbon vapors and H₂S are detected. A meteorological station to monitor wind speed and direction under the guidance and specifications of the SCAQMD will be installed at an applicable location.
- The Proposed Project will have an Odor Minimization Plan that will address the potential sources of odors from all equipment, including wells and drilling operation, and provide methods to reduce or eliminate any identified odors (for example through containment, design modifications, carbon canisters). The Plan will include facility information, signs with contact information, logs of odor complaints, protocols for handling odor complaints and odor event investigations, and defines the methods that will be instituted to prevent a re-occurrence.
- The Proposed Project will use an odor suppressant spray system or vapor capture hood and carbon filter system on the mud shaker tables and install carbon capture canisters on all tanks (permanent and portable) containing potentially odiferous materials that are not equipped with vapor recovery so that no odor can be detected at the closest receptor.

Calculated Odor Threshold Exceedance

The Draft EIR (pages 4.2-50 and 4.2-51) analyzed the potential odor impacts from a single leaker release from a compressor seal. A dispersion analysis was used to determine the maximum concentration at a receptor. The analysis in the Draft EIR used the following assumptions and concluded that the Proposed Project could result in an exceedance of the combined odor threshold ratio of 1.00 for Hydrogen Sulfide (H₂S), Hexane, and Pentane by a factor of 1.02. Therefore, the Draft EIR identified this as a significant impact related to odors.

Leaker Emission Rate, compressor	0.1500 g/s	pegged value at 10,000 ppm
H ₂ S concentration in gas	100 ppm	
Hexane concentration in gas	2.9%	
Pentane concentration in gas	3.0%	

The design of the Proposed Project will include a compressor seal vent collection system; however, this was not explicit in the Planning Application and, therefore, apparently not included in the analysis provided in the Draft EIR. Therefore, to reduce the significant impact from odors calculated as a result of a single leaker release from a compressor or pump seal as analyzed in the Draft EIR, the following additional mitigation measure should be incorporated into the Proposed Project:

Proposed Mitigation Measure: The Applicant will install a compressor seal vent collection system. The compressor seal vent collection system will direct vapors to the closed loop system. In the event of a seal leak, vapors will be collected and sent to the flare for destruction. The use of the compressor seal vent collection system will eliminate the possibility of a compressor leak venting to the atmosphere.

With the incorporation of the proposed mitigation measure requiring installation of a compressor seal vent collection system, the maximum exposure ratio to the odor threshold ratio is calculated using emissions from a valve, which is the highest emitting component once the compressors are controlled. The calculated maximum exposure ratio is 0.12, well below the odor threshold ratio of 1.00 (refer to the following assumptions and Attachment 6).

Leaker Emission Rate, valve	0.0178 g/s	pegged value at 10,000 ppm
H ₂ S concentration in gas	100 ppm	
Hexane concentration in gas	2.9%	
Pentane concentration in gas	3.0%	

Therefore, the potential significant impact as a result of a single leaker release would be reduced to a less than significant level.

As noted above, once the highest emitting sources of leaking fugitive emissions are removed by connecting the compressor seals and pressure safety valves to the vent collection system, the next highest source of fugitive component emissions are valves. The above calculations were performed using the pegged value at 10,000 ppm from the SCQAMD document "Guidelines for Fugitive Emissions Calculations," Table IV-3a, June 2003. This calculation was also provided in the Draft EIR.

Using the same assumptions provided in the Draft EIR, a calculation of the maximum odor threshold resulting from a valve leak at various H₂S concentrations was prepared. The maximum leak rate at a valve occurs when the measured valve is "pegged" at 100,000 ppm. Based on the SCAQMD "Guidelines for Fugitive Emissions Calculations," June 2003, the leak rate for a valve with emissions "pegged" at 100,000 ppm is 0.138 kg/hour, equivalent to 0.0383 grams/second. The valve is assumed to be in gas service with H₂S concentrations of 100 ppm. The resulting odor threshold ratio is 0.26, well below the odor threshold ratio of 1.00. Therefore, no odor is expected to be detected at a receptor, even if the valve has a leak at the highest published emission rate.

H₂S Concentrations in Torrance Oil Field Crude Oil

The Draft EIR (page 4.2-51) states, "The H₂S concentration was assumed to be 100 ppm as a worst case, and H₂S in crude oil vapors was assumed to be 10 times higher as a worst case because vapors above crude oil containing even small amounts of H₂S can have a substantially higher H₂S content than the gas." Attached are laboratory analyses of gas and crude oil from oil wells located within the Torrance Oil Field which establish that H₂S concentrations are well below these values (Refer to Attachment 7). The concentration of H₂S in gas was non-detect (less than 2.5 ppm) in a gas sample collected from well "St. Francis" #2 and 15 ppm in a gas sample collected from well "Sterling" #1. The H₂S concentration from three crude oil samples was non-detect (less than 5 ppm on a volume basis). The highest ratio of H₂S in gas to crude oil was less than 0.33 in samples collected from well "Sterling" #1. No H₂S was detected in gas or oil from well "St. Francis" #2.

The Draft EIR overstates the concentration of H₂S in crude oil by more than two orders of magnitude.

Conclusions

In summary, there are many urbanized oil and gas facilities within the Los Angeles basin that have been operating for decades without receiving NOVs for odors. E&B has proposed an additional level of design features for the Proposed Project, including the closed loop system, to substantially eliminate the potential for the release of odors that could affect the surrounding community. These design features should be incorporated into all of the analysis of the odors provided in the EIR. With the incorporation of these design features and an additional proposed mitigation measure for a compressor vent collection system provided above, the potential significant impact as a result of single leaker release that could cause an odor event would be reduced to a less than significant level. Further, corrections should be made to assumption used in the analysis of odors related to leak rates and the amount of H₂S

concentrations in the crude oil in the Torrance Oil Field. Based on the analysis provided above, Proposed Project's potential air quality impacts as a result of odors should be less than significant.

Very truly yours,



**Michael Finch
Vice President of Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.**

Attachments (7)



South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO ₂ 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM ₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM _{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO ₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average Quarterly average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal) 1.5 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
MT/yr CO₂eq = metric tons per year of CO₂ equivalents > = greater than

Attachment 2

(Adopted May 7, 1976)

RULE 402. NUISANCE

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

APPENDIX C

**AQMD PUBLIC NUISANCE INVESTIGATION
POLICIES & PROCEDURES**

South Coast Air Quality Management District Policies & Procedures

Subject: Public Nuisance Investigation

Date: May 1, 1989

No. C-1

1.0 POLICY

The District will investigate public nuisance complaints and issue Notices of Violation for public nuisances. This document identifies the District's authority in these areas and provides guidelines for gathering evidence to substantiate public nuisance complaints.

2.0 GENERAL

An inspector usually conducts a public nuisance investigation in response to complaints from the public. To prosecute a public nuisance violation successfully, the chief prosecutor's office needs documented evidence that the activity or condition is in violation of Health and Safety Code Section 41700. The District is both the investigative and enforcement agency for public nuisance complaints.

3.0 HEALTH AND SAFETY CODE SECTIONS 41700 AND 41705

The complete texts of Sections 41700 and 41705 are given below. In substance, the text of Rule 402 is a restatement of

Sections 41700 and 41705.

41700. Except as otherwise provided in Section 41705, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which can cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

41705. Section 41700 shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

4.0 PUBLIC NUISANCE INVESTIGATION GUIDELINES

The inspector will conduct a public nuisance complaint investigation in accordance with the following guidelines:

- a. The inspector will check the complainants' premises or adjacent areas for the emissions

Appendix C

complained of (examples: odors, dust fallout, paint overspray). This may require driving around in the area surrounding the source. The inspector will write in the Violation Notice Report that this was done. Additionally, the inspector will note in the report whether or not another potential source of the emission was found.

1. If evidence of emissions is found, the inspector will track the emissions upwind from the complainants by visual or olfactory observations.
2. If no evidence of emissions is found, the inspector will ask the complainants for a description of the emissions and for other information which may help to determine their source.

b. After identifying the emissions and source, the inspector, using the process of elimination, will check all possible areas surrounding the alleged or known source to exclude any other potential source.

The inspector will inspect the source premises and establish the specific equipment or process responsible for the emissions. This involves inspecting all vents, stacks, and openings where the emissions occur or may occur, obtaining

samples of emissions if possible, and checking for Permits Operate.

c. The inspector will list all persons contacted at the source premises by full name and title (Mr., Mrs., Ms.), and will also include phone number, responsibility in the incident, and information to which each person can testify if called by the prosecutor as a witness.

The inspector may ask the complainants whether they know of other persons in the neighborhood who have complained of the emissions. If so, the inspector will request the complainants to tell these other persons to contact the District.

d. After establishing the source, the inspector will contact all complainants and, if possible, obtain samples of emissions from the complainants; premises. In more complex cases, the inspector may require a source test, air monitoring, and perhaps assistance from local health officials to establish health endangerment or natural tendency to cause injury or damage to business or property.

e. If a violation is indicated, the inspector will obtain the completed complaint forms from the complainants.

Appendix C

5.0 DISTRIBUTING AND COLLECTING COMPLAINT FORMS

- a. Whenever possible, the investigating inspector will personally distribute a complaint form to each complainant. The inspector's report must include the time, place, and date such forms were distributed and collected.
- b. The inspector will interview each complainant either at the time of the complaint or when the declaration form is collected.
- c. Inspectors who assist the investigating inspection to distribute or collect nuisance complaint forms must comply with the requirements of steps a and b above.

6.0 COMPLETING THE COMPLAINT FORM

- a. The complainant must list a residence location on the complaint form (attached), not a post office box number. The business address and telephone number should indicate where the complainant can be contacted from 8:00 a.m. to 4:30 p.m. Monday through Friday.
- b. The complainant must complete items 1 through 8 on the form. If the information is not known or is not applicable, the complainant will

indicate "not known" or "not applicable" in the space provided.

- c. The inspector will check that the signature is the complainant's legal name. If the answer to item 8 is "No," the complainant must complete the declaration on the reverse side, using printing rather than hand writing.
- d. The inspector will review the form and complete the "APCD USE ONLY" block.

7.0 REQUIREMENTS FOR ISSUING A PUBLIC NUISANCE VIOLATION NOTICE

- a. Before a public nuisance violation notice is issued, the investigating inspector must observe, identify, or otherwise establish evidence of the emissions complained of at or near the complainants' location.
- b. The investigating inspector must establish the source of the emissions and eliminate other potential sources.
- c. A multiple complaint condition must be documented. As a rule, District Legal Counsel prefers that it be based on a minimum of six (6) to ten (10) complainants from separate households. However, special circumstances

Appendix C

may dictate that a Notice of Violation be issued if supported by fewer complainants. For example, if property damage or a potential health hazard exists, a husband and wife living at the same residence may be considered as separate complainants. A Notice should not be issued only on the basis of complaints from members of a single family living at one location.

- d. The investigating inspector should complete the Notice of Violation form. In some instances another inspector may serve the notice.
- e. The inspector who establishes the public nuisance violation will write all of the supporting documentation, clearly demonstrating that each element of the violation has been met. Any inspectors who assist in gathering evidence or interviewing witnesses will prepare separate reports, coordinated by the lead inspector on the violation.

**SUMMARY LIST OF OIL AND GAS FACILITIES IN LOS ANGELES BASIN
WITH NO NUISANCE NOTICE OF VIOLATIONS (NOVs) RELATED TO ODORS**

LOCATION	TYPE OF FACILITY	OPERATORS	ADJACENT LAND USES
Long Beach/Spinnaker Bay	19 Active Wells Pumpjacks	<ul style="list-style-type: none"> • E&T LLC • The Lansdale Co. 	Adjacent to residential and commercial uses
Beverly Center	50+ Active Wells Pumpjacks and Drilling Rigs	<ul style="list-style-type: none"> • Freeport McMoRan (formerly Plains Exploration & Production [PXP]) 	Adjacent to residential and recreational uses
Beverly Hills High School	17 Active Wells Pumpjacks and Concealed Rig	<ul style="list-style-type: none"> • Freeport McMoRan (formerly Plains Exploration & Production [PXP]) 	Adjacent to residential, recreational, and institutional uses
Hillcrest Country Club	21+ Active Wells Pumpjacks and Drilling Rigs	<ul style="list-style-type: none"> • Hillcrest Beverly Oil Corp. 	Adjacent to recreational; ~600 feet from residential uses
Signal Hill Petroleum/ Discovery Well Park Area	50+ Active Wells in the vicinity	<ul style="list-style-type: none"> • Signal Hill Petroleum 	Adjacent to residential and recreational uses
Huntington Beach/ Bolsa Chica	50+ Active Wells in the vicinity	<ul style="list-style-type: none"> • John A. Thomas • Brindle/Thomas • Oxy USA • Gothard St. LLC 	Adjacent to residential and recreational uses

Source: South Coast Air Quality Management District FIND System, March 2014.

**SUMMARY LIST OF
E&B NATURAL RESOURCES MANAGEMENT CORPORATION FACILITIES IN LOS ANGELES BASIN
WITH NO NUISANCE NOTICE OF VIOLATIONS (NOVs) RELATED TO ODORS**

FIELD	LEASE	SCAQMB FACILITY ID No.	LOCATION
Torrance	Midge	165100	Harbor City
Long Beach	Dutcher/Frew	165101	Long Beach
Long Beach	Del Mar	165102	Signal Hill
Long Beach	Just	165113	Long Beach
Rosecrans	Pacific-Clark	165103	Los Angeles
Long Beach	Rose	166490	Long Beach
Wilmington	Wilmington	165309	Carson
Torrance	Warren	171034	Wilmington
Torrance	Coastline B	171035	Wilmington
Torrance	Meeker	171036	Wilmington
Torrance	Conway 2	171037	Wilmington
Torrance	Conway 1	171040	Wilmington
Torrance	Stone	171042	Wilmington
Torrance	Spring	171043	Wilmington
Torrance	Aurthur #9	171044	Carson
Torrance	Figueroa	171045	Wilmington
Torrance	Girtin 53	171046	Wilmington
Torrance	Salter	171047	Wilmington
Torrance	Sterling 1 & 28	171048	Wilmington
Torrance	Sterling 29 & 30	171049	Wilmington
Torrance	United #1	171050	Wilmington
Torrance	Westport	171054	Wilmington
Torrance	Whitelaw	171083	Wilmington
Cheviot Hills	Rancho	13627	Los Angeles
Cheviot Hills	Hillcrest	3061	West Los Angeles
Huntington Beach	Angus Springfield Unit	54349	Huntington Beach

Source: South Coast Air Quality Management District FIND System and E&B Natural Resources Management Corporation, March 2014.

Draft EIR Single Leaker Odor Threshold Calculation (Compressor Leak)**AERMOD Output Receptors Unit Value: Single Leaker Release**

based on fugitive emissions peak day, converted to total TOC

Aermod result, max value at a receptor, ug/m3	102,604	for unit emission rate of 1.0 g/s-m2
Leaker emission rate, g/s	0.1500	compressor at pegged 10,000 ppm
Leaker emission rate, g/s	0.0178	valve at 10,000 ppm, pegged value

	H2S	Hexane	Pentane	
Fraction Material	0.0001	0.029	0.03	(1)
Max Values at receptor, ug/m3	1.54	446.33	461.72	
ug/ppm	1420.00	3580.00	3000.00	
3 min/60min avg time ratio	1.65	1.65	1.65	(2)
Value at receptor, ppm, 3 min avg time	0.0018	0.2057	0.2539	
Odor Threshold, ppm	0.0020	68.00	2.00	
Max to threshold ratio	0.89	0.00	0.13	
Combined odor threshold value	1.02			

Assumes 10x H2S content as gas in the crude oil vapors

(1) Assumes H2S 100ppm, Hexane 2.9%, Pentane 3% (based on CARB profile 531)

(2) as per Duffee, O'Brien and Ostojic (1991)

Single Leaker Odor Threshold with Mitigation (Compressor Seal Vent System)**AERMOD Output Receptors Unit Value: Single Leaker Release**

based on fugitive emissions peak day, converted to total TOC

Aermod result, max value at a receptor, ug/m3	102,604	for unit emission rate of 1.0 g/s-m2
Leaker emission rate, g/s	0.1500	compressor at pegged 10,000 ppm
Leaker emission rate, g/s	0.0178	valve at 10,000 ppm, pegged value

	H2S	Hexane	Pentane	
Fraction Material	0.0001	0.029	0.03	(1)
Max Values at receptor, ug/m3	0.18	52.96	54.79)
ug/ppm	1420.00	3580.00	3000.00	
3 min/60min avg time ratio	1.65	1.65	1.65	(2)
Value at receptor, ppm, 3 min avg time	0.0002	0.0244	0.0301)
Odor Threshold, ppm	0.0020	68.00	2.00	
Max to threshold ratio	0.11	0.00	0.02	
Combined odor threshold value	0.12			

Assumes 10x H2S content as gas in the crude oil vapors

(1) Assumes H2S 100ppm, Hexane 2.9%, Pentane 3% (based on CARB profile 531)

(2) as per Duffee, O'Brien and Ostojic (1991)



Report of Analysis

Client: Strata-Analysts Group, Inc.
 Job Location: Los Angeles, CA, USA
 Vessel: STRATA ANALYSTS
 Our Reference Number: US260-0020532
 Lab Reference Number: 2014-LOSA-000409

Client Reference Number:
 N/A

Description	Method	Test	Result	Units
CRUDE 20-Mar-2014 2014-LOSA-000409-001	ST. FRANCIS #2			
	UOP 163	H2S	< 1	ppm Wt
	ASTM D5705	Test Temperature	140	°F
		Average H2S Result	< 5	ppm v/v
CRUDE 20-Mar-2014 2014-LOSA-000409-002	ST. FRANCIS #3			
	UOP 163	H2S	< 1	ppm Wt
	ASTM D5705	Test Temperature	140	°F
		Average H2S Result	< 5	ppm v/v
CRUDE 20-Mar-2014 2014-LOSA-000409-003	STERLING #1			
	UOP 163	H2S	< 1	ppm Wt
	ASTM D5705	Test Temperature	140	°F
		Average H2S Result	< 5	ppm v/v

Signed: _____

Intertek
 Jamal Dahabra, Laboratory Coordinator

Date: _____



E&B Natural Resource Management
1600 Noris Rd.
Bakersfield, CA 93308

Date Sampled: May 16, 2012
Date Reported: May 17, 2012

Attention: Mike Finch
CC: George Paspalof

Lab ID: 120471
File ID: 05-16-12 St. Francis #2

Sample ID: St. Francis #2

Pressure: psig
Temperature: Deg F.
Sample Time:

GC/TCD (ASTM D1945, GPA 2261)

Analysis Results: (Detection Limit = 0.01)	Mole %	G/MCF	
OXYGEN	0.00		
NITROGEN	0.00		
CARBON DIOXIDE	1.33		
TOTAL INERTS:	1.33	(sum)	(sum)
METHANE	96.76		
ETHANE	1.77		
PROPANE	0.04	0.01	
iso-BUTANE	0.03	0.1	0.03
n-BUTANE	0.01	0.00	
iso-PENTANE	0.00	0.06	0.02
n-PENTANE	0.00	0.00	
HEXANE+	0.06	0.02	
Total:	100.00		

Specific Gravity*	0.578	Dew Point:	Deg F.
Hydrogen Sulfide:	ND < 2.5 ppm (vol)	Water Content:	561.6 lbs/MMCF
Mercaptan Sulfur:	ppm (vol)		
Gross BTU/ft ³	1014 (dry gas)	HHV:	1014
	996 (water vapor saturated)	LHV:	913

* (ASTM D3588-91)

Revised By:


Justin Stepanian

3302 Industry Dr., Signal Hill, CA 90755
Tel: 562-426-0199 Fax: 562-426-5664
www.strata-analysts.com



E&B Natural Resource Management
 1600 Noris Rd.
 Bakersfield, CA 93308

Date Sampled: May 16, 2012
 Date Reported: May 17, 2012

Attention: Mike Finch
 CC: George Paspalof

Lab ID: 120471
 File ID: 05-16-12 Sterling #1

Sample ID: Sterling #1

Pressure: psig
 Temperature: Deg F.
 Sample Time:

GC/TCD (ASTM D1945, GPA 2261)

Analysis Results: (Detection Limit = 0.01)	Mole %	G/MCF	
OXYGEN	0.00		
NITROGEN	0.17		
CARBON DIOXIDE	25.35		
TOTAL INERTS:	25.52	(sum)	(sum)
METHANE	64.16		
ETHANE	2.50		
PROPANE	1.76	0.49	
iso-BUTANE	0.67	6.06	0.22
n-BUTANE	1.10		2.29
iso-PENTANE	0.57	4.29	0.21
n-PENTANE	0.41		1.72
HEXANE+	3.31	0.15	
		1.36	
Total:	100.00		

Specific Gravity*	0.953	Dew Point:	Deg F.
Hydrogen Sulfide:	15 ppm (vol)	Water Content:	> 1125 lbs/MMCF
Mercaptan Sulfur:	ppm (vol)		
Gross BTU/ft ³	991 (dry gas)	HHV:	991
	974 (water vapor saturated)	LHV:	900

Revised By:

Justin Stepanian

3302 Industry Dr., Signal Hill, CA 90755
 Tel: 562-426-0199 Fax: 562-426-5664
 www.strata-analysts.com

Attachment 3

E&B

Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

April 1, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: E&B Oil Drilling & Production Project
Draft Environmental Impact Report
Analysis of Phases 2 and 4 Drilling and Production in Chapter 4.11 – Noise and Vibration

Dear Mr. Robertson:

E&B Natural Resources Management Corp. (E&B) has conducted a review of the noise analysis in Chapter 4.11, Noise and Vibration, and Appendix E - Noise Impact Analysis of the Draft Environmental Impact (Draft EIR) for the E&B Oil Drilling and Production Project (Proposed Project). The attached letter from Behrens and Associates, Inc. addresses their review of the analysis of the potential noise impacts as a result of concurrent drilling and production in Phases 2 and 4 of the Proposed Project.

As a result of the revised analysis presented by Behrens and Associates, Inc. in their attached letter, we request that the following additional mitigation measures be incorporated into the Proposed Project:

Proposed Mitigation Measure: The Applicant will provide an addition to the acoustical shroud for the drill rig mast that includes enclosure of the top 26 feet of the fourth side of the drill rig mast.

Proposed Mitigation Measure: The Applicant will provide full mud pump enclosures constructed from Semco acoustical panels (which have a 2-inch thick acoustical absorptive lining) on three sides and a clear plastic panel on one side.

Proposed Mitigation Measure: The Applicant will provide upgraded silencers for the hydraulic power unit (HPU) that provide the following insertion loss:

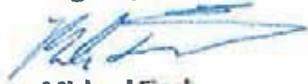
Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	8	14	29	41	40	41	32	17

As discussed in detail in the attached letter, with the correction of the noise model to reflect the metal-on-metal noises that would occur with the 'quiet mode drilling' plan and incorporation of the proposed mitigation measures provided above, the significant impacts from the noise levels

during concurrent drilling and production in Phases 2 and 4 would be reduced to a less than significant level.

Please feel free to contact me with any questions.

Regards,



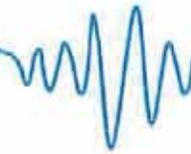
Michael Finch

**Vice President of Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.**

Attachment – Letter from Behrens and Associates, dated March 27, 2014

Behrens and Associates, Inc.

Environmental Noise Control



March 27, 2014

Mr. Michael Finch
E&B Natural Resources Management Corp.
1600 Norris Road
Bakersfield, CA 90254

Subject: Review of Noise Analysis for E & B Oil Drilling and Production Project

Reference: Section 4.11, Noise and Vibration, E&B Oil Drilling and Production Project Draft Environmental Impact Report, February 2014

Dear Mr. Finch,

As requested, we have reviewed the analysis provided in Section 4.11, Noise and Vibration, of the E&B Oil Drilling and Production Project Draft Environmental Impact Report (Draft EIR). As a part of this review, we have verified if all of the project design features were incorporated and performed additional analysis to determine if the mitigated significant impacts identified in the Draft EIR analysis during drilling and production in Phases 2 and 4 can be further reduced. The revised analysis provided below used the Draft EIR noise model to allow direct comparison with the results shown for Phase 2 in Table 4.11-22 and Phase 4 in Table 4.11-32 of the Draft EIR.

Phase 2 Drilling and Testing

Section 4.11, Noise and Vibration, of the Draft EIR assesses significant impacts during Phases 2 and 4 in two ways:

- The analysis indicates a significant impact would occur if the drilling plus production noise causes an increase to the average noise level during the quietest hour of more than 3 dBA at the nearby residential properties or more than 5 dBA at Veterans Parkway.
- The analysis indicates a significant impact would occur if the drilling noise level exceeds the City of Hermosa Beach Oil Production Code nighttime noise standard of 45 dBA at the nearby residential properties and at Veterans Parkway.

The noise level was assessed in the Draft EIR at elevations of 5 feet and at 20 feet above ground level. The Noise Impact Study in the November 2012 Planning Application assessed noise levels 5 feet above ground level only.

The Draft EIR noise model uses the same equipment sound power levels as the model in the Planning Application Noise Impact Study. A source was added to the model to represent metal-on-metal 'clanging' sounds on the drill rig. The basis for the Draft EIR data was sound level measurements of pipe-handling activities made by Arup Acoustics at the Whittier oil field. The Draft EIR analysis assumed a sound power level of 131.7 dBA during a single impact, with impacts occurring 0.1% of the time to give an equivalent sound power level of 101.7 dBA. This equivalent level is almost as high as an

Behrens and Associates, Inc.

Environmental Noise Control



unmitigated mud pump running continuously and it is our opinion that this assumed noise level is much higher than would actually occur at the project site, especially since the a 'quiet mode drilling' plan would be implemented at the project site as a part of the Proposed Project. The quiet mode drilling plan is specifically designed to reduce the quantity and sound level of these types of sounds during the nighttime hours.

For this revised analysis, a sound level measurement was obtained at a drilling rig at the Inglewood Oil Field where the same quiet mode drilling plan has been implemented. From the measurement, it was possible to determine the contribution of metal-on-metal noises to the overall sound level. It was determined that the average sound power level was 87.4 dBA. This sound level was substituted into the model for this revised analysis to provide a more realistic simulation of the metal-on-metal sounds.

From the Draft EIR model it was determined that, with implementation of the mitigation measures recommended in the Draft EIR, the mud pumps would generally be the highest contributors of noise at the nearby sensitive receptors. It was proposed in the Planning Application Noise Impact Study that noise from the mud pumps would be reduced with enclosures around each pump. The enclosures were designed to have three sides and a roof, but would be open on one side. Since the Draft EIR analysis predicts significant impacts at the nearby sensitive receptors, this revised analysis includes full mud pump enclosures constructed from Semco acoustical panels (which have a 2-inch thick acoustically absorptive lining) with a clear plastic panel on one side (to allow for observation). The ventilation system required for this enclosure would maintain the insertion loss of the enclosure with the use of silenced inlets and vents.

Since the time of the preparation of the Planning Application Noise Impact Study, more detailed plans of the proposed enclosure of the drilling rig mast have been provided by the manufacturer. It has been determined that the drilling rig mast can be enclosed to a greater extent than originally modeled. In the Planning Application Noise Impact Study model and the Draft EIR model, the sound was assessed with only three sides of the rig mast enclosed. The more detailed plans provide that, in addition to the enclosure of three sides of the rig mast as originally analyzed, the top 26 feet of the rig mast would also be enclosed on the fourth side. This configuration is modeled in this revised analysis.

In addition, as part of this revised analysis, the hydraulic power unit (HPU) was modeled with upgraded silencers that provide the insertion loss shown in Table 1 below.

Table 1. Hydraulic Power Unit Silencer Insertion Loss

Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	8	14	29	41	40	41	32	17

Tables 2 and 3 below provide the resulting sound levels of this revised analysis during Phase 2 drilling and testing with: 1) the metal-on-metal noises that would occur with the 'quiet mode drilling' plan implemented; 2) the implementation of the improved mud pump enclosures; 3) the addition of the

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enclosure of the top 26 feet of the fourth side of the drilling rig mast; and 4) the addition of upgraded HPU silencers. The results are shown alongside the Draft EIR analysis results for comparison.

The results of this revised analysis indicate that the noise level during concurrent drilling and production in Phase 2 would be reduced to a less than significant level at all receptors. Furthermore, the results indicate that the noise level during concurrent drilling and production would comply with the City Hermosa Beach Oil Production Code at all nearby sensitive receptors at 5 feet and 20 feet above ground elevation.

Phase 4 Development and Operations

Tables 4 and 5 below provide the resulting sound levels of this revised analysis during Phase 4 drilling and testing with: 1) the metal-on-metal noises that would occur with the 'quiet mode drilling' plan implemented; 2) the implementation of the improved mud pump enclosures; 3) the addition of the enclosure of the top 26 feet of the fourth side of the drilling rig mast; and 4) the addition of upgraded HPU silencers. The results are shown alongside the Draft EIR analysis results for comparison.

The results of this revised analysis indicate that the noise level during concurrent drilling and production in Phase 4 would be reduced to a less than significant level at all receptors. Furthermore, the results indicate that the noise level during concurrent drilling and production would comply with the City Hermosa Beach Oil Production Code at all nearby sensitive receptors at 5 feet and 20 feet above ground elevation.

Please contact the undersigned with any questions or comments.

Very truly yours,

Thomas Corbishley
Engineering Manager

Behrens and Associates, Inc.

Environmental Noise Control



Table 2. Predicted Phase 2 Noise Impact Relative to Existing Ambient Noise Levels

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation (Table 4.11-22)				Revised Analysis with Improved Mitigation				
		Noise Level (L ₉₀ , dBA)		Increase in noise level (dBA)	Significant?	Noise Level (L ₉₀ , dBA)		Increase in noise level (dBA)	Significant?	
		Baseline (Lowest 1-hr nighttime L ₉₀)	Drilling + test production + baseline			Drilling + test production + baseline	Drilling + test production + baseline			
Residential uses north of site on 8 th Street	5	45.6	43.7	47.8	2.2	NO	35.3	46.0	0.4	NO
	20	45.6	48.0	50.0	4.4	YES	36.6	46.1	0.5	NO
Residential uses northwest of site on Cypress Street	5	37.6	41.1	42.7	5.1	YES	33.5	39.0	1.4	NO
	20	37.6	45.1	45.8	8.2	YES	37.0	40.3	2.7	NO
Residential uses east of site on Ardmore Avenue	5	38.3	44.6	45.5	7.2	YES	34.8	39.9	1.6	NO
	20	38.3	47.0	47.5	9.2	YES	37.6	41.0	2.7	NO
Residential uses west of site on Loma Drive	5	39.9	43.9	45.4	5.5	YES	35.5	41.2	1.3	NO
	20	39.9	44.4	45.7	5.8	YES	35.6	41.3	1.4	NO
Veterans Parkway (Center)	5	35.6	43.7	44.3	8.7	YES	34.0	37.9	2.3	NO

Table 3. Phase 2 Compliance with City of Hermosa Beach Oil Production Code

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation		Revised Analysis with Improved Mitigation	
		Drilling + test production noise level (dBA)	Complies with 45 dBA limit?	Drilling + test production noise level (dBA)	Complies with 45 dBA limit?
Residential uses north of site on 8 th Street	5	43.7	YES	35.3	YES
	20	48.0	NO	36.6	YES
Residential uses northwest of site on Cypress Street	5	44.1	YES	33.5	YES
	20	45.1	NO	37.0	YES
Residential uses east of site on Ardmore Avenue	5	44.6	YES	34.8	YES
	20	47.0	NO	37.6	YES
Residential uses west of site on Loma Drive	5	43.9	YES	35.5	YES
	20	44.4	YES	35.6	YES
Veterans Parkway (Center)	5	43.7	YES	34.0	YES

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Environmental Noise Control

Table 4. Predicted Phase 4 Noise Impact Relative to Existing Ambient Noise Levels

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation (Table 4.11-32)				Revised Analysis with Improved Mitigation				
		Noise Level (L_{eq} dBA)		Increase in noise level (dBA)	Significant?	Noise Level (L_{eq} dBA)		Increase in noise level (dBA)	Significant?	
		Baseline (Lowest 1-hr nighttime L_{eq})	Drilling + production			Drilling + production + baseline	Drilling + production			Drilling + production + baseline
Residential uses north of site on 8 th Street	5	45.6	43.8	47.8	2.2	NO	35.0	46.0	0.4	NO
	20	45.6	47.7	49.8	4.2	YES	36.5	46.1	0.5	NO
Residential uses northwest of site on Cypress Street	5	37.6	39.5	41.7	4.1	YES	34.1	39.2	1.6	NO
	20	37.6	44.2	45.1	7.5	YES	36.8	40.2	2.6	NO
Residential uses east of site on Ardmore Avenue	5	38.3	45.0	45.8	7.5	YES	34.5	39.8	1.5	NO
	20	38.3	47.1	47.6	9.3	YES	36.6	40.5	2.2	NO
Residential uses west of site on Loma Drive	5	39.9	44.2	45.6	5.7	YES	33.7	40.8	0.9	NO
	20	39.9	44.4	45.7	5.8	YES	34.8	41.1	1.2	NO
Veterans Parkway (Center)	5	35.6	42.8	43.6	8.0	YES	34.1	37.9	2.3	NO

Table 5. Phase 4 Compliance with City Hermosa Beach Oil Production Code

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation		Revised Analysis with Improved Mitigation	
		Drilling + production noise level (dBA)	Complies with 45 dBA limit?	Drilling + production noise level (dBA)	Complies with 45 dBA limit?
Residential uses north of site on 8 th Street	5	43.8	YES	35.0	YES
	20	47.7	NO	36.5	YES
Residential uses northwest of site on Cypress Street	5	39.5	YES	34.1	YES
	20	44.2	YES	36.8	YES
Residential uses east of site on Ardmore Avenue	5	45.0	YES	34.5	YES
	20	47.1	NO	36.6	YES
Residential uses west of site on Loma Drive	5	44.2	YES	33.7	YES
	20	44.4	YES	34.8	YES
Veterans Parkway (Center)	5	42.8	YES	34.1	YES

Attachment 4

E&B
Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

April 8, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: E&B Oil Drilling & Production Project
Draft Environmental Impact Report
Analysis of Pipeline Spills in Executive Summary, Section 4.3 – Biological Resources,
Section 4.9 – Hydrology and Water Quality, Section 4.8 – Safety, Risk of Upset, and
Hazards, and Section 4.10 - Land Use/Recreation/Policy Consistency Analysis

Dear Mr. Robertson:

E&B Natural Resources Management Corp. (E&B) has conducted a review and further analysis of the issue of pipeline spills discussed in the Executive Summary, Section 4.3 – Biological Resources, Section 4.8 – Safety, Risk of Upset, and Hazards, Section 4.9 – Hydrology and Water Quality, and Section 4.10 - Land Use/Recreation/Policy Consistency Analysis of the Draft Environmental Impact (Draft EIR) for the E&B Oil Drilling and Production Project (Proposed Project). A discussion of this analysis is provided below.

The November 2012 Planning Application for the Proposed Project proposed three oil pipeline scenarios; two of which were the construction of a new pipeline within the public road right of way and the third utilizing some public road right of way and an existing pipeline in the Southern California Edison (SCE) Utility Corridor. The description of these oil pipeline scenarios and the end point at one of four valve box locations were provided on pages 2-48 to 2-51 in Section 2, Project Description, of the Draft EIR.

The Draft EIR, Executive Summary, Table ES.2 on page ES-7 and the abovementioned Draft EIR Sections identifies that the Proposed Project would have the potential to result in significant unavoidable adverse impacts to biological resources, hydrology and water quality, and recreation from a single oil spill event. This single event would be an oil pipeline spill located along Herondo Street near Valley Drive that would occur during a 0.50-inch or greater storm event, potentially allowing oil to reach the Pacific Ocean through the storm drain system. Based on this, the following provides: a discussion of updates to the pipeline spill probability presented in the Draft EIR based on the updated 2013 Office of the State Fire Marshal (OSFM) spill frequency; and Applicant proposed mitigation measures for additional pipeline design criteria that would reduce the causes in the CSFM Incident Causal Distribution identified in the Draft EIR.

Updated Pipeline Spill Probability

The analysis provided on pages 4.8-85 and 4.8-56 in Section 4.8 – Safety, Risk of Upset, and Hazards of the Draft EIR used the California State Fire Marshal (CSFM) 1993 report [1] to establish a spill frequency of 5.27 spills per 1,000 mile years. It was concluded in the analysis that the probability of any spill occurring during a 0.50-inch or greater storm event in the vicinity of Herondo Street and Valley Drive would be 0.4% during the life of the Proposed Project.

The CSFM spill frequency (for 1994 to 2012) was recently updated by the OSFM [2][3] (refer to Attachment 1 to this letter) and, as a result, the current spill frequency would be 0.3% of the 1993 spill frequency or 1.58 spills per 1,000 mile years. In addition, the Applicant has proposed mitigation measures (discussed further below) that provide additional design criteria that would eliminate a majority of the causes outlined in the CSFM Incident Cause Distribution as shown in Attachment 2 to this letter. A conservative reduction of 95% has been used to account for the incorporation of these proposed mitigation measures that mitigate the pipeline failure. The remaining 5% accounts for seismic or any other extraordinary events that may cause both the carrier pipe and the secondary containment pipe (provided with the proposed mitigation measures) to fail at the same time. Based on the 95% reduction, the appropriate pipeline failure frequency is 7.91 spills per 100,000 mile years.

The main area of concern for the oil pipeline spill is the 0.9-mile section along Herondo Street in the Cities of Hermosa Beach and Redondo Beach. The mitigated failure rate for this section of pipeline is 7.11 per 100,000 years. The principal environmental effect is estimated to occur during a 0.5-inch or greater storm event that is predicted to occur an average of 10 days per year. Based on this, the probability of a simultaneous storm event and pipeline failure to occur within the 0.9-mile section along Herondo Street is 10/365 times the failure rate of the subject section, or 1.95 per million years. Distributing this frequency for any spill among different spill size ranges based on the CSFM 1993 report [1] gives the spill frequency distributions along Herondo Street near Valley Drive that are shown in Table 1 below. As indicated in Table 1, the estimated annual frequency of medium and large spills would be less than 1 in 1 million per year and the frequency of small spills (less than 10 barrels) would be very close to 1 in 1 million per year.

Table 1
Annual Spill Frequency
0.9-Mile Section Along Herondo Street Near Valley Drive
During a 0.5-inch or Greater Storm Event (10 days per year)

Any 0+bbl	Small <10 bbl	Medium 10<50 bbl	Large > or = 50 bbl
1.95E-06	1.05E-06	4.09E-07	4.87E-07
100%	54%	21%	25%

Applicant Proposed Mitigation Measure (Additional Pipeline Design Criteria)

To reduce the potential significant impacts to biological resources, hydrology and water quality, and recreation from a single oil spill event as analyzed in the Draft EIR, the following proposed mitigation measures should be incorporated into the Proposed Project:

Proposed Mitigation Measure: The Applicant will provide a “pipe-in-pipe” design to provide secondary containment for any leak or rupture in the main crude oil pipeline (i.e., carrier pipe). This mitigation measure will address the selected oil pipeline scenario as follows:

- For the two scenarios within the public road right-of-ways, the Applicant will install a 6-inch Grade X-56 crude oil carrier pipe with a three-layer FBE coating in a secondary fiberglass outer pipe. The 6-inch Grade X-56 carrier pipe will add approximately 1.6 times the Corrosion Allowance (CA) or about 4.8 times the required thickness. Check valves will be provided at strategic locations along the pipeline. The location of these check valves will be determined during final design in Phase 3.
- For the scenario within the Southern California Edison Utility Corridor, the Applicant will install a 6-inch Fiberspar pipe for the crude oil carrier pipe. For the portion of the pipeline constructed in Valley Drive and crossing Herondo Street, the Fiberspar pipe will be incased in a secondary fiberglass outer pipe. For the portion of the pipe installed in the Utility Corridor, the Fiberspar pipe will be “pulled” through an existing 14-inch steel pipe that will provide the required secondary containment. Check valves will be provided at strategic locations along the pipeline. The location of these check valves will be determined during final design in Phase 3.

Proposed mitigation measure: To reduce the risk of any third party damage to the oil pipeline, the Applicant will: sand slurry the pipe to 6 inches over the pipe and then use a 3-sack slurry above the pipe to the base of the pavement or ground surface (within the Utility Corridor); and lay strips of warning tape over the top which will prevent third party damage to the pipe.

Proposed mitigation measure: The Applicant will provide an inert gas, nitrogen, blanket within the secondary outer pipe to allow monitoring for the loss of secondary containment. In addition, the annulus between the carrier pipe and the secondary containment will be monitored for hydrocarbon vapor.

For the two oil pipeline scenarios within the public right-of-ways, the Applicant proposed mitigation measure provides for the installation of a six-inch Grade X-56 carrier pipe with a three-layer FBE coating in a secondary fiberglass outer pipe. A standard wall pipe would allow for a CA of 0.2143 or about 3 times the required thickness. However, by using the Grade X-56 carrier pipe proposed in the mitigation measure above would add about 1.6 times the CA or about 4.8 times the required thickness. In addition, the Applicant proposed mitigation measure to provide sand slurry over the pipe and a slurry backfill above the pipe to the pavement as well as warning tape would eliminate the opportunity for third party damage. By enclosing the pipeline in a secondary containment pipe, this would eliminate any opportunity for a leak or rupture that could occur from entering the surface streets and storm drain system. With the proposed mitigation measures, the 6-inch pipe would reduce the volume of oil contained in the carrier pipe, the check valves placed along the pipeline alignment would limit the quantity of oil that would drain in the event of a rupture, and the monitoring of the inert gas, nitrogen blanket

within the secondary outer pipe would allow for the pipe to be monitored for the loss of secondary containment.

For the third scenario within the Utility Corridor, Applicant would install a 6-inch Fiberspar pipe for the crude oil carrier. For the portion of the pipeline constructed in Valley Drive and crossing Herondo Street, the Fiberspar pipe would be incased in the same fiberglass outer pipe as in the two scenarios above. For the portion of the pipe installed in the Utility Corridor, the Fiberspar pipe would be "pulled" through an existing 14-inch steel pipe that would provide the required secondary containment. The Applicant has the 2006 Internal Pipeline Inspection Report that confirms the integrity of that line, but would perform an hydrostatic test on the pipeline prior to installing the new Fiberspar pipe to ensure that there are no leaks in the existing pipeline. In addition, the Applicant proposed mitigation measure to provide sand slurry over the pipe and a slurry backfill above the pipe to the pavement or ground surface in the Utility Corridor as well as warning tape, would eliminate the opportunity for third party damage. By enclosing the pipeline in a secondary containment pipe, this would eliminate any opportunity for a leak or rupture that could occur from entering the surface streets and storm drain system. With the proposed mitigation measures, the 6-inch pipe would reduce the volume of oil contained in the carrier pipe, the check valves placed along the pipeline alignment would limit the quantity of oil that would drain in the event of a rupture, and the monitoring of the inert gas, nitrogen blanket within the secondary outer pipe would allow for the pipe to be monitored for the loss of secondary containment.

In conclusion, with the incorporation of the additional mitigation measures described above, the oil pipeline provided as a part of the Proposed Project would, through the use of the latest technology and design, be far safer than any of the oil pipelines that were used to establish failure rates in both the 1993 CSFM study [1] and 2013 OSFM update [2][3]. This proposed oil pipeline with the incorporation of the additional proposed mitigation measures would reduce the potential significant unavoidable adverse impacts to biology resources, hydrology and water quality, and recreation from a single oil spill event to a less than significant level.

Please feel free to contact me with any questions.

Regards,



Michael Finch
Vice President of Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.

Attachment 1 – Information from Office of the State Fire Marshal (OSFM), Pipeline Safety Division, "Hazardous Liquid Pipeline Safety Seminar," March 26-28, 2013

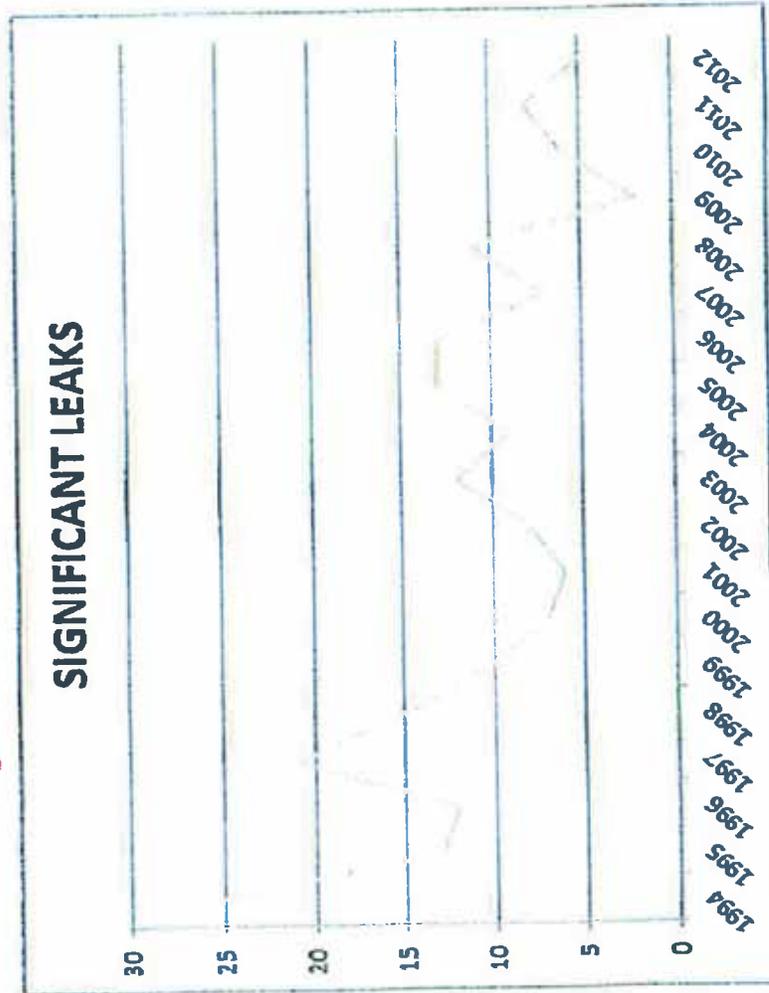
Attachment 2 – Table 4-1 from OSFM 1993 Hazardous Liquid Pipeline Risk Assessment

REFERENCES

1. Office of the State Fire Marshal, California State Fire Marshal (CSFM), "Hazardous Liquid Pipeline Risk Assessment," 1993.
2. Office of the State Fire Marshal (OSFM), Pipeline Safety Division, "Hazardous Liquid Pipeline Safety Seminar," Hilton Anaheim, March 26-28, 2013.
3. http://primis.phmsa.dot.gov/comm/reports/safety/CA_detail1.html?nocache=9728

Attachment 1

California Hazardous Liquid Pipeline 20 year Leak Trend



Source: USDOT-PHMSA 7000-1 accident reports

PHMSA defines Significant Incidents as those incidents reported by pipeline operators when any of the following specifically defined consequences occur:

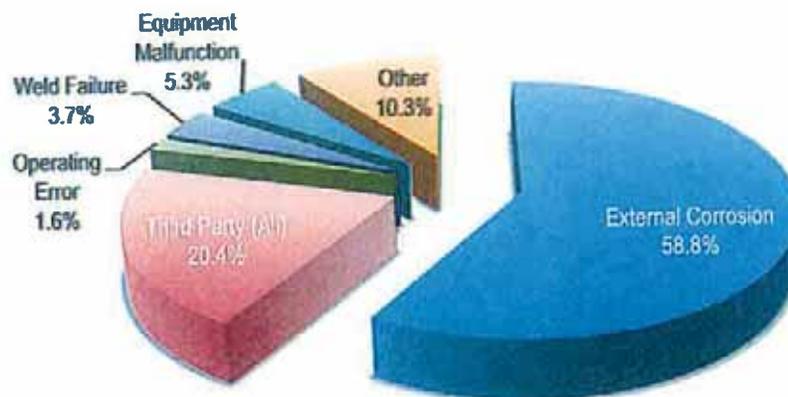
- fatality or injury requiring in-patient hospitalization
- \$50,000 or more in total costs, measured in 1984 dollars
- highly volatile liquid releases of 5 barrels or more or other liquid releases of 50 barrels or more
- liquid releases resulting in an unintentional fire or explosion

Attachment 2

Table 4-1
Overall Incident Causes
Incident Rate Comparison
 (Incidents Per 1,000 Mile Years)

Cause of Incident	No. of Incidents	Incident Rate	Percentage
External Corrosion	302	4.18	58.75%
Internal Corrosion	14	0.19	2.72%
3rd Party - Construction	64	0.89	12.45%
3rd Party - Farm Equipment	18	0.25	3.50%
3rd Party - Train Derailment	2	0.03	0.39%
3rd Party - External Corrosion	7	0.10	1.36%
3rd Party - Other	14	0.19	2.72%
Human Operating Error	8	0.11	1.56%
Design Flaw	2	0.03	0.39%
Equipment Malfunction	27	0.37	5.25%
Maintenance	5	0.07	0.97%
Weld Failure	19	0.26	3.70%
Other	25	0.35	4.86%
Unknown	7	0.10	1.36%
Total	514	7.12	100.00%
Number of Mile Years	72,181		
Mean Year Pipe Constructed	1957		
Mean Operating Temperature (°F)	97.9		
Mean Diameter (inches)	12.3		
Average Spill Size (barrels)	408		
Average Damage (\$US 1983)	141,477		

Incident Cause Distribution



Attachment 5

Attachment G

MARINE FACILITY OIL SPILL CONTINGENCY PLAN

INTRODUCTION

E&B Natural Resources Management Corporation, the Applicant, is proposing the development of the E&B Oil Development Project (proposed project) on a 1.3-acre project site located at 555 6th Street in the City of Hermosa Beach (City). The project site is bounded on the east by Valley Drive and on the south by 6th Street, approximately seven blocks east of the beach and the Pacific Ocean. The project site is owned by the City and is currently used as their City Maintenance Yard. The Project Applicant will lease the project site from the City for the implementation of the proposed project.

The proposed project provides for the development of an onshore drilling and production site that would utilize directional drilling of 30 wells to access the oil and gas reserves in the tidelands (granted by the State of California to the City) and in an onshore area known as the uplands. Both of these areas are located within the Torrance Oil Field. In addition, the proposed project would result in the drilling of four water injection wells, relocation of the City Maintenance Yard to another site, and the installation of offsite underground pipelines for the transport of the processed crude oil and gas from the project site to purchasers.

The offsite underground pipeline for the transport of oil to a valve box location in the City of Torrance would be constructed for a maximum distance of approximately 3.55 miles in one of three pipeline scenarios that would transverse through the Cities of Hermosa Beach, Redondo Beach, and Torrance. The oil pipeline would be constructed for a distance of 0.39 mile in the right of way (ROW) of southbound Valley Drive in the City of Hermosa Beach to the corner of Valley Drive/N. Francisca Avenue and Herondo Street in the City of Redondo Beach. At this point, the oil pipeline would be constructed towards the east within the ROW of Herondo Street, Anita Street, and 190th Street or within the Southern California Edison Utility Corridor until it reaches one of the four valve box locations in the Cities of Redondo Beach or Torrance. The pipeline would be 8 inches or less in diameter, located at a depth of 3.5 to 4 feet below ground surface depending on the grade.

In addition, in Phase 2 before the construction of the pipeline occurs, oil would be transported from the project site by tanker truck along Valley Drive before it heads east on Herondo Street, Anita Street, and 190th Street to a delivery destination in Torrance.

The western portion of the proposed offsite underground oil pipeline, and the western portion of the oil delivery route are located within proximity of the storm drains that lead to marine waters of the Pacific Ocean. Refer to Figures 2, 4A, 4B, and 4C of the Planning Application Project Description dated November 2012 for the location and setting of the project site and the offsite underground oil pipeline alignment scenarios. In addition, refer to Figure 7 of the Planning Application Project Description for the oil delivery route for the transportation of oil by tanker truck during Phase 2.

PLAN PURPOSE AND CONTENT

California Code of Regulations Title 14, Division 1, Subdivision 4, Office of Oil Spill Prevention and Response, Chapter 3. Oil Spill Prevention and Response Planning, Subchapter 3. Oil Spill Contingency Plans sets forth the planning requirements for oil spill prevention and response for tank vessels and marine facilities in California. The proposed project appears to meet the definition of a marine facility since it would be considered to have the potential to impact marine waters based on the geographical location of the western portion of the offsite underground oil pipeline in proximity to the Pacific Ocean. The proposed project would not involve tank vessels. Therefore, prior to operations, E&B (as owner/operator of the proposed project) will prepare an oil spill contingency plan (plan) in compliance with the requirements of the California Code of Regulations as discussed below.

The purpose and intent of the plan would be to provide for the “best achievable protection of coastal and marine resources” and “ensure that all areas addressed by the plan are at all times protected by prevention, response, containment and clean-up equipment and operations” (subsection 815.07(c)). The plan would be prepared “consistent with the State Marine Oil Spill Contingency Plan and not in conflict with the National Oil & Hazardous Substances Pollution Contingency Plan, or the applicable Federal Area Contingency Plans” (subsection 815.07(d)).

The plan would be submitted to the Office of Spill Prevention and Response (OSPR) so that it is received by OSPR at least 180 days prior to the beginning of operations. Copies would be sent to the California State Lands Commission. The plan holder would be notified whether the plan has been denied or approved within 180 days after receipt by the OSPR Administrator. When the plan has been approved, the plan holder would be notified through the issuance of a Letter of Approval issued by the OSPR that describes any conditions of approval and the expiration date.

The plan would be maintained by the Applicant in separate volumes. The principal volume would contain all the required information, calculations, studies, maps, and related data. A separate volume would be set up to serve as a response manual and contain only the information that response personnel would need in the event of a spill to aid in the immediate notification of the appropriate parties and the implementation of the response actions.

It should be noted that plans or portions of other plans submitted to other federal and state agencies may serve as a substitute for all or parts of the oil contingency plan. The OSPR Administrator would determine if the use of a substitute plan or sections of a plan would be appropriate prior to the final plan approval.

The following provides the preliminary contents of the Oil Spill Contingency Plan for the proposed project.

**PRELIMINARY CONTENT OF
MARINE FACILITY OIL SPILL CONTINGENCY PLAN**

1.0 Introduction

- 1.1 The Marine Facility Oil Spill Contingency Plan (plan) shall provide the following information:
- Name and address of the marine facility;
 - Name, address, phone number, facsimile number, and email address of the owner and/or operator of the marine facility;
 - Name, address, phone number, facsimile number, and email address of the person to whom correspondence should be sent;
 - A certification statement signed by an executive or Qualified Individual (with training and experience in oil spill prevention) within the plan holder's management who is authorized to fully implement the oil spill contingency plan and who shall review the plan for accuracy, feasibility, and if it is executable; and
 - The California Certificate of Financial Responsibility (COFR) number for the marine facility. The COFR is the official written acknowledgement that the owner/operator has demonstrated to the satisfaction of the OSPR Administrator the financial ability to pay for costs and damages caused by an oil spill. If the COFR is not available when the plan is submitted because the marine facility is not yet operational, the COFR number must be provided as soon as it becomes available. The COFR number must be provided before the plan can be approved.
- 1.2 The plan shall identify a Qualified Individual (with training and experience in oil spill prevention) and any alternative(s) that may be necessary for the purpose of implementing the plan. If the plan holder contracts for this service, the plan shall include documentation that the Qualified Individual, company, or alternate(s) acknowledges this. If an alternate(s) is identified in the plan, then the plan shall also describe the process by which responsibility will be transferred from the Qualified Individual to the alternate(s). During spill response activities, notification of such a transfer shall be made to the State Incident Commander at the time it occurs.
- 1.3 The plan shall provide the name, address, telephone number, and facsimile number of an agent (located in California) designated to receive legal documents on behalf of the plan holder. If the plan holder contracts for this service, documentation that the agent acknowledges this capacity shall be included in the plan.
- 1.4 The plan shall identify a Spill Management Team. If the plan holder contracts for this service, documentation that the Spill Management Team acknowledges this capacity shall be included in the plan.

-
- 1.5 The plan shall contain a copy of the contract or other approved means verifying that any oil spill response organization(s) that are named in the plan will provide the requisite equipment and personnel in the event of an oil spill. To meet regulatory requirements, the plan holder shall only contract with an Oil Spill Response Organization (OSRO) rated by the Office of Spill Prevention and Response (OSPR) for the booming, on-water recovery and storage, and shoreline protection services required. For other required services, including shoreline clean-up, waste management, and spill response management, contracts with non-rated OSROs may be used.

2.0 Marine Facility Description

- 2.1 The plan shall describe the design and operations of the proposed project (referred to herein as the marine facility) with specific attention to those areas from which an oil spill could occur. This description shall include, at a minimum, the following information:
- A piping and instrumentation diagram and a tank diagram including the location of pumps, valves, vents, and lines; the number and oil storage capacity of each structure covered under the plan and its age, design, construction, and general condition; the range of oil products normally stored in each structure; the presence or absence of containment structures and equipment; and the location of oil transfer locations, control stations, safety equipment, drip pans, and the drainage for drip pans;
 - A description of the types, physical properties, health and safety hazards, maximum storage or handling capacity, and current normal daily throughput of oil handled. A material safety data sheet (MSDS) or equivalent will meet some of these requirements and can be maintained separately at the facility providing the plan identifies its location;
 - A description of the normal procedures for transferring oil from or to a pipeline, tanker truck, or storage tank and the amount, frequency, and duration of oil transfers;
 - The marine facility's normal hours of operation; and
 - As a production facility, a complete description of those sections of the oil or gas lease field, gathering lines, storage tanks, and processing facilities, under the control of the owner/operator, from which a spill could reasonably be expected to impact the marine waters of California.
- 2.2 The plan shall describe the marine facility site and surrounding area including, where appropriate, the following information:
- A map and description of site topography, including the drainage and diversion plans for the marine facility, such as sewers, storm drains, catchment, and containment, diversion systems, or basins, oil/water separators, and all watercourses into which surface runoff from the facility drains;

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- Vicinity maps showing any vehicular access to and from the marine facility including the routes for the transport of oil by tanker truck, pipelines to and from the facility, nearby residential, commercial, or other populous areas, and, if needed, access to private land necessary to respond to a spill;
 - Seasonal hydrographic and climatic conditions including wind speed and direction, air and water temperature, local tides, prevailing currents, and any local visibility problems;
 - Physical geographic features, including ocean depths and local bathymetry; beach types and other geological conditions, including type of soil and terrain; operational conditions such as physical or navigational hazards, traffic patterns, permanent buoys, moorings, and underwater structures or other site-specific factors; and any other physical feature or peculiarity of local waters that call for specific precautionary measures that may affect spill response;
 - Logistical resources within the geographic area covered by the plan, including facilities for fire services, medical services, and accommodations for spill response personnel; and
 - Shoreline access area, including piers, docks, boat launches, and equipment and personnel staging areas.

3.0 Risk Hazard Analysis and Identification of Prevention Measures

- 3.1 A Risk Hazard Analysis shall be prepared and prevention measures identified in order to reduce the possibility of an oil spill occurring as a result of the operation of the marine facility. The prevention measures must mitigate or eliminate the hazards identified in the Risk and Hazard Analysis as described below.
- 3.2 A Risk and Hazard Analysis shall be prepared to identify the hazards associated with the operation of the marine facility, including: operator error, the use of the facility for drilling and production, equipment failure, transport of oil by tanker truck, transport of oil and gas by pipeline, and external events likely to cause an oil spill. The chosen hazard analysis method must be conducted in accordance with the guidelines established by the American Institute of Chemical Engineers as published in the “Guidelines for Hazard Evaluation Procedures,” second edition, copyright 1992, prepared for The Center For Chemical Process Safety. The plan shall include a summary of the results of the Risk and Hazard Analysis. The summary shall include the following:
- The hazard analysis method used and a statement that the analysis is specific to the marine facility. If the analysis relies on a risk assessment at a similar facility, the summary shall specify how the two facilities are comparable;
 - An inventory of the hazards identified;
 - An analysis of the potential oil discharges, including the size, frequency, cause, duration, and location of all significant spills from the marine facility as a result of each major type of hazard identified;

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- The prevention (control) measures that will be used to mitigate or eliminate the hazards identified. The plan shall include timeframes for implementing any prevention measures that cannot be functional immediately; and
 - A prediction of oil spills that might still be expected to occur after any mitigating prevention (control) measures have been implemented.

All supporting documentation used to develop the Risk and Hazard Analysis summary shall be made available to the OSPR Administrator upon request.

3.3 Based on the trajectory of the spilled oil as determined in the Risk Hazard Analysis, the plan shall identify off-site resources at risk from oil spills. Two separate maps shall be used to identify the locations of the environmentally sensitive sites and the economically and culturally sensitive sites that may be impacted. The environmentally sensitive sites may include, but not be limited to: shoreline types and associated marine resources; the presence of migratory and resident marine birds and mammal migration routes, breeding, nursery, and other population concentration areas by season; the presence of aquatic resources; the presence of natural terrestrial animal and plant resources; the presence of state and federal-listed rare, threatened, or endangered species; and the presence of commercial and recreational fisheries. The economically and culturally sensitive sites may include, but not be limited to: public beaches, parks, marinas, and diving areas; industrial and drinking water intakes, power plants, and other underwater structures; off-shore oil and gas leases and associated drilling/production platforms; known historical and archeological sites and areas of cultural or economic significance to Native Americans; and major waterways and vessel traffic patterns.

3.4 The Risk and Hazard Analysis shall identify prevention measures to mitigate or eliminate identified hazards that pose potential impacts to those resources at risk from oil spills. Each plan shall include the following:

- Schedules, methods and procedures for testing, maintaining, and inspecting pipelines and other structures within or appurtenant to the marine facility that contain or handle oil which may impact marine waters if a failure occurs;
- Methods to reduce spills during transfer and storage operations, including overfill prevention measures and immediate spill containment provisions;
- Procedures to assure clear communication among all the parties involved during transfer operations;
- Protection measures for areas within the marine facility that are subject to flooding; and
- Additional relevant information at the request of the Administrator.

4.0 Procedures for Containment Booming and On-Water Recovery Response Resources

The plan holder must have a contract or other approved means for providing adequate containment booming and on-water recovery response resources up to the Response

Planning Volume for all potential oil spills from the marine facility. To determine the amount of response resources for containment booming and on-water recovery, the plan holder must calculate a Response Planning Volume as outlined below.

4.1 Calculation of Reasonable Worst-Case Spill

- To calculate the Response Planning Volume for the marine facility, it is first necessary to determine the reasonable worst-case spill for the facility, as follows:
 - The loss of the entire capacity of all in-line, break-out, and portable storage tank(s) needed for the continuous operation of the pipelines used for the purposes of handling or transporting oil, taking into account the existence of volume limiting factors including, but not limited to, line pressure, gravity, and the availability and location of the emergency shut-off controls; plus
 - The amount of additional spillage that could reasonably be expected to enter California marine waters during emergency shut-off, transfer or pumping operations if a hose(s) or pipeline(s) ruptures or becomes disconnected, or if some other incident occurs which could cause or increase the size of an oil spill. The spillage shall be calculated as follows: the maximum time to discover the release from the pipe or hose in hours, plus the maximum time to shut down flow from the pipe or hose in hours (based on historic discharge data or the best estimate in absence of historic discharge data for the marine facility) multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum relieve valve setting or maximum system pressure when relief valves are not provided) plus the total line fill drainage volume expressed in barrels.
- The OSPR Administrator has the discretion to accept that a marine facility can operate only a limited number of the total pipelines at a time. In those circumstances, the reasonable worst-case spill volume shall include the drainage volume from the piping normally not in use, in addition to the volume determined above.
- To calculate the Response Planning Volume for the pipeline that will transport oil to the point of sale, it is necessary to use one of the following methods:
 - The pipeline's maximum release time in hours (i.e., the time between pipeline rupture and discovery), plus the maximum shut-down response time in hours (based on historic discharge data or in absence of such historic data, the operator's best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest line drainage volume after shutdown of the line section(s) in the response zone expressed in barrels. (As used in this context, a line section means a continuous run of pipe that is contained between adjacent pressure pump stations, between a pressure pump station and a block valve, or between adjacent block valves. Response zone means a geographic area either along a length of pipeline, containing one or more adjacent line sections, for which the

owner/operator must plan for the provision of spill response capabilities and resources. The size of the zone is determined by the owner/operator after considering available capabilities, resources, and geographic characteristics); or

- The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels, based on the maximum discharge, if one exists, adjusted for any subsequent corrective or preventative action taken.
- The Response Planning Volume for the transport of oil by tanker truck would be the largest volume expected to be hauled by a single truck.

4.2 Calculation of Response Planning Volume

- The reasonable worst-case spill volume is multiplied by a persistence factor relative to the most persistent type of oil that may be spilled by the marine facility. The volume determined from this calculation is then multiplied by an emulsification factor based on the type of oil. The total determined by this calculation is the Response Planning Volume.
- The Response Planning Volume is used to determine the amount of Response Equipment and Services that must be under contract or other approved means.
- All calculations used to determine the Response Planning Volume shall be included in the plan.

4.3 Response Capability Standards and Movement of Resources

- The equipment and personnel necessary to address the Response Planning Volume shall be brought to the scene of the spill over a period of time. The timeframes are dependent upon the risk zone in which the marine facility is located.
- The OSPR Administrator needs to ensure that sufficient response resources are available to address a reasonable risk within each zone.

4.4 On-Water Response Equipment and Services

- The plan shall demonstrate that the marine facility owner/operator has under contract or other approved means access all the necessary response resources. The amount of response equipment required shall take into account the effective daily recovery capacity of the equipment.
- The equipment identified for a specific area must be appropriate for use in that area given the limitations of the geography, bathymetry, water depths, tides, currents and other local environmental conditions. If determined to be needed, for those areas that require shallow-water response capability, the plan shall provide for an adequate number of shallow-draft vessels and for adequate booming and other shoreline protective resources to be owned or under contract or other approved means and available to provide shoreline protection of all sensitive sites identified

in the trajectory analysis conducted as part of the Risk and Hazard Analysis. The equipment identified shall also be appropriate for use on the type of oil identified.

- The plan shall describe procedures for the transport of required equipment, personnel, and other resources to the spill site. The description shall include plans for alternative procedures during adverse environmental conditions.
- A list of the marine facility's spill management personnel (and company name if applicable) and their spill response qualifications, including a discussion of spill response training and experience, regulatory awareness and compliance, and supervision, shall be provided.
- Any equipment and personnel identified in the plan must be available for response. Any necessary maintenance for the equipment or other factors must be taken into account in relying upon these resources.

5.0 Procedures for Shoreline Protection

The plan must provide for shoreline protection of all potential spills from the marine facility as discussed below.

5.1 Shoreline Response Planning Volume

- The plan shall demonstrate that the marine facility has access to all necessary equipment and services to address the response strategies appropriate to each shoreline that could potentially be impacted by a spill from the facility.
- To determine the amount of equipment and services necessary, a Response Planning Volume must be calculated by multiplying the reasonable worst case spill for the marine facility, by the appropriate persistence factor. The Planning Volume is then multiplied by the appropriate emulsification factors based on the type of oil. The total determined by this calculation is a Response Planning Volume that is used to determine the amount of Response Equipment and Services that must be under contract. All calculations used to determine the Response Planning Volume shall be included in the plan.

5.2 Shoreline Protection Equipment and Services

- The plan must identify, and ensure availability through a contract or other approved means the capability of effecting shoreline protection strategies. Such protection strategies must be commensurate with the Response Planning Volume calculated for potential shoreline impact and must be capable of addressing all appropriate protection and response strategies. The specific areas where equipment and services must be available for use shall be identified in the Off-Site Consequence Analysis in the Risk and Hazard Analysis.
- The equipment identified for a specific area must be appropriate for use in that area given the limitations of bathymetry, geomorphology, shoreline types and other local

environmental conditions. Additionally, the equipment identified shall be appropriate for use on the type of oil identified.

- Any equipment and personnel identified to meet the planning standard requirements must be available for response. Any necessary maintenance for the equipment, vacation periods for response personnel, or other eventuality must be taken into account in relying upon these resources.

5.3 Shoreline Clean-Up

- The plan shall describe the methods that will be used to contain spilled oil and remove it from the environment.
- The equipment identified for a specific area must be appropriate for use in that area given the limitations of the bathymetry, geomorphology, shoreline types, and other local environmental conditions. Additionally, the equipment identified shall be appropriate for use on the type of oil identified.

6.0 Response Procedures

6.1 The plan shall describe the organization of the marine facility's spill response system and management team. An organizational diagram depicting the chain of command shall also be included. Additionally, the plan shall describe the method to be used to interface the plan holder's organization into the State Incident Command System and/or the Unified Command Structure as required by Title 8, California Code of Regulations, Subsection 5192 (q)(3)(A).

6.2 The plan shall identify potential sites needed for spill response operations including allocation for:

- A central command post sufficient to accommodate the State Incident Command or Unified Command as well as the plan holder's response organizations;
- A central communications post if located away from the command post; and
- Equipment and personnel staging areas.

6.3 The plan shall include a checklist, flowchart, or decision tree depicting the procession of each major stage of spill response operations from spill discovery to completion of clean up. The checklist, flowchart, or decision tree shall describe the general order and priority in which key spill response activities are performed.

6.4 The plan shall describe how the plan holder will provide emergency services before the arrival of local, state, or federal authorities on the scene, including:

- Procedures to control fires and explosions and to rescue people or property threatened by fire or explosion;
- Procedures for emergency medical treatment and first aid;

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- Procedures to control ground, marine, and air traffic that may interfere with spill response operations;
 - Procedures to manage access to the spill response site and the designation of exclusion, decontamination, and safe zones; and
 - Procedures to provide responders with the required personnel protective gear.
- 6.5 The plan shall describe equipment and procedures to be used by marine facility personnel to minimize the magnitude of a spill and minimize structural damage which may increase the quantity of oil spilled, including:
- For spill magnitude procedures, the plan shall include shall include immediate containment strategies, methods to stop the spill at the source, methods to slow or stop leaks, and methods to achieve immediate emergency shutdown.
 - For spill mitigation procedures, the plan shall include prioritized procedures for marine facility personnel including specific procedures to shut down affected operations. Responsibilities of facility personnel should be identified by job title. A copy of these procedures shall be maintained at the facility operations center.
- 6.6 The plan shall detail the lines of communications between the responsible party, the Qualified Individual, and the on-scene coordinators, response teams, and local, state, and federal emergency and disaster responders.
- 6.7 The plan shall describe the procedures to manage access to the spill response site, the designation of exclusions, decontamination and safe zones, and the decontamination of equipment and personnel during and after oil spill response operations.
- 6.8 Prior to beginning spill response operations and/or clean up activities, a Site Safety Plan must be completed. The Site Safety Plan shall include, but not limited to, a written respiratory protection program, written personnel protective equipment program, written health and safety training program, written confined space program and permit forms, direct reading instrument calibration logs, and written exposure monitoring program.
- 7.0 Notification Procedures**
- 7.1 The plan shall include a list of contacts to call in the event of a drill, threatened discharge of oil, or discharge of oil. The plan shall:
- Detail the procedures for reporting oil spills to all appropriate local, state, and federal agencies;
 - Identify a central reporting office or individual who is responsible for initiating the notification process and is available on a 24-hour basis. The individual making this notification must be fluent in English. The following information must be provided:
 - The individual or office to be contacted;

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- Telephone number or other means of contact for any time of the day; and
 - An alternate contact in the event the individual is unavailable.
- Establish a clear order of priority for notification.
- 7.2 The plan shall include a procedure for immediate notification of the OSRO or other initial response resources if an OSRO is not being used, immediately, but no longer than 30 minutes, after discovery of a discharge of oil or threatened discharge of oil.
- 7.3 The plan shall include a procedure that ensures that the owner/operator or designee will initiate contact with the Qualified Individual, the California Emergency Management Agency, and the National Response Center immediately, but no longer than 30 minutes, after discovery of a discharge of oil or threatened discharge of oil.
- 7.4 All phone numbers necessary to complete the immediate notification procedures must be included in the response manual.
- 7.5 The plan shall identify a call-out procedure to acquire the resources necessary to address spills that cannot be addressed by the equipment that the owner/operator is required to have under contract. Procedures must allow for initiation of the call-out within 24 hours of the incident and must begin as soon as a determination has been made that additional resources are necessary.
- 7.6 The plan shall provide a checklist of the information to be reported in the notification procedures, including but not limited to:
- Marine facility name and location;
 - Date and time of the incident;
 - The cause and location of the spill;
 - An estimate of the volumes of oil spilled and the volume at immediate risk of spillage;
 - The type of oil spilled, and any inhalation hazards or explosive vapor hazards, if known;
 - The size and appearance of the slick;
 - Prevailing weather and sea conditions;
 - Actions taken or planned by personnel on scene;
 - Current condition of the marine facility;
 - Injuries and fatalities; and
 - Other information, as appropriate.
- 7.7 Reporting of a spill shall not be delayed solely to gather all the required information.

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- 7.8 An updated estimate of volume of oil spilled and the volume at immediate risk of spillage shall be reported to the California Emergency Management Agency whenever a significant change in the amount reported occurs, but not less than every 12 hours within the first 48 hours of response. The State Incident Commander and/or the Federal On-Scene Coordinator through the Unified Command shall have the option of increasing or decreasing this timeframe, as needed.

8.0 Temporary Storage and Waste Management

- 8.1 The plan shall identify sufficient temporary storage for all recovered oil or all oily waste and identify facilities that would be able to accept the recovered oil or oily waste for recycling or other means of waste management. Sufficient storage shall be no less than two times the calculated Response Planning Volume up to the Daily Recovery Rate.

9.0 Oiled Wildlife Care Requirements

- 9.1 The plan shall describe how oiled wildlife care will be provided by one of the following approved means:
- Utilize the California Oiled Wildlife Network (OWCN) to meet oiled wildlife care requirements; or
 - Describe procedures that clearly outline how oiled wildlife care will be provided. The equipment, facilities, and personnel necessary to implement these procedures must be identified and assured by contract for each Geographic Area covered by the plan. Standards and written protocols for wildlife care must comply with all applicable State and federal laws.

10.0 Training

- 10.1 Each plan shall provide that all appropriate personnel employed by the marine facility shall receive training in the use and operation of oil spill response and clean-up equipment.
- 10.2 The plan shall describe the type and frequency of personnel training on methods to reduce operational risks.
- 10.3 The plan shall include any licenses, certifications or other prerequisites required to hold particular jobs.
- 10.4 The plan shall provide for safety training as required by state and federal health and safety laws for all personnel likely to be engaged in oil spill response, including a program for training non-permanent responders such as volunteers or temporary help.

10.5 The marine facility owner/operator shall ensure that training records are maintained for 3 years.

11.0 Drills and Exercises

11.1 The plan shall describe the marine facility's drill and exercise program to ensure that the elements of the plan will function in an emergency.

Attachment 6

E&B Oil Development Project

City of Hermosa Beach

Updated Parking Plan

January 2014

E&B Natural Resources

www.EBNR-Hermosa.com

UPDATED PARKING PLAN

INTRODUCTION

The following provides an update to the Parking Plan submitted to the City of Hermosa Beach (City) on April 11, 2013.

E&B Natural Resources Management Corporation, the Applicant, is proposing the development of the E&B Oil Development Project (proposed project) on a 1.3-acre project site located at 555 6th Street in the City. The project site is bounded on the east by Valley Drive and on the south by 6th Street, approximately seven blocks east of the beach and the Pacific Ocean. The project site is owned by the City and is currently used as its City Maintenance Yard. The Project Applicant has a lease with the City for the project site to implement the proposed project.

The proposed project provides for the development of an onshore drilling and production site that would utilize directional drilling of 30 wells to access the oil and gas reserves in the tidelands (granted by the State of California to the City) and in an onshore area known as the uplands. Both of these areas are located within the Torrance Oil Field. In addition, the proposed project would result in the drilling of four water injection wells, relocation of the City Maintenance Yard to another site, and the installation of off-site underground pipelines for the transport of the processed crude oil and gas from the project site to purchasers.

The proposed project would result in parking demand for the following elements: 1) temporary parking for employees during construction and drilling activities; 2) long-term parking for employees during the ongoing operation of the proposed project; 3) replacement parking spaces associated with the relocation of the City Maintenance Yard (there are 15 parking spaces currently located at the City Maintenance Yard that are utilized by Maintenance Yard employees during the day and are available for use by the public on nights, weekends, and holidays); and 4) replacement parking spaces for two public parking spaces on the south side of 6th Street that would be removed to accommodate the improvements to the southwest corner of 6th and Valley Drive. Therefore, the proposed project would need to provide 17 replacement parking spaces for use by the public.

This parking plan is based on the following premises:

- The parking for the proposed project's employees during temporary construction activities and drilling activities would be provided in an off-site temporary parking area to be developed at 636 Cypress Avenue adjacent to the western project boundary (referred to herein as the off-site temporary parking area);
- The parking for the proposed project's additional demand for temporary parking spaces during construction activities in Phase 3 would be provided on property that would be leased or rented;

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- The provision of the 17 replacement parking spaces for use by the public after hours and on weekends and holidays would be provided in the off-site temporary parking area, subject to the terms of the lease; and
 - The long-term parking for the proposed project's employees during ongoing operations and maintenance would occur on the project site.

OFF-SITE TEMPORARY PARKING AREA

The Applicant has identified a location for an off-site temporary parking area on a M-1 Light Manufacturing zoned parcel adjacent to the western boundary of the project site to provide parking for construction employees during Phases 1, 2, 3, and the drilling portion of Phase 4 of the Proposed Project. The Applicant has entered into an agreement with the current owner for the property at 636 Cypress Avenue (Assessor Parcel No. 4187-031-22). Refer to Exhibit A for a letter from the property owner.

The 6,000-square foot property is relatively level and currently developed with a single-story building that occupies approximately 75 percent of the parcel and a parking area with approximately 6 parking spaces that occupies the remainder of the parcel. The access to the parcel is provided from Cypress Avenue. The development of the parcel would require demolition of the existing building, removal of the asphalt parking area, minimal grading, and construction of the new parking area with improvements to include landscaping with irrigation, lighting, a trash container, and other features to comply with the City of Hermosa Beach Municipal Code for M-1 Light Manufacturing zoned property. Although the parcel is adjacent to the western boundary of the project site, direct access would not be provided due to the higher grade elevation of the project site and the need to provide secured points of entry for the proposed project.

Figure 1 provides the location of the parcel for the off-site temporary parking area and its proximity to the project site and other project-related improvements. Figure 2 provides the proposed site/parking plan for the off-site temporary parking area. As indicated in Figure 2, the off-site temporary parking area is a 60-foot by 100-foot parcel and 20 parking spaces would be provided.

PLAN FOR PROVISION OF PARKING

The proposed project would occur in four phases consisting of the following:

- Phase 1: Site Preparation
- Phase 2: Drilling and Testing
- Phase 3: Final Design and Construction
- Phase 4: Development and Operations

The attached table provides the estimated off-site temporary parking demand for each phase of the proposed project. As indicated in the table, Phases 1, 2, 3, and the drilling portion of Phase 4 would require temporary parking in an off-site parking area. The following describes the parking plan to fulfill the parking requirements for temporary parking during the construction and drilling activities and the replacement of the 15 public parking spaces with the relocation of the City Maintenance Yard to another site and the two public parking spaces associated with the improvements to the intersection of 6th Street and Valley Drive. In addition, the following provides a description of the parking areas on the project site that would be available to employees to use during the ongoing operation and maintenance of the proposed project.

Temporary Parking During Construction and Drilling

Temporary parking for employees during construction and drilling activities would be provided in the off-site temporary parking area based on the parking requirements for each development phase as defined in the attached table. As indicated, Phases 1 and 2 would generate an estimated demand for a maximum of 20 temporary parking spaces to accommodate workers during construction and drilling activities. Phase 3 would require an estimated additional demand of up to 20 temporary parking spaces for a maximum of 40 temporary parking spaces. The drilling portion of Phase 4 would require four temporary parking spaces.

The provision of the 17 replacement parking spaces for use by the public after hours and on weekends and holidays would be provided in the off-site temporary parking area, subject to the terms of the lease. The off-site temporary parking area would have 20 parking spaces and would accommodate the 17 replacement parking spaces. Although there may be an overlap with the drilling portion of Phase 4, which would require four parking spaces as one shift arrives and another shift is leaving (resulting in 16 available parking spaces rather than 17 spaces), this would only occur for a period of approximately one hour.

This parking plan proposes that the estimated 20 temporary parking spaces during Phases 1, 2, 3, and the drilling portion of Phase 4 would be provided in the new off-site temporary parking area developed on the parcel at 636 Cypress Avenue and the up to 20 additional parking spaces that may be required during Phase 3 would be provided on property that is leased or rented by the Applicant. This is anticipated to occur through the use of an existing parking area through the execution of a lease agreement or rental agreement. In the event that these are remote parking spaces (defined as parking spaces located further than 5 to 8 blocks from the project site), a van pool shuttle service from the remote parking spaces to the project site would be provided by the Applicant to accommodate the construction employees.

If an existing developed parking lot is utilized for the up to 20 additional parking spaces in Phase 3, the Applicant assumes that no Parking Development Plan (PDP) would be required, but the ability of the parking lot owner to lease or rent spaces to the Applicant in terms of existing entitlements imposed by the City, would be verified with the City in advance of negotiating any lease or rental agreement. To utilize the existing parking spaces, the Applicant, in conjunction with the parking lot property owner, would obtain all required approvals and entitlements, if needed, from the City and make any required modifications to conform to City codes, the certified EIR, and any requirements as a result of the ballot measure. If this option is implemented for the proposed project, there would be no change in the land use and, therefore,

no potential environmental effects as a result of the use of the existing parking area for temporary parking for the proposed project. If a lease or rental agreement is executed (regardless of whether the parking is within walking distance or if a van pool shuttle service would be provided), the Applicant would provide the City with any required documentation that demonstrates that the parking spaces would be available during the temporary construction and drilling activities for the proposed project, including the location of the parking and any entitlement documents demonstrating the right to use the parking.

If required by the City, a Parking Development Plan (PDP) and any other requirements would be prepared for the parcel at 636 Cypress Avenue for the off-site temporary parking area and submitted to the City for review and approval. The PDP would address the current use of the property and the requirements of the City's Municipal Code related to the development of the parcel as a parking lot and factors required for consideration when granting a PDP. To address the potential environmental effects of the development of the property(s) as a parking lot, the design of the parking area would comply with the following typical City requirements for the provision of parking lots:

1. All parking lot design elements, spaces, dimensions, driveways, and improvements shall comply with the Hermosa Beach Municipal Code Chapter 17.44.
2. Depending on the land use and zoning of adjacent properties, a 6-foot masonry wall may be required. The wall would be painted an appropriate color and a building permit would be obtained prior to construction of the block wall, if required.
3. A landscape and irrigation plan for the parking lot would be submitted to the Community Development Director for review and approval. Landscaping would be installed and maintained per the approved plan and the requirements of the Hermosa Beach Municipal Code, including Chapters 8.56 and 8.60 prior to the use of the site. This includes the requirements for water usage for landscaping.
4. Prior to issuance of a building permit or commencement of construction if a building permit is not required, a drainage plan would be submitted for review and approval by the Public Works Department, to demonstrate compliance with required measures for spillage, urban run-off prevention, and locations of storm water facilities.
5. A Standard Urban Stormwater Management Plan (SUSMP) pursuant to Hermosa Beach Municipal Code Chapter 8.44 would be submitted for review and approval by the Director of Public Works prior to paving or construction commencing on-site. The facilities described in the SUSMP would be designed to incorporate elements to maximum on-site retention of runoff, including such features as permeable paving, infiltration, and/or drainage to landscaping.

The SUSMP would address requirements to maintain the parking lot free of debris and contaminants and no runoff from washing and/or rinsing of the parking lot would drain off-site or to the storm water system. All features of the SUSMP shall be perpetually maintained.
6. The Applicant shall be responsible for any off-site construction within the right-of-way. Any required construction would protect private and public property in compliance with

Sections 15.04.070 and 15.04.140 of the City's Municipal Code. An Encroachment Permit approved by the Public Works Department would be obtained prior to any construction in the City's right-of way and would identify required pedestrian protection, per all applicable City Municipal Code sections.

7. Parking lot lighting shall be provided so that the effects would be reduced for the neighboring residences while providing adequate site illumination in compliance with Section 17.44.160(c). A lighting plan (including installation, maintenance, and operations) would be submitted to the Community Development Director and would include the following features:
 - a. Light standards shall be shielded and down cast so fixtures do not create glare or spill beyond the property lines. Light fixtures will be designed and installed so the light is reflected away from any dwelling unit and the lamp bulb is not directly visible from within any residential unit. Yellow spectrum lamps such as sodium lamps will not be utilized.
 - b. All lighting exceeding low energy lights not more than three (3) feet above grade shall use automated external lighting controls and shall be extinguished between 11:00 p.m. and 6:00 a.m.
8. A trash receptacle with enclosed lid (approved by the Community Development Director) shall be installed prior to operation and, to the extent applicable, shall comply with Chapter 8.12. The container will be maintained in good repair. Trash removal shall be accomplished by Athens Services.
9. The premises shall be maintained in a neat and clean manner and maintained free of graffiti and litter at all times.
10. Noise emanating from the property shall be within the limitations prescribed by Chapter 8.24 and shall not create a nuisance to surrounding residential neighborhoods, and/or commercial establishments.
11. If the use of the property as a parking lot is terminated, any future proposed use shall be subject to review and approval by the City. Any reuse or conversion to an alternative use would be subject to all applicable land use and zoning requirements, including possible discretionary actions.

In order for the parking area to be constructed, the demolition of any buildings would occur in advance of the construction activities defined for Phase 1: Site Preparation of the proposed project. This would allow for any demolition and construction activities to occur while the City Maintenance Yard relocation activities are occurring and would avoid the overlap of demolition/construction with the Phase 1: Site Preparation activities defined for the proposed project. The Project Applicant would obtain the required City permits, including a demolition permit and building permit, and comply with the requirements of the City (including the Municipal Code related to the hours of construction and demolition debris diversion) and the requirements of any potential responsible agencies.

Whether the temporary parking spaces are provided on the parcel adjacent to the western boundary of the project site or, in the case of the up to 20 additional temporary parking spaces that may be leased or rented in Phase 3 and that property is located adjacent to the project site (within 5 to 8 blocks) or is remote (further than 5 to 8 blocks), the vehicle trips as a result of the temporary parking during Phases 1, 2, 3, and the drilling portion of Phase 4 of the proposed project would not result in a change in the conclusions of the Traffic Impact Assessment (TIA) provided as Appendix M of the Planning Application related to passenger cars. The TIA identified typical travel routes to the project site that would be potentially utilized by employee traffic during all phases of the proposed project. In addition, the TIA analyzed local roadways that had the potential to be impacted by employee traffic and found that the proposed project would not contribute to the degradation of any roadway segment or intersection that currently operates at or above a Level of Service C. For any roadway segment or intersection that was operating below Level of Service C, the proposed project's contribution to the roadway segment or intersection was insignificant. Any parking properties located within walking distance of the project site would not result in a change in this conclusion and, if a remote parking area was identified and van pool shuttle services were utilized, then the proposed project's contribution of vehicle trips would be less than what was analyzed in the TIA.

Long-Term Parking During Ongoing Project Operations

The long-term parking during the ongoing operation of the proposed project in Phase 4 would be accommodated on the project site in four marked parking spaces. If needed for the maintenance activities throughout the life of the proposed project, additional parking would be accommodated on-site along the perimeter wall. Figure 3 provides the conceptual parking plan for Phase 4 which indicates the location of the four permanent on-site parking spaces and the location of additional parking spaces that could be utilized at any time during maintenance operations, depending on the maintenance activities. No additional off-site parking would be required for long-term project operations.

Replacement of Public Parking Spaces with Relocation of City Maintenance Yard

The relocation of the public parking spaces at the City Maintenance Yard as well as the public parking spaces on the south side of 6th Street requires a coordinated approach between the Applicant and the City. The lease between the City and the Applicant includes provisions with respect to the "Temporary and Permanent Relocation of the City Maintenance Yard." (Lease, Section 13). Section 13 of the lease sets forth the schedule for the temporary and permanent relocation of the City Maintenance Yard by the City and describes payments by the Applicant to the City for the City's costs to relocate the yard on a temporary and permanent basis. Specifically, with respect to the permanent relocation of the City Maintenance Yard, Section 13.d of the lease states:

"Simultaneously with the commencement of the Drilling and Production Phase, Lessee shall establish and fund an interest-bearing trust account in the amount of Five Hundred Thousand Dollars (\$500,000.00) for advancing costs which will be experienced by the City to permanently relocate the Yard"

(Section 13 includes several provisions with respect to the remediation of environmental conditions, but also discusses the relocation of the City Maintenance Yard in its entirety.) Any approach for addressing relocation of the parking associated with the City Maintenance Yard must be consistent with the terms of the lease.

When the California Coastal Commission considered the Macpherson project in 1998, Macpherson had proposed to replace the 12 public parking spaces at the City Maintenance Yard (the number of parking spaces at that time was 12, not 15, as it is today) by providing 12 on-street parking spaces adjacent to the project site. The City had approved that parking plan and it was approved by the California Coastal Commission.

As described above, the provision of the 17 replacement parking spaces for use by the public after hours and on weekends and holidays would be provided in the off-site temporary parking area on a temporary basis, subject to the terms of the lease. With respect to the permanent provision of the 17 replacement parking spaces, the Applicant proposes the following approach. The threshold issue to consider is whether any parking spaces will be provided as a part of the City's relocation of the City Maintenance Yard. The City Maintenance Yard currently includes 15 parking spaces that are utilized by City employees and others for Yard operations, and these spaces are available for public use only on weekends and at night. Any new location for the City Maintenance Yard activities will also require parking for Yard operations, and those parking spaces could be utilized as permanent public parking spaces on weekends and at night, similar to how the existing parking spaces are utilized. If the replacement spaces are provided in this manner with the relocation of the City Maintenance Yard, the Applicant would be bound by the provisions of the lease regarding payments to the City for its costs to relocate the City Maintenance Yard.

If the relocation of the City Maintenance Yard does not provide for the relocation of the public parking spaces, then the Applicant proposes to provide 15 replacement public parking spaces as well as the additional two public parking spaces prior to the commencement of the project, subject to the provisions of the lease regarding Applicant's payments for the City's costs to relocate the City Maintenance Yard. The Applicant proposes to provide these replacement public parking spaces by utilizing the parking spaces provided by the Applicant at the off-site temporary parking area or by providing other suitable public parking spaces acceptable to the City in coordination with the City's parking program consistent with the requirements of the City and the California Coastal Act, all subject to the terms of the lease.

Additional details for providing these parking spaces consistent with the framework identified in this parking plan would be provided after the election on the ballot initiative, and with sufficient time for the City and the California Coastal Commission to review the parking plan to ensure its consistency with the development standards, the CEQA documentation, and the ballot measure before the California Coastal Commission gives final approval for the Coastal Development Permit.

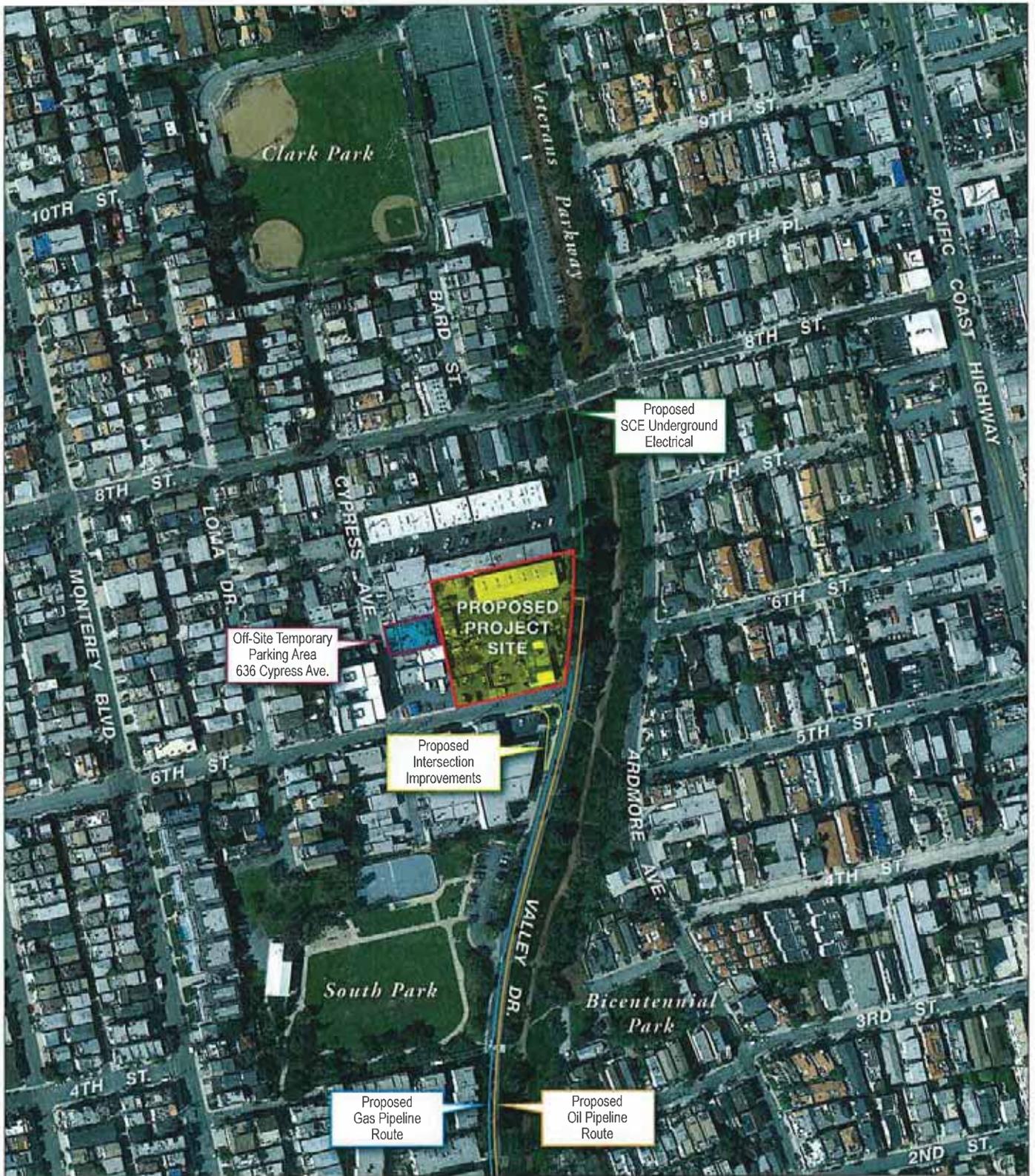
**E&B OIL DEVELOPMENT PROJECT
ESTIMATED OFF-SITE PARKING DEMAND BY PHASE**

PHASE/ACTIVITY THAT GENERATES PEAK PARKING DEMAND	NUMBER OF EMPLOYEES	NO. OF OFF-SITE PARKING SPACES NEEDED	COMMENTS REGARDING PARKING ACTIVITIES
Phase 1 (Peak Overlapping Activities)			
• Construct 6-foot chain link fence	4	0	Employees for construction of fence will not require parking since this is a short-term activity (1 week) conducted by contractor.
• Construct well cellar	8	8	Employees will park in the off-site temporary parking area.
• Install electrical service (install 280 linear feet from 8 th Street to project site and install onsite electrical equipment)	15	12	Some employees for the installation of the electrical service will arrive in electrician vehicles to be parked on the project site. The remaining employees will park in the off-site temporary parking area.
Total number of parking spaces needed for Phase 1		20	
Phase 2 (Peak Overlapping Activities)			
• Install temporary oil, water, and gas handling equipment	12	12	Employees will park in the off-site temporary parking area.
• Drill three test wells and one water injection well	5 per shift	4	Drilling will occur 24 hours per day; employees will work in two 12-hour shifts and carpool from their place of lodging. The provision of four parking spaces will account for carpooling and allow for the overlap of arriving and departing employees. Employees will park in the off-site temporary parking area.
Total number of parking spaces needed for Phase 2		16	
Phase 3 (Peak Overlapping Activities)			
• Construct extension of first well cellar and all of second well cellar	15	15	Refer to comment below regarding overlap with "Construct or Install On-site Facilities." Employees will park in the off-site temporary parking area.

**E&B OIL DEVELOPMENT PROJECT
ESTIMATED OFF-SITE PARKING DEMAND BY PHASE (CONTINUED)**

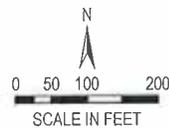
PHASE/ACTIVITY THAT GENERATES PEAK PARKING DEMAND	NUMBER OF EMPLOYEES	NO. OF OFF-SITE PARKING SPACES NEEDED	COMMENTS REGARDING PARKING ACTIVITIES
<ul style="list-style-type: none"> Construct 16-foot split-face block perimeter wall 	20	20	Refer to comment below regarding overlap with "Construct or Install On-site Facilities." Employees will park in the off-site temporary parking area.
<ul style="list-style-type: none"> Remove 16-foot noise attenuation wall 	5	0	Employees for removal of noise attenuation wall will not require parking since this is a short-term activity (1 week) conducted by contractor.
<ul style="list-style-type: none"> Construct or install on-site facilities: <ul style="list-style-type: none"> Small office building Permanent oil and gas production equipment Permanent site utilities Final improvements for site access and paving of onsite surface area 	5 - 35	5 - 35	First four weeks of this activity will require five employees and the last nine weeks will require 10 employees. The peak of 35 employees will not overlap with other activities on-site or adjacent to project site. Of these employees, 20 will park in the off-site temporary parking area and the remaining up to 15 employees will park at an area that is leased or rented.
Total number of parking spaces needed for Phase 3		40	
Phase 4 – Short-term Drilling Activities (31 Months)	5 per shift	4	Drilling will occur 24 hours per day; employees will work in two 12-hour shifts and carpool from their place of lodging. The provision of four parking spaces will account for carpooling and allow for the overlap of arriving and departing employees. Employees will park in the off-site temporary parking area.
Total number of parking spaces needed short-term for Phase 4		4	
Phase 4 – Ongoing Operations <i>No off-site parking spaces would be needed</i>	NA	0	
Total number of parking spaces needed long-term for Phase 4		0	

Prepared by Northcutt & Associates, March 7, 2013, updated December 23, 2013.



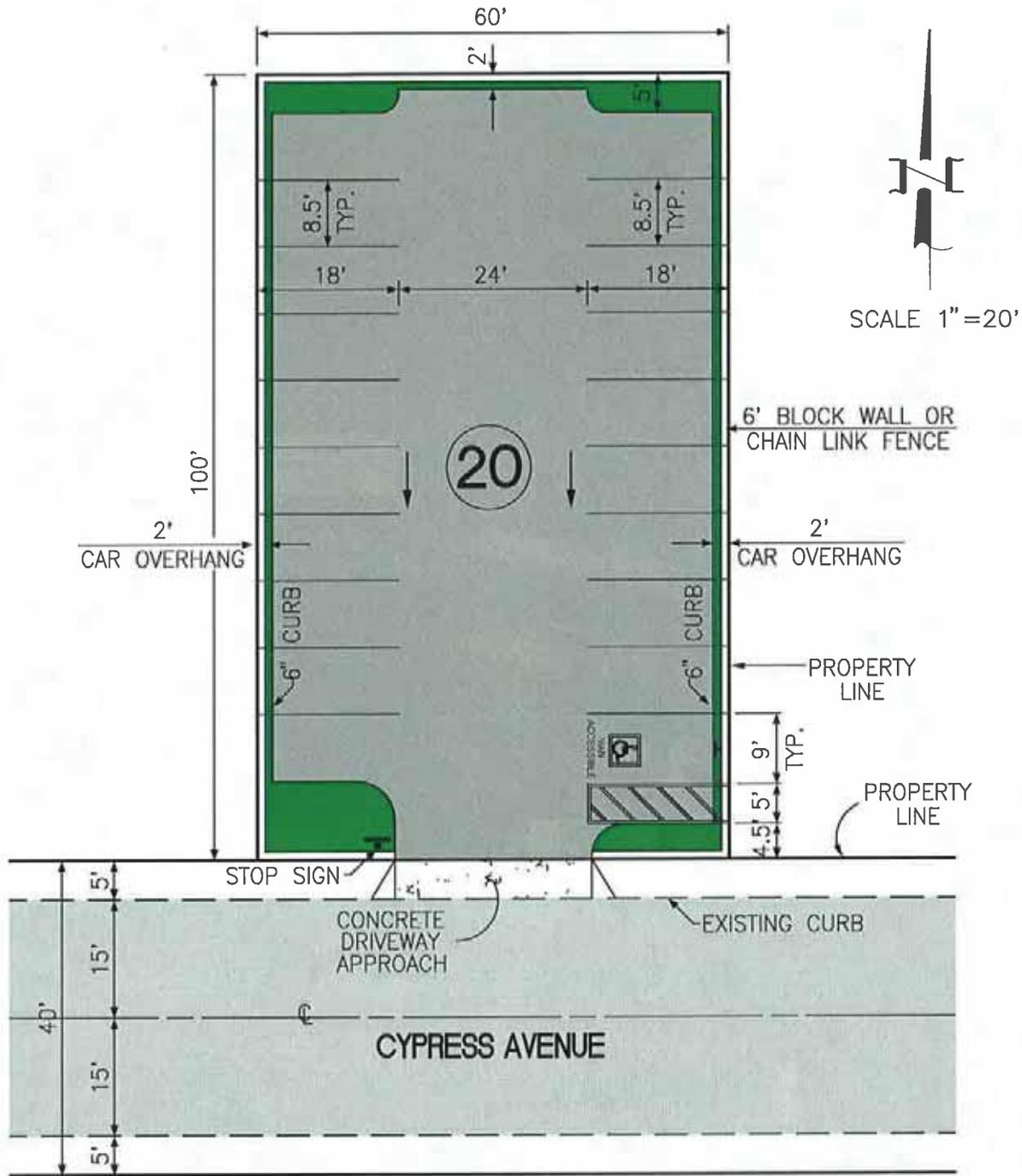
Source: Northcutt & Associates; Google Earth aerial dated March 7, 2011.

E&B Natural Resources
www.EBNR-Hermosa.com



E&B Oil Development Project

Figure 1
Location of Off-Site
Parking Area



- NOTES:
1. LANDSCAPE AREA 819 SF 14%
 2. PAVED AREA 5,181 SF 86%
 3. SURFACE DRAINAGE →
 4. LANDSCAPE TO BE CONSISTENT WITH MUNICIPAL CODE CHAPTERS 8.56 AND 8.12

Source: MDS Consulting, January 31, 2013.

Figure 2
Conceptual Site Plan/Parking Plan

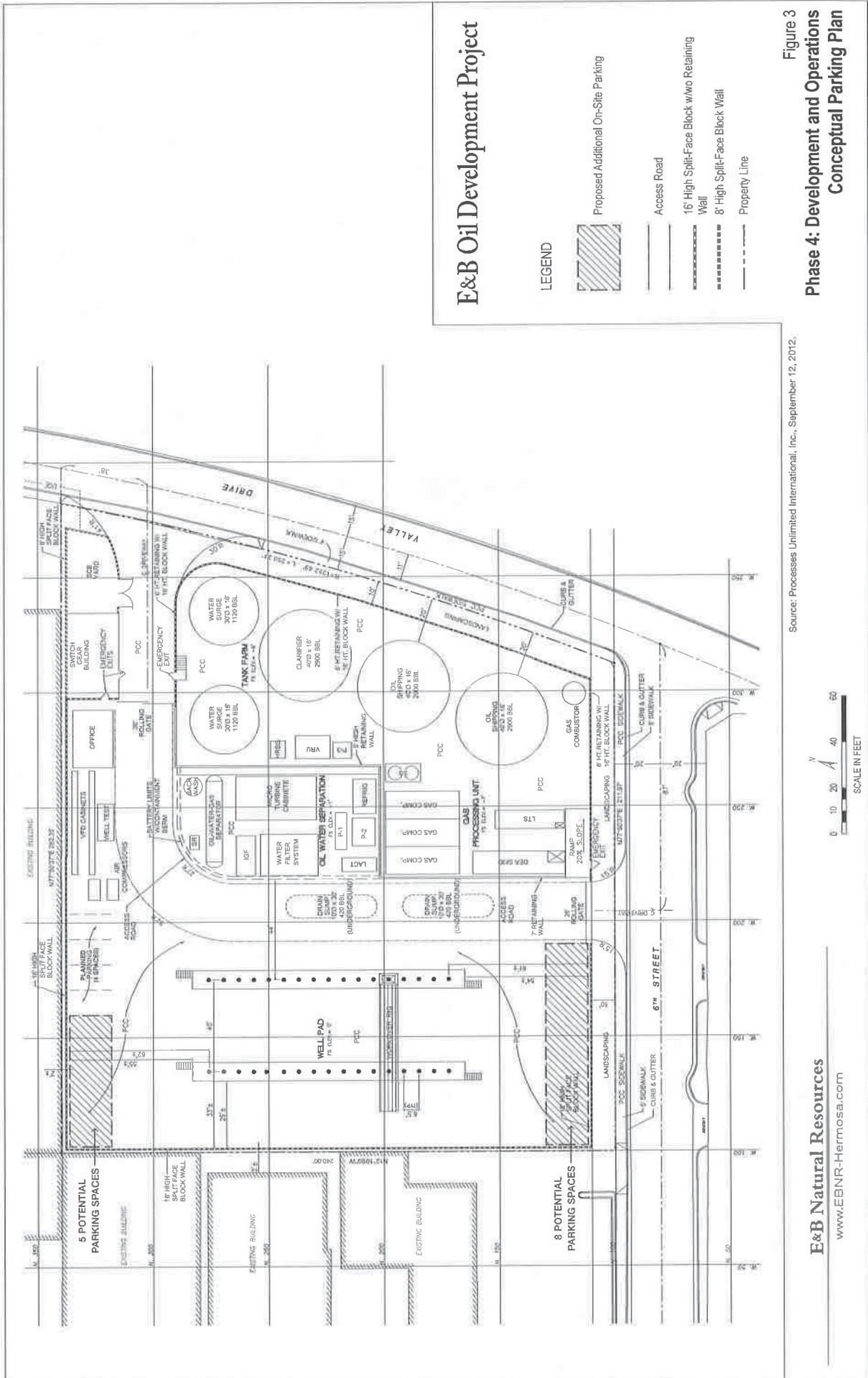


Figure 3

APPENDIX A

E&B
Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

December 10, 2013

Ken Robertson, AICP, Director
City of Hermosa Beach
Community Development Department
1315 Valley Drive
Hermosa Beach, CA 90254

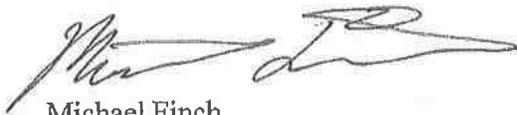
Re: E&B Oil Development Project

Dear Mr. Robertson:

E&B Natural Resources Management Corp. ("E&B") is writing to advise the City of Hermosa Beach ("City") that on November 18, 2013, E&B entered into an option agreement with Gordon D. Bracy and Tracey L. Bracy, Trustees of the Gordon D. Bracy and Tracey L. Bracy Trust ("Bracy Trust"), to purchase the real property located at 636 Cypress Avenue in the City ("Cypress Property"). E&B intends to use the Cypress Property to support the construction of the proposed oil development project, which will be further described in separate correspondence from E&B to the City. The trustees of Bracy Trust have signed this letter below to provide confirmation to the City of the existence of the option agreement between E&B and the Bracy Trust for the Cypress Property.

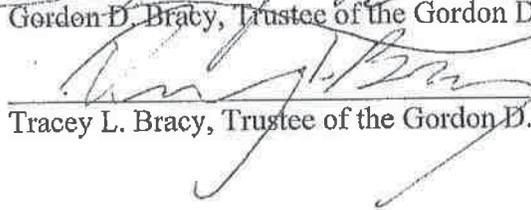
If you should have any questions regarding this option agreement or any other matter regarding the proposed oil development project, please do not hesitate to contact me.

Very truly yours,

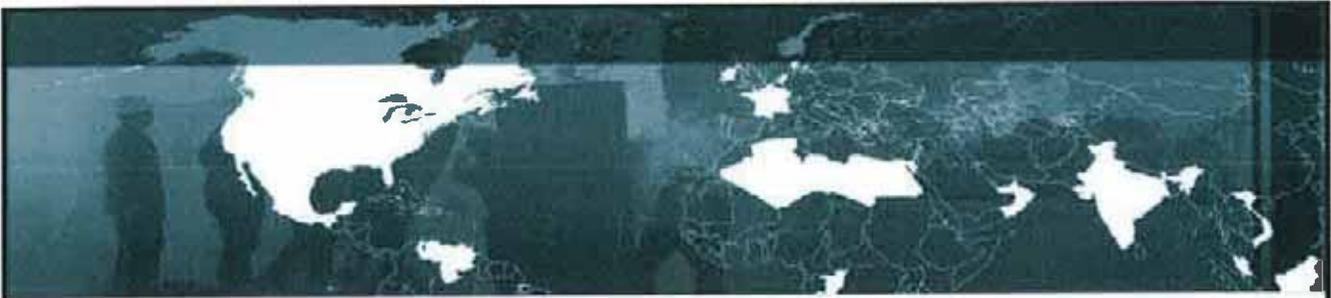


Michael Finch
Vice President of Health, Safety, Environmental & Government Affairs
E&B Natural Resources Management Corp.

We hereby acknowledge the existence of the option agreement described in this letter:


Gordon D. Bracy, Trustee of the Gordon D. Bracy and Tracey L. Bracy Trust
Tracey L. Bracy, Trustee of the Gordon D. Bracy and Tracey L. Bracy Trust

Attachment 7



E&B Natural Resources

Boots & Coots

a Halliburton Company

Analysis of Potential Well Flow during Drilling Operations

REPORT RELEASE DATA SHEET

Discharge Rate and Well Control Analysis

Distribution : E & B Natural Resources Boots & Coots Services	Date : April 2014 Pages : 10 Revision : 05
Client : E & B Natural Resources	Client Reference : Service Order :
Authors : Dr. Arash Haghshenas Don W. Shackelford, P.E.	Signatures :
Reviewed by : John B. Garner, P.E.	

Prepared for: E&B Natural Resources Management

Document Date: April, 2014

Document Version: 1.0

Submitted by:

Boots & Coots International,
Inc.
7047 W. Greens Rd.

Confidential:

This report is a confidential document. The report may not be altered or edited in any way or otherwise copied for public or private use without written permission.

Abstract:

This report provides the basis of the design and simulation for analysis of a blowout condition and cumulative flow from a well with three formations capable of flow during drilling.

Contacts

<p>Boots & Coots 7047 W. Greens Rd. Houston, TX 77066 1.800.BLOWOUT www.bootsandcoots.com</p>	Name	Email
	Dr. Arash Haghshenas	arash@boots-coots.com
	Don W. Shackelford, P.E.	donwshackelford@yahoo.com
	John B. Garner, P.E.	jgarner@boots-coots.com

1 EXECUTIVE SUMMARY

Don Shackelford was contacted by Michael Finch with E&B Natural Resources to provide realistic scenarios for loss of well control during drilling operations. Shackelford then involved Boots & Coots for providing well control analysis and determining flow discharge from a well in Hermosa Beach during drilling development.

The approach was to identify a worst-case scenario based on the available data and develop a numerical model to estimate discharge analysis. The discharge analysis is based on a discharge scenario from all formations capable of producing during the drilling operation.

2 BASIS OF DESIGN

E&B Resource Management contacted Don Shackelford to explore well calculations for a project proposed for a Hermosa Beach lease. E&B had received an Environmental Impact Report (EIR) from the city of Hermosa Beach.

Boots & Coots (B&C) was requested to review the city of Hermosa Beach's information and calculations in the EIR and provide an independent determination of the most realistic blowout scenario.

Contained within the EIR was a calculation of a blowout flowrate. The model used in the EIR consisted of a 10 inch diameter pipe 1000 meters long filled with methane gas at a pressure of 1000 psi. Flow began when a 3 inch diameter hole appeared at the surface. The EIR model results indicated an initial blowout rate of some 42 kilograms per second of gas.

The well bore condition and geometry used for this calculation in the EIR is not consistent with historic information from wells drilled at Redondo Beach which is adjacent to Hermosa Beach.

In order to further evaluate the initial blowout rate in the EIR, two independent numerical simulation models were used by Boots & Coots to study the effect of the discharge from multiple reservoirs on the total discharge volume. The numerical simulation consists of the following modules:

- Well trajectory and geometry modules to determine the flow path geometry
- Reservoir performance module to determine the fluid influx from various sections of the wellbore
- Reservoir fluid (oil and gas) properties
- Multiphase flow models
- Surface exit flow analysis
- Numerical solver module for calculating flowing bottomhole pressure and fluid influx rate from each reservoir

A numeric simulation is a series of advanced calculations, follow strict mathematic and scientific principles to develop an understanding of physical activities and evaluate consequences of varying environmental conditions. Examples of a numeric simulation include space flight, automobile crash-impact studies, oil blowout studies and other physical activities where actual testing is prohibitive.

The models Boots & Coots used are dynamic models, which take into account variations over an extended duration called a time step. The time step is flexible as an input to the program. In the

first step, the numerical simulator determines the blowout rate for a given reservoir pressure by performing calculations for the flowing bottom hole pressure. The simulator recorded the flow of oil and gas from each reservoir and calculated the combined volume of fluids from each reservoir.

The numerical calculation considers fluid flow through the reservoir into the wellbore. The fluid then moves through the wellbore and is released into the atmosphere. The presence of any restriction in the wellbore is not considered which results in higher gas and oil discharge into the atmosphere than if a restriction were present. Therefore, the model considers the natural flow of formation fluid and provides results which would tend to be on the high side.

The procedure of considering the reservoir as a restricted flow from a container at the surface is an over simplified scenario, which does not consider the natural energy loss of the flow to the surface. Hence, the discharge result will be exaggerated for a normal drilling operation. In reality, the energy loss of the flowing fluid and probable slugging of the fluid in the wellbore reduces the discharge rate significantly.

A summary and validation of Boots & Coots work is presented in the following sections.

3 COMPARISON AND VALIDATION

The validation of Boots & Coots numeric simulation was performed by comparing the result at the initial condition to a recognized multiphase flow model. The commercial software used for the validation analysis was OLGA ABC. OLGA ABC is a fully-transient multiphase flow model used for a variety of applications including production analysis and pipeline design.

The proprietary program used by Boots & Coots is named QUAD. The QUAD computational methodology incorporates finite element analysis to model hydrodynamic conditions that was utilized and refined over a thirty year period that Boots & Coots personnel developed. It has a 30 year track record of accurate blowout estimation and control analysis.

A blowout discharge scenario was defined and the conditions input into both applications. The results of OLGA ABC were compared against Boots & Coot's QUAD application to establish validity of results.

OLGA ABC does not allow any change in a number of variables whereas QUAD allows any variable to be changed. For applications such as the E&B Resources Hermosa Beach project QUAD allows increased accuracy and flexibility to account for variables which cannot be altered in the OLGA ABC program. Table 1 below shows the comparison between OLGA ABC and QUAD with the validation data. OLGA ABC was chosen as a reference as it is widely used and accepted within the oil and gas industry.

Table 1 – Comparison of flow analyses

Program	Total blowout rate bpd	Flowing bottomhole pressure psi
%difference	2.4	1.3

The OLGA ABC software assumes a fluid is initially in the wellbore and then allows the formation to unload the well. The flow from the reservoir enters the wellbore due to the pressure differential between the reservoir and the hydrostatic pressure of the fluid in the wellbore. Figure 1 shows the schematic of the wellbore unloading during a

well control situation if no action is taken at the well. As the formation fluid enters the wellbore, it reduces the hydrostatic pressure further and speeds up the unloading process. At the time that the initial wellbore fluid is unloaded from the well, the flow reaches a steady state condition.

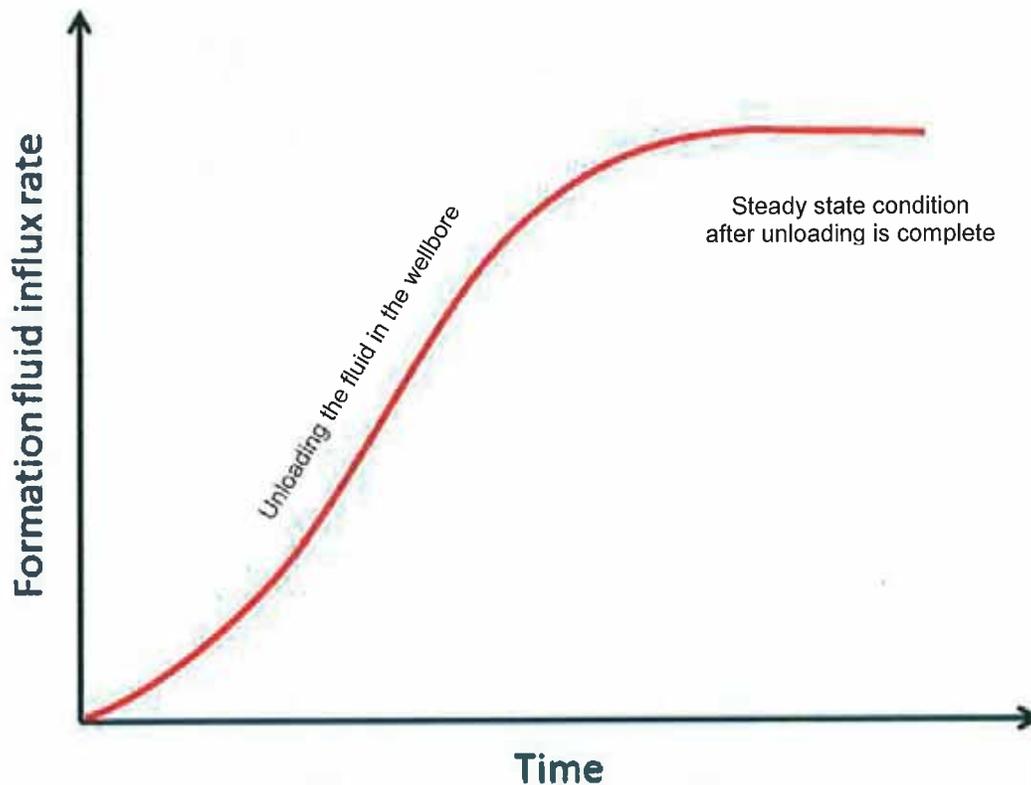


Figure 1 – Schematic of wellbore unloading during well control condition

Unlike OLGA ABC, QUAD begins the calculation process once the well is unloaded and at a steady state condition. It does not consider the unloading process. In actuality well unloading could take hours depending on the flow path, depth, surface and well bore restrictions, and well bore volume to reach a steady state condition.

4 INPUT PARAMETERS AND RESULTS

The input data for the modeling was based on the available reservoir data and the planned drilling program.

4.1 Wellbore trajectory

The planned wellbore trajectory is provided in **Table 2**.

Table 2 – Proposed wellbore trajectory

Measured depth, ft	Inclination angle, deg	Azimuth, deg
0	0	231.76
450	0	231.76
500	2	231.76
700	10	231.76
900	18	231.76
1100	26	231.76
1300	34	231.76
1500	42	231.76
1700	50	231.76
1900	58	231.76
2100	66	231.76
2300	74	231.76
2500	82	231.76
2591	85.64	231.76
4804	85.64	231.76
4900	83.72	231.94
5000	81.73	232.12
5100	79.74	232.3
5300	75.75	232.67
5500	71.77	233.06
5700	67.79	233.46
5800	65.8	233.67
6000	61.8	234.11
6200	57.84	234.59
6244	56.95	234.7
7571	56.95	234.7

4.2 Wellbore Geometry

The well plan considers setting a 9 5/8", 36 lb/ft casing at the depth of 1,000 ft and then drilling to the total depth of 7,571 ft with an 8 1/2" bit.

4.3 Reservoir fluid properties

The production data from an offset reservoir indicated oil reservoirs with gravity as low as 18° API to 25° API. As a conservative measure, the reservoir fluid was considered to be 25° API which is more volatile and less viscous and results in higher discharge rates.

The average gas oil ratio (GOR) of the reservoir fluid was considered to be 375 scf/bbl, which was the average GOR of the offset well data for the initial production period.

It was assumed that the bubble point of the reservoir fluid was 1200 psi.

The thickness of the flowing section of each reservoir was considered to be 100 ft, which is a conservative value and provides a higher discharge rate. This estimate is based on the thickest section of each reservoir through the field.

4.4 Results

The discharge rate during the drilling operation considered flow from all reservoirs with no restriction through the flow path and this situation would be true prior to the initiation of completion operations.

Sensitivity analysis was performed on the reservoir permeability to determine the worst-case scenario for discharge simulation. The worst-case scenario was considered with reservoir permeability of 240 md (millidarcy) for the Upper Main formation and 60 md for the Lower Main and the Del Amo zones.

The maximum initial oil flow rate from the well is calculated to be 3012 bpd and the initial gas flow rate of 1.13 MMscfd. **Table 3** presents the summary of the result.

Table 3 – Summary of flow discharge from reservoirs

Maximum oil rate, bpd	3012
Maximum gas rate, MMscfd	1.13

4.5 Comparison of Boots & Coots with MRS Values

Table 4 – Comparison of Boots & Coots and MRS Values

Description	Boots & Coots Value	MRS Value
Gas Flow	0.266 Kg / second Or 0.585pounds per second Or 1.13 MMSCF per Day	42 Kg / second Or 92.4 pounds per second Or 179 MMSCF per Day
Oil Flow	3012 Barrels per Day	0 Barrels per Day

It is Boots & Coots opinion that the blowout flow calculations in the EIR incorrectly overestimate the most realistic blowout flow during drilling operations and is based on an unrealistic scenario. This is based on Boots & Coots experience and research of technical and historic data of the reservoirs of the Hermosa Beach field.

To develop the most realistic blowout flow estimate, Boots & Coots utilized two different numeric modeling applications; one Boots & Coots proprietary application QUAD and a second commercially available and industry recognized application, called "OLGA ABC"

The most realistic blowout flow estimate is based on the following scenarios:

- During drilling operations, it is improbable that a gas filled well bore would develop.
- A maximum of 3 zones capable of flowing could be exposed based on the geology of the Hermosa Beach development

Attachment 8

Technical Note #3a
REVIEW OF MRS BLOWOUT FREQUENCIES

By: Bercha International Inc.

March 24, 2014

1. Summary

This report summarizes the results of a review by Bercha International Inc. (Bercha) of the basis of blowout frequency calculations presented in Section 4.8 and Appendix C of the Draft Environmental Impact Report by Marine Research Specialists (MRS). The following conclusions from the review are reached:

- The MRS report uses offshore well release frequencies of 5.2 per 1000 wells or 5.2 E-03 per well drilled. The appropriate and correct frequency that they should use for the subject project based on offshore well blowouts is 1.59E-04 per well drilled or 1.59 blowouts per 10,000 wells drilled. The value used by MRS is $5.2 \text{ E-03} / 1.59\text{E-04} = 3.27 \text{ E01}$ or 33 times greater than the appropriate applicable value for offshore oil well drilling blowouts.
- Bercha used a more conservative onshore well drilling blowout frequency developed from current statistics of 4.95-04 per well drilled or 4.95 per 10,000 wells drilled. Use of the MRS fault tree with Bercha blowout frequency and adjustment for the higher class BOP to evaluate blowout frequency gives a result 21 times lower than MRS,
- Contrary to MRS claims that Bercha did not consider well drilling and pool fire risks, the Bercha report states that neither created offsite risks, and directs MRS to the section in the Bercha report where blowout frequencies and consequences are analyzed and described.
- In review of the MRS fault tree it was found that many of the input values such as PSV failure rates are based on obsolete pre-1990 sources (the PSV rate is based on a 1975 publication), giving frequencies up to 2 orders of magnitude higher than the current publicly available sources. It is recommended MRS review the sources of their frequencies, and consider using the Bercha sources, all of which are in the public domain and referenced in the Bercha report.
- Use of the MRS fault tree with the appropriate blowout frequencies gives a Scenario 1 (drilling blowout) frequency with the recommended onshore input as 2.99 E-04/yr which is 20.6 times lower than the MRS rate of 6.18E-03/yr, while use of the appropriate offshore blowout frequency of 1.59E-04 then Scenario 1 would have a rate of occurrence of 1.93 E-04 or a rate 32 times lower than that given by MRS.
- Plotting of the MRS risk spectrum using the correct protocol for use with the Santa Barbara public risk thresholds will show that it nowhere exceeds the Grey region.

2. MRS Blowout Frequency Statistics

In table 4.8-67 of [7], MRS provide various measures of blowout frequencies from various sources. On page 67 they state that the BOEM rate for offshore drilling blowouts is used as it is the most conservative. The rate used is that for both blowouts and well releases and hence is not appropriate for blowouts. This MRS rate used is 5.2 per 1000 wells or 5.2 E-03 per well drilled. It is not clear why the rate of offshore drilling well control incidents rather than onshore or offshore drilling blowouts is used, except that MRS chose the highest rate they could find. Later MRS uses this rate in a fault tree to estimate drilling blowout and other well area releases, as discussed and corrected in Section 5 below. hereof.

3. Offshore Drilling Blowout Frequencies

The offshore blowout frequencies cited by MRS are in fact for well releases (not blowouts), giving frequencies for a significantly different class of wells than those under consideration for the subject project. The drilling procedure proposed by E&B, including a Class III BOP with shear rams, qualifies for the North Sea standard. Accordingly, if offshore blowout rates are to be used, those applicable to a similar standard as that proposed here should be utilized. Table A.1 in Attachment A summarizes the results of a third party analysis of the SINTEF data [8] for a range of different well types in the context of the type of drilling procedure proposed here. It can be seen that the frequency used for blowouts by MRS of 5.2 E-03 is the same order of magnitude (but numerically higher) than that of normal wildcat well drilling well releases (not blowouts) of 1.8 E-03. Well releases are not blowouts; they are temporary flows from the well controlled by the drilling equipment barriers, and occur much more frequently than blowouts. Wildcat wells are not relevant to the subject wells either. The statistic which MRS should use, if indeed these are offshore type wells, is that for blowouts during drilling of normal deep offshore development oil wells given in A.1 as 1.59E-04 or 1.59 per 10,000 wells drilled. The value used by MRS is 5.1 E-03/1.59 E-04 = 32 or 32 times greater than the appropriate applicable value for offshore oil blowouts.

4. Onshore Drilling Blowout Frequencies

Numerous databases on oil and gas well blowouts are available, including the Alberta energy and Utilities Board (AEUB) data [3], and the International Association of Oil and Gas Producers (OGP) [6] databases. In addition the treatise by Hauser [5] on California oil and gas well blowout history gives values similar to those of the OGP, as does the 1990 publication by the California Department of Conservation [3], which was used in the 1998 risk analysis of a Hermosa Beach project by Bercha. All of these databases, however, provide blowout frequency data for a large and diverse population of oil and gas wells, rather than only the types of wells that are under consideration here. In addition, it is anticipated that the oil and gas emulsion which would be produced is highly viscous, requiring downhole pumps in order to produce the reservoir fluids to surface, reducing the likelihood of any kicks from the reservoir. And finally, during the drilling phase, the blowout preventer (BOP) used is Class III BOP equipped with shear rams, of a significantly higher specification and capability [1] than what is commonly used in heavy oil onshore drilling operations. In addition the project incorporates the certification of a third party engineer of the drilling program and testing (actuating) of the BOP shear rams prior to

use. Accordingly, the data published on the basis of standard oil and gas drilling operations requires some adjustments to more accurately reflect the type of operation proposed for the present Project.

OGP [6] in 2010 recommends a value of 4.95 per 10,000 wells drilled as a full onshore oil well drilling blowout frequency. This is somewhat more conservative than that derived by Bercha [2], or given in [3,4] so is used here. However, based on Bercha's study of blowouts [1], a well drilling blowout fault tree (FT) can be used to modify the frequency to better represent that of the subject wells [1]. A discussion of the well drilling blowout FT used by MRS follows in Section 5, while this section is restricted to the Bercha [1] FT. Table 4.1 displays the likely appropriate adjustments based on the historical value for blowouts for each of the primary base events, considering the type of equipment, reservoir, and well fluids for the proposed Project. First of all, we consider the kick. Because the reservoir fluids are likely to be heavy, and downhole pumps are required to bring them to surface, it is unlikely that surface overpressure from kick situations would occur often. A conservative reduction of 50% of the historical frequency has been used. The two events leading to loss of control – the failure of the BOP and flow outside of the casing – have been similarly adjusted. The BOP failure rate has been taken to be 50% of the historical value to account for the higher class of BOP proposed, while the probability that reservoir fluids would flow outside the casing has been reduced by 60%, leaving a value of 40% of the historical estimate. The resultant value of the drilling blowout frequency for the proposed Project used by Bercha, is 1.01 per 10,000 wells drilled.

**Table 4.1 (Table 4.2 of [1])
Well Blowout Frequency per Well Drilled**

Event	Historical Frequency	Project	
		% of Historical	Frequency
Well Blowout	4.95E-04	20	1.01E-04
Kick	4.50E-03	50	2.25E-03
Loss of Control	1.10E-01	41	4.50E-02
BOP Fails	1.00E-02	50	5.00E-03
Flow Outside Casing	1.00E-01	40	4.00E-02

Thus, if onshore well data are to be used, the blowout frequency of 1.01E-04 is recommended. The value used by MRS compared to the appropriate onshore value is $5.1 \text{ E-03} / 1.01\text{E-04} = 1.54 \text{ E01}$ or approximately 50 times greater than a conservative onshore drilling blowout value used by Bercha [1]. In the next section, the use of the base or historical frequency and appropriate offshore frequency for drilling blowouts with the appropriate MRS fault tree (FT) adjustments is discussed.

5. Review and Adjustment of the MRS Fault Tree for Blowouts

Appendix C [7] and subsequent spread sheets provided to the reviewers set out the scenario dominated by drilling blowouts as Scenario 1 of the MRS FT.

First, some general observations on the MRS FT follow:

- The FT is not displayed graphically so that it is difficult to replicate the computational logic solely using Appendix C. A graphic version and explanation is recommended for Appendix C as it is intended for public review. The spread sheets sent later on request facilitated it, but would not be easily understood by the public.
- The FT listing in Appendix C does not correspond to subtrees, again making it difficult to follow without the Excel spreadsheet.
- Probabilities of events used in the MRS FT are generally from outdated sources. Generally pre-1990 failure rates are higher than more current ones, such as 2000-2010 due to improvements in technology, regulation, and operations. As an example, the Wash-1400 study published in 1975 is attributed by MRS to give a failure rate for “PSV fails wide open” of $2.13\text{E-}03/\text{yr}$. The reference used by Bercha [1] for such events, dated 2005, gives a vastly lower rate for PSV failure of $2.0\text{E-}05/\text{yr}$, which is 107 times lower. It is not clear why MRS sought out and used obsolete and outdated references which generally give excessive values, when they could have simply referred to those in the Bercha [1] report, which are current and publicly available.
- Some of the subtrees evaluated give values orders of magnitude lower than dominant ones in the same FT scenario. Such subtrees are redundant and do not contribute to the results. For example, Scenario 1, the drilling blowout subtree dominates with a value of $6.18\text{E-}03$ while the production, workover, pipe-valve, and redrill subtrees total a value in the order of $\text{E-}05$, or 2 orders of magnitude less, causing unnecessary FT clutter.

Use of the MRS FT for blowout probabilities, using the appropriate blowout value identified above can be shown to give significantly lower results than MRS. Table 5.1 gives the adjusted MRS FT for Scenario 1. The following are the only adjustments made:

- The appropriate base value (not adjusted) for onshore blowouts of $4.95\text{E-}04/\text{well drilled}$ established in Section 4 above is used instead of the MRS inappropriate offshore well control incident value of $5.2\text{E-}03$ for event 1a8.
- An adjustment factor of 0.5 to account for the added safety of a Class III BOP with shear rams and the associated drilling safety protocol is added as event 1a15, and included in the product to obtain the Scenario 1 blowout subtree rate.
- No other adjustments are made.

The result is a Scenario 1 occurrence rate of $2.99\text{E-}04/\text{yr}$ which is 20.6 times lower than the MRS rate of $6.18\text{E-}03/\text{yr}$.

If the appropriate offshore blowout rate of $1.59\text{E-}04$ were used, without the added factor of 0.5 (as the offshore rate already includes the higher class BOP use), then Scenario 1 would have a rate of occurrence of $1.93\text{E-}04$ or a rate 32 times lower than that given by MRS.

Table 5.1

Scenario 1 FT for Onshore Blowouts

Ref	Event	Failure Rate or Probability	Units	Number	Event Rate or Probability	Reference	Total Rate
Scenario 1 Wellhead Area Rupture during drilling							
						MRS RATE	6.18E-03
						LOC DURING DRILLING	2.99E-04
1a1	Years of drilling	2.5	number	1	2.5	Based on Applicant Schedule	
1a2	Max number of wellheads during production	30	number	1	30	Proposed number of wells minus water injection	
1a3	Max number of wells drilled in one year	12	number	1	12	Estimated based on applicant data, assumes 30 wells over 2.5 years	
1a4	Number of well workovers in one year	12	number	1	12	Applicant indicates one per well per year	
1a5	Number of re-drills in one year	0	number	1	0	Estimated based on applicant data. No re-drills while drilling. Assume re-drills not pressurized	
1a6	Full bore pipe rupture	9.00E-08	/m.yr	150	1.35E-05	Rijnmond 1981, release of gas upstream of choke valve, estimated at 5m per well	
1a7	Full bore valve rupture	1.10E-06	/valve.yr	60	6.57E-05	release of gas upstream of choke valve, 2 valves per well	
1a8	Pipe leak	2.63E-06	/m.yr	150	3.95E-04	Rijnmond, 1981, for larger pipe, estimated at 5m per well	
1a9	Valve leak	9.86E-06	/valve.yr	120	1.18E-03	Rijnmond 1981, Assume 90% of releases are significant leaks but not catastrophic. Assume 4 valves per well	
1a8	Drilling Phase - blowout-USING ONSHORE UNMITIGATED VALUE	4.95E-04	per well	1	4.95E-04	Onshore BO rate recommended by IAOGP 2010	
1a9	Production phase - blowout	1.40E-04	per well-yr	1.00	1.40E-04	HLID, gas well, uncontrolled blowout per well year. Assumes only pressurized for 30 days after drilling	
1a10	Well Workovers - blowout	7.30E-04	per workover	0	0.00E+00	HLID, workovers gas wells, per workover. No pressure in well during workovers	
1a11	Fraction catastrophic blowouts	3.30E-01	per demand	1	3.30E-01	Fraction loss of well controls that are catastrophic. Based on MMS accident prevention reports for blowouts.	
1a12	Failure to close safety valve	2.09E-02	per demand	1	2.09E-02	CCPS failure to operate on demand, increased by 10 due to well-hole environment	
1a13	Fraction of wells drilled annually that produce blowout potential	3.00E-01	per well	1	3.00E-01	Based on 9 wells out of 30 from Redondo Beach that showed strong+ flow during drillstem tests	
1a14	Days a well stays pressurized after drilling	3.00E+01	per well	1	30	Assumes a well is pressurized 30 days after drilling	
1a15	Class 3 BOP with shear rams mitigation	0.5	per well	1	0.5	Class 3 BOP with shear rams exceeds those used normally and reduces BO frequency	

Implications of these adjustments to the risk spectrum and project safety evaluation are discussed in Section 7. It will be noted that use of the appropriate blowout rates significantly changes the MRS conclusions on project safety.

6. Clarification on Bercha [1] Pool Fire and Blowout Risk Assessment

MRS states on p74 [6], that drilling blowouts and crude oil fires were not assessed in the Bercha [1] report. This is incorrect; all types of well blowouts and possible pool fires were considered and analyzed.

The blowout scenario analysis included the frequency evaluation for drilling, production, and servicing blowouts as reported in Bercha [1] Section 4.2.2 as well as the consequence evaluation in Section 5.6. For all blowouts, the AOF provided as input as described in detail and analyzed for offsite effects in Section 5.6 produced no flammable gas volumes or offsite oil pools so no risk was included or reported for blowouts.

In addition, however, a detailed modelling was carried out for pool oil fires on site, occurring in the wellhead trench or elsewhere. As stated on page 5.9 by Bercha [1], “Pool fires, which could result in the unlikely case that an oil spill becomes ignited, would be entirely contained within the site perimeter, and accordingly, have no offsite impact.” Figure 6.1 below shows the thermal isopleths from a pool fire in the wellhead trench. It was found from this analysis and other on site pool fire analyses that no offsite thermal levels of concern were generated, even without considering the barrier perimeter wall shielding effects. Thus, with the proposed perimeter wall it

is assured no offsite effects of a deleterious nature could occur from pool fires associated with blowouts or other on site spills of oil. The pool fire analysis carried out was reported in an internal report which can be made available]. Details of the modeling of pool fires were not included in the final report [5], as they are not relevant to the risk calculations.

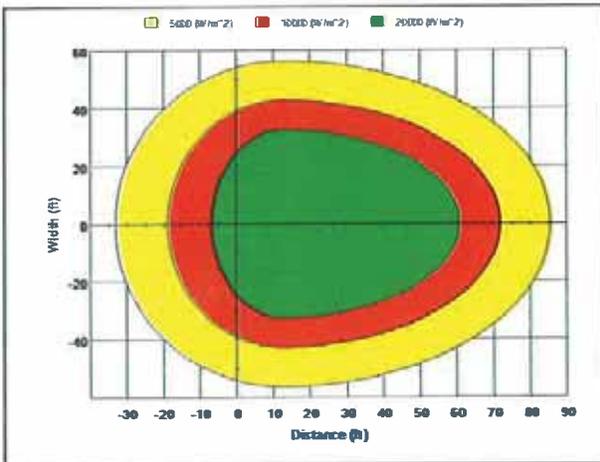


Figure 6.1. Wellhead trench pool fire thermal isopleths.

6. MRS Risk Spectrum with Appropriate Plotting

The protocol for the Santa Barbara risk thresholds is discussed by Bercha [2], where it is indicated the appropriate protocol is a continuous rather than discontinuous graph of the cumulative collective risk. Plotting of the MRS risk spectrum using the correct protocol for use with the Santa Barbara public risk thresholds will show that it nowhere exceeds the Grey region.

REFERENCES

1. Bercha International Inc., "E&B Oil Development Project Quantitative Risk Analysis", Final Report, for E&B Natural Resources Management Corporation, Bakersfield, California. July 3, 2013.
2. Bercha International Inc. "Review of MRS Risk Spectrum," Technical Note 5a, March 22, 2014.
3. Bercha Engineering Limited. "Fault Tree Analysis of Alberta Sour Gas (and Hydrocarbon) Facilities". Final Report, Alberta Energy and Utilities Board. 2006.
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ATTACHMENT A SINTEF BLOWOUT AND WELL RELEASE FREQUENCIES [8]

Table A.1 Summary of Offshore Well blowout and Well Release Frequencies

Operation ^a	Category	Frequency, average well	Frequency, gas well	Frequency, oil well	Unit
(HPHT wells)	Well release	6.43E-03	8.97E-03	1.07E-02	Per well
Wildcat drilling, deep (normal wells)	Blowout	1.60E-04	1.47E-04	1.76E-04	Per well
	Well release	1.63E-03	1.49E-03	1.79E-03	Per well
Wildcat drilling, deep (HTHP wells)	Blowout	6.55E-04	9.13E-04	1.09E-03	Per well
	Well release	6.64E-03	9.26E-03	1.11E-02	Per well
Appraisal drilling, deep (normal wells)	Blowout	1.49E-04	1.37E-04	1.64E-04	Per well
	Well release	1.51E-03	1.39E-03	1.66E-03	Per well
Appraisal drilling, deep (HTHP wells)	Blowout	6.09E-04	8.49E-04	1.02E-03	Per well
	Well release	6.18E-03	8.61E-03	1.03E-02	Per well
Development drilling, deep (normal wells)	Blowout	3.80E-05	3.49E-05	4.18E-05	Per well
	Well release	3.86E-04	3.54E-04	4.24E-04	Per well
Development drilling, deep (HPHT wells)	Blowout	2.36E-04	2.17E-04	2.59E-04	Per well
	Well release	2.39E-03	2.20E-03	2.63E-03	Per well

	k	θ	Median	97.5 - percentile	2.5 - percentile
Full set	2.30	8.07E-05	1.69E-04	4.91E-04	2.75E-05
Last 20 years	1.00	1.09E-04	7.56E-05	4.02E-04	2.76E-06
Last 10 years	1.00	2.21E-04	1.53E-04	8.16E-04	5.60E-06
Last 5 years	1.00	4.62E-04	3.20E-04	1.71E-03	1.17E-05
Last 3 years	1.00	8.40E-04	5.82E-04	3.10E-03	2.13E-05
Selected basis frequency of drilling deep blowout (pr. well)			1.59E-04	208 %	-83 %

The recommended drilling deep blowout frequency is found to be $1.59 \cdot 10^{-4}$ per well drilled.

Attachment 9

Technical Note #3
**MRS LEAK AND RUPTURE RELEASE FAULT TREES AND
RISK SPECTRUM REVIEW AND UPDATES**

By: Bercha International Inc.
April 12, 2014

1. Summary

This report summarizes the results of a review by Bercha International Inc. (Bercha) of the basis of the basis and results of the Fault Tree (FT) calculations presented in Appendix C of the Draft Environmental Impact Report by MRS [5] and the resulting updated project risk spectrum. The following conclusions from the review are reached:

- The MRS FTs as presented in Appendix C for public review are difficult to follow and do not utilize the normal graphic protocol used in FT displays. Active spread sheets provided to the reviewers enabled comprehension of the logic and calculations which were found to be correct.
- Important probabilities of events used in the MRS FT are found to often be from outdated sources. Generally pre-1990 failure rates are much higher than more current ones, such as 2000-2010 due to improvements in technology, regulation, and operations. The resultant MRS frequencies were inevitably much higher than those based on current inputs.
- The most overestimated probabilities were those of drilling blowout releases, which gave a value of over 2000% higher than those using the same FT with appropriate frequency inputs.
- The NRS FT was re-calculated (no changes to protocol or logic) with appropriate current frequency inputs. The updated MRS rupture FT for was found to agree (within 1%) with the results of the Bercha analysis while the updated MRS leak FT gave a slightly but negligibly higher (30%) frequency than the Bercha FT [1].
- Incorporation of the extensive blowout flow calculations [3] utilizing both the hazard distances generated by MRS and Bercha indicate that a drilling blowout will have no significant offsite consequences, and hence no risk. Accordingly, the appropriate comparison of MRS and Bercha gas release frequencies is that of the MRS frequencies excluding drilling with the Bercha frequencies which already exclude drilling. This comparison shows that the updated MRS frequencies are 40% (ruptures) and 31% (leaks) of the comparable Bercha frequencies, confirming that in fact the Bercha analysis gives higher, more conservative frequencies than the MRS analysis with contemporary and appropriate inputs.
- The resultant risk spectra, plotted in accordance with the correct protocol for evaluation with the risk thresholds, show that the original MRS risk spectrum, excluding drilling (as it should) is lower in the Insignificant region than the Bercha spectrum, indicating that by either analysis, the project poses Insignificant risk.

2. MRS Fault Tree General Review

Appendix C [5] and subsequent spread sheets requested by and provided to the reviewers set out the scenario dominated by drilling blowouts as Scenario 1 of the MRS FT.

First, some general observations on the MRS FT follow:

- 2 tables in Appendix C of [7] give a listing of fault tree inputs and results used by MRS. Unfortunately, these tables are neither numbered nor titled, requiring reference to them to be descriptive. The smaller table, with “SUMMARY” in the first row, summarizes the results for each scenario of the FT frequency computations and gives some comparisons to the estimated Bercha values, while the table following provides detailed inputs to the FT analysis and is referred to here as the “Input” table. For convenience these 2 tables, with updates as discussed later, are reproduced in Attachment A, hereto, with Table A.1 corresponding to the “Input” table and A.2 to the “SUMMARY” table.
- Each FT is not displayed graphically I Appendix C or in the MRS report [5], so that it is difficult to replicate the computational logic solely using Appendix C. In accordance with normal risk analysis practice, a graphic version and explanation is recommended, and should be included in MRS Appendix C as it is intended for public review. The spread sheets, sent later on request, facilitated the reviewers’ understanding, but would not be understood by the public. However, the FT logic and formulas were found to be correct.
- The FT event listing below each scenario in the Input table does not correspond to the subtrees for each Scenario, again making it difficult to follow without the active Excel spreadsheet.
- More specifically, important probabilities of events used in the MRS FT in the Input table are often from outdated sources. Generally pre-1990 failure rates are much higher than more current ones, such as 2000-2010 due to improvements in technology, regulation, and operations. As an example, the Wash-1400 study published in 1975 is attributed by MRS to give a failure rate for “PSV fails wide open” of $2.13\text{E-}03/\text{yr}$. The reference used by Bercha [6] for such events, dated 2010, gives a vastly lower rate for PSV failure of $2.0\text{E-}05/\text{yr}$, which is 107 times lower. It is not clear why MRS sought out and used obsolete and outdated references which generally give excessive values, when they could have simply referred to those in the Bercha [1] report, which are current and publicly available.
- Some of the scenario sub-subtrees (component trees in each scenario subtree are called sub-subtrees) evaluated give values orders of magnitude lower than dominant ones in the same FT subtree scenario. Such sub-subtrees are redundant and do not contribute to the results. For example, Scenario 1, the drilling blowout subtree (called the “Wellhead Area Rupture during drilling”) is dominated by the well drilling blowout sub-subtree with an MRS value of $6.16\text{E-}03$ while the production, workover, pipe-valve, and redrill sub-subtrees total a value in the order of 10^{-05} , or 2 orders of magnitude less, causing unnecessary FT clutter while contributing no useful information.

3. MRS Fault Tree Blowout Frequency Evaluation

Application of the MRS FT for blowout probabilities, using the appropriate blowout value identified above can be shown to give significantly lower results than MRS. Table 3.1 gives the adjusted MRS FT for Scenario 1. The following are the only adjustments made by the reviewers:

- The appropriate base value (not adjusted as in [1]) for onshore blowouts of 4.95E-04/well drilled established in [1, 2] is used instead of the MRS inappropriate offshore well control incident value for event 1a8.
- An adjustment factor of 0.5 to account for the added safety of a Class III BOP with shear rams and the associated drilling safety protocol is added as event 1a15, and included in the product to obtain the Scenario 1 blowout sub-subtree rate.
- No other adjustments are made.

The result is a Scenario 1 occurrence rate of 2.96 E-04/yr which is 20.9 times lower than the MRS rate of 6.16E-03/yr — (ie the MRS value is over 2000% higher).

If the appropriate offshore rate of 3.34E-05 were used, without the added factor of 0.5 (as the offshore rate already includes the higher class BOP use), then Scenario 1 would have a rate of occurrence of 4.42 E-05 or a rate 140 times lower than that given by MRS — however the reviewers recommend the onshore rate for reasons stated in [1].

Table 3.1
Scenario 1 FT

Ref	Event	Failure Rate or Probability	Units	Number	Event Rate or Probability	Reference	Total Rate
Scenario 1 Wellhead Area Rupture during drilling						MRS ORIGINAL RATE	6.18E-03
						MRS UPDATED RATE	2.96E-04
1a1	Years of drilling	2.5	number	1	2.5	Based on Applicant Schedule	
1a2	Max number of wellheads during production	30	number	1	30	Proposed number of wells minus water injection	
1a3	Max number of wells drilled in one year	12	number	1	12	Estimated based on applicant data, assumes 30 wells over 2.5 years	
1a4	Number of well workovers in one year	12	number	1	12	Applicant indicates one per well per year	
1a5	Number of re-drills in one year	0	number	1	0	Estimated based on applicant data. No redrills while drilling. Assume redrills not pressurized	
1a6	Full bore pipe rupture	9.00E-08	/m.yr	150	1.35E-05	Rijnmond 1981, release of gas upstream of choke valve, estimated at 5m per well	
1a7	Full bore valve rupture	1.10E-06	/valve.yr	60	6.57E-05	release of gas upstream of choke valve, 2 valves per well	
1a8	Pipe leak	2.63E-06	/m.yr	150	3.95E-04	Rijnmond, 1981, for larger pipe, estimated at 5m per well	
1a9	Valve leak	9.86E-06	/valve.yr	120	1.18E-03	Rijnmond 1981, Assume 90% of releases are significant leaks but not catastrophic. Assume 4 valves per well	
1a8	Drilling Phase - blowout-USING ONSHORE UNMITIGATED VALUE	4.95E-04	per well	1	4.95E-04	Onshore BO rate recommended by IAOGP 2010	
1a9	Production phase - blowout	1.40E-04	per well-yr	1.00	1.40E-04	HLID, gas well, uncontrolled blowout per well year. Assumes only pressurized for 30 days after drilling	
1a10	Well Workovers - blowout	7.30E-04	per workover	0	0.00E+00	HLID, workovers gas wells, per workover. No pressure in well during workovers	
1a11	Fraction catastrophic blowouts	3.30E-01	per demand	1	3.30E-01	Fraction loss of well controls that are catastrophic. Based on MMS accident prevention reports for blowouts.	
1a12	Failure to close safety valve	2.09E-02	per demand	1	2.09E-02	CCPS failure to operate on demand, increased by 10 due to well-hole environment	
1a13	Fraction of wells drilled annually that produce blowout potential	3.00E-01	per well	1	3.00E-01	Based on 9 wells out of 30 from Redondo Beach that showed strong-flow during drillstem tests	
1a14	Days a well stays pressurized after drilling	3.00E+01	per well	1	30	Assumes a well is pressurized 30 days after drilling	
1a15	Class 3 BOP with shear rams mitigation	0.5	per well	1	0.5	Class 3 BOP with shear rams exceeds those used normally and reduces BO frequency	

4. MRS Fault Tree Input Review

Attachment A gives the results of a detailed review of the MRS FT, including the inputs discussed for drilling blowouts in the previous section. Table A.1 is the table giving FT inputs, and Table A.2 is the summary table, as identified in Section 2 above.

Consider Table A.1. First note there are 2 natural gas release fault trees – those with scenarios resulting in a rupture and those in a leak of gas—and an additional 5 other fault trees- for a total of 7. Note that a fault tree can only model one specific event frequency, so that there needs to be one unique fault tree for each unique event. It is best to summarize the main FT's to avoid confusion:

- Rupture Gas release – Scenario 1, 2, 3, 4, 5, 6 subtrees.
- Leak Gas Release – Scenario 1b, 2b, 3b, 4b, 5b, 6b subtrees.
- Loss of Containment from odorant storage/transfer – Scenario 7 subtree.
- Release of Crude Oil and Subsequent Fire – Scenario 8 subtree.
- Release of Crude Oil Storage/Pumping with subsequent spill outside containment – Scenario 9 subtree.
- Rupture at refrigeration system – Scenario 10a subtree.
- Leak at refrigeration system- Scenario 10b subtree.

Table A.1 shows the MRS FT input table [5] with key updated frequencies (from contemporary Bercha [1,6,4] sources). Not all obsolete MRS frequencies were updated; rather a sufficient selection to evaluate the trends was selected. The table also shows the % difference between the original MRS and the updated MRS frequency for each scenario subtree, repeats the original MRS inputs where updated, gives the original MRS reference, and comments on the recommended current reference from [1]. It can be seen that most of the scenario frequencies using recommended current references are significantly lower than the original [5] MRS frequencies; that is, the original MRS frequencies are generally more than 2 times (200%) higher than the updated MRS ones, with the original Scenario 3b 800% higher and the blowout Scenario 1 frequency over 2000% higher. This update shows that using the MRS FT with current and appropriate frequency inputs gives a vastly lower set of subtree frequencies, and of course similarly lower resultant FT frequencies as well.

It is useful to compare the relative total frequencies as these are used in the risk analysis. Table A.2, based on the MRS Appendix C summary table, gives the total frequencies for each scenario, as well as comparable values of the updated MRS and Bercha frequencies. The summary section only is reproduced in Table 4.1 below, while Table 4.2 gives the comparisons of both the updated and original [5] MRS values as a percentage of the Bercha total frequency values for Rupture and Leak natural gas release FTs.

Table 4.1
Summary of Updated MRS FT and Bercha FT Results

	Frequency (annual)	Return (yrs)
Updated MRS		
RUPTURE FT Combined Facility Gas Rupture w drilling	4.01E-04	2,494
RUPTURE FT Combined Facility Gas Leak w drilling	5.23E-03	191
Combined Facility Gas Rupture: No Drilling	1.6E-04	6,243
Combined Facility Gas Leak: no Drilling	1.2E-03	803
Bercha [1]		
RUPTURE FT Bercha [1] Comparison rupture Table 4.6 [1]	3.98-04	2,513
LEAK (HOLE) FT [1] Bercha Comparison leak Table 4.6 [1]	4.01E-03	249

Table 4.2
Comparison of Updated and Original MRS FT and Bercha FT Results

Gas Release FT	% MRS Frequency of Bercha [1] Frequency	
	MRS Updated with Drilling – Bercha [1]	MRS Original [5] with Drilling – Bercha [1]
Rupture	101%	1783%
Leak	130%	986%
Gas Release FT	% MRS Frequency of Bercha [1] Frequency	
	MRS Updated No Drilling – Bercha [1]	MRS Original [5] No Drilling – Bercha [1]
Rupture	40%	102%
Leak	31%	129%

Only the natural gas rupture and leak FT's are considered here as these have significant offsite consequences. Clearly any meaningful gap between Bercha [1] and MRS [5] frequencies is eliminated when current and appropriate inputs are used for the MRS FT. The updated MRS FT with drilling summary for ruptures gives essentially the same (within 1%) frequency as the Bercha FT; the MRS leak FT summary gives a slightly but negligibly higher (30%) frequency than the Bercha FT [1]. However, as will be shown in the next section, the drilling blowouts component has no significant offsite effect; accordingly, the appropriate comparison is that of the updated MRS gas release FT excluding drilling, with the Bercha FT (which already excludes drilling as it is shown to generate no offsite risk). In the lower left of Table 4.2, under "MRS New No Drilling – Bercha [1]" one can see that, in fact, the updated MRS results excluding drilling are only 40% and 30% of the comparable Bercha rupture and leak frequencies. This clearly shows that when current and appropriate input information is used, the Bercha analysis gives more conservative results than does the MRS analysis.

5. Updated MRS Risk Spectrum

Incorporation of the extensive drilling blowout flow calculations [3], to generate hazard distances indicates that a drilling blowout will have no significant offsite consequences, and hence no risk. Accordingly, the appropriate comparison of MRS and Bercha gas release frequencies is that of the MRS frequencies excluding drilling with the Bercha frequencies which already exclude drilling. In Table 4.2 this comparison demonstrated that the updated MRS frequencies are 40% and 31% for leaks and ruptures, respectively, of the comparable Bercha frequencies, indicating the more conservative nature of the Bercha analysis. Even the original MRS frequencies excluding drilling are roughly the same as the comparable Bercha frequencies, with MRS 2% higher for ruptures and 29% for leaks.

The resultant risk spectra, plotted in Figure 5.1 in accordance with the correct protocol for comparison to the risk thresholds, show that the original MRS risk spectrum, excluding drilling (as it should), is lower into the Insignificant region than the Bercha spectrum, indicating that by either analysis the project poses Insignificant risk.

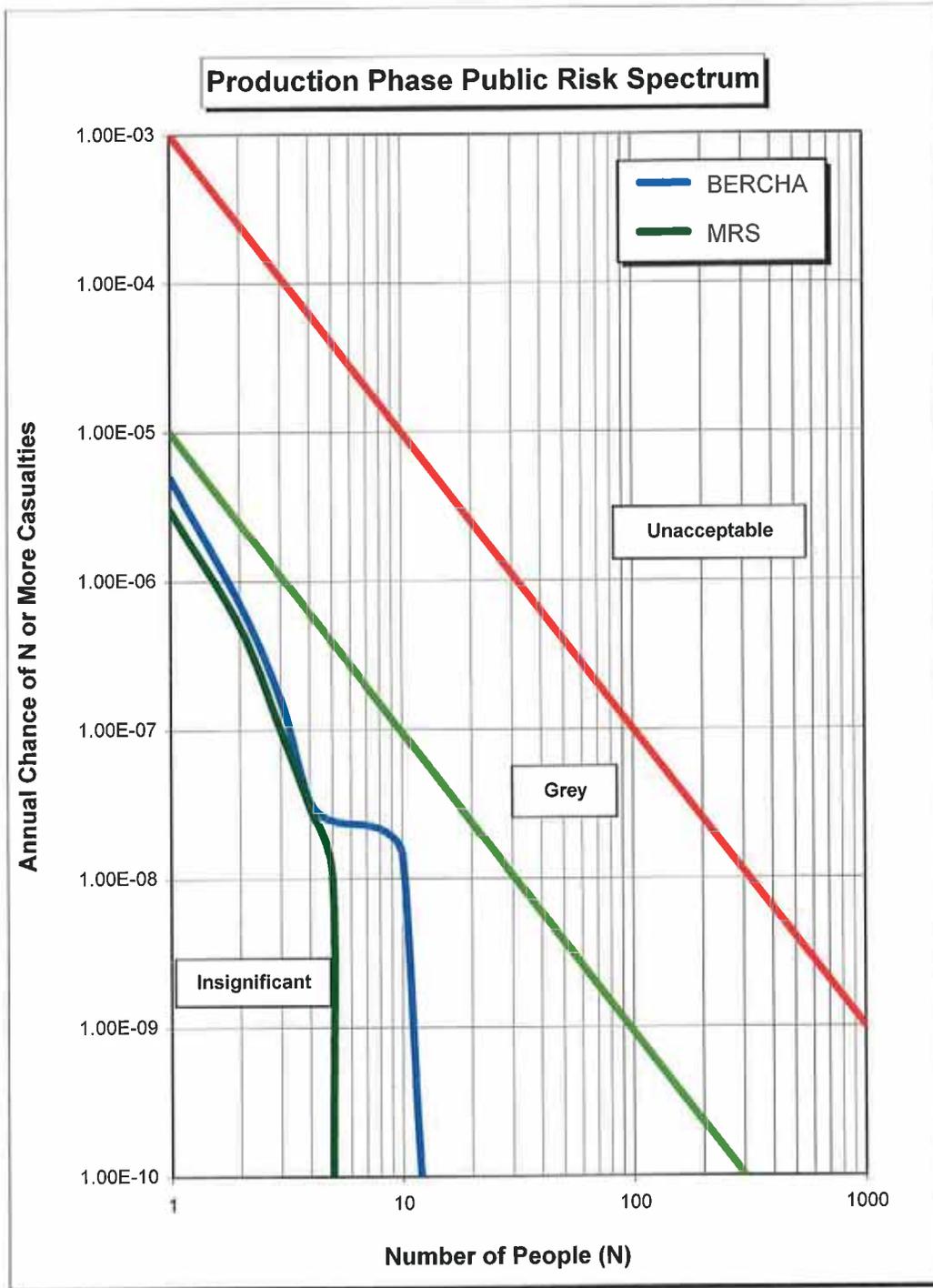


Figure 5.1
Bercha and Updated MRS Project Risk Spectra

REFERENCES

1. Bercha International Inc., “E&B Oil Development Project Quantitative Risk Analysis”, Final Report, for E&B Natural Resources Management Corporation, Bakersfield, California. July 3, 2013.
2. Bercha International Inc., “Review of MRS Well Drilling Blowout Frequencies,” Technical Note, April 12, 2014.
3. Boots and Coots, “Hermosa Beach Project Well Modeling Review,” April 12, 2014.
4. (25 of [1]) International Association of Oil and Gas Producers (OGP). “Blowout Frequencies”, Report No. 434-2, OGP Risk Assessment Data Directory, March 2010.
5. Marine Research Specialists (MRS), E & B Oil Drilling and Production Project, Public Draft EIR, February 2014.
6. (27 of [1]) Ministerie van Verkeer en Waterstaat (VROM). “Guidelines for Quantitative Risk Assessment”, Publication Series on Dangerous Substances (PGS 3). (“Purple Book” – CPR 18E, Part 3. Loss of Containment Events). Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, VROM, the Netherlands. 2005.

ATTACHMENT A MRS FAULT TREE UPDATES

Table A.1: Subtree Input Table

Ref	Event	Failure Rate or Probability	Units	Number	Event Rate or Probability	Reference	Total Rate	% MRS/ BERCHA MRSRATE	MRS REFERENCE	COMMENT
Scenario 1 Wellhead Area Rupture during drilling							ORIGINAL MRS	6.16E-03	2081%	
							BERCHA UPDATED MRS	2.96E-04		
Scenario 2 Wellhead Area Rupture during production							ORIGINAL MRS	1.66E-06	166%	
							BERCHA DERIVED	1.00E-06		
1a1	Years of drilling	2.5	number	1	2.5	Based on Applicant schedule				
1a2	Max number of wellheads during production	30	number	1	30	Proposed number of wells minus water injection				
1a3	Max number of wells drilled in one year	12	number	1	12	Estimated based on applicant data, assumes 30 wells over 2.5 years				
1a4	Number of well workovers in one year	12	number	1	12	Applicant indicates one per well per year				
1a5	Number of re-drills in one year	0	number	1	0	Estimated based on applicant data. No redrills while drilling. Assume redrills not pressurized				
1a6	Full bore pipe rupture	1.00E-07	/m.yr	150	1.50E-05	->NPS 6 Bercha [27] T4.1		1.35E-05	Rijnmond 1981, release of gas upstream of choke valve, estimated at 5m per well	obsolete use 2005 [27]
1a7	Full bore valve rupture	1.10E-06	/valve.yr	30	3.29E-05	release of gas upstream of choke valve, 2 valves per well				
1a8	Pipe leak	5.70E-07	/m.yr	150	8.55E-05	->NPS 6 Bercha [27] T4.1		2.63E-06	Rijnmond, 1981, for larger pipe, estimated at 5m per well	obsolete use 2005 [27]
1a9	Valve leak	9.86E-06	/valve.yr	60	5.91E-04	Rijnmond 1981, Assume 90% of releases are significant leaks but not catastrophic. Assume 4 valves per well				
1a8	Drilling Phase - blowout	4.95E-04	per well	1	4.95E-04	Bercha [25]		5.20E-03	MMS, loss of well control, incident rate between 1996-2005	Incorrect frequency offshore n/a. Use onshore BO 2012 [25] not offshore LWC.
1a9	Production phase - blowout	1.40E-04	per well yr	1.00	1.40E-04	HLID, gas well, uncontrolled blowout per well year. Assumes only pressurized for 30 days after drilling				
1a10	Well Workovers - blowout	7.30E-04	per workover	0	0.00E+00	HLID, workovers gas wells, per workover. No pressure in well during workovers				
1a11	Fraction catastrophic blowouts	3.30E-01	per demand	1	3.30E-01	Fraction loss of well controls that are catastrophic. Based on MMS accident prevention reports for blowouts				
1a12	Failure to close safety valve	2.09E-02	per demand	1	2.09E-02	CCPS failure to operate on demand, increased by 10 due to well-hole environment				
1a13	Fraction of wells drilled annually that produce blowout potential	3.00E-01	per well	1	3.00E-01	Based on 9 wells out of 30 from Redondo Beach that showed strong+ flow during drillstem tests				
1a14	Days a well stays pressurized after drilling	3.00E+01	per well	1	10	Assumes a well is pressurized 30 days after drilling				
1a15	Class III BOP with shear rams effect on BO rate	5.00E-01	per demand	1	0.50	Bercha Report S4.2.2		1	No credit for better BOP	See Bercha S4.2.2
Scenario 1b Wellhead area leak during drilling							ORIGINAL MRS	4.02E-03	101%	
							BERCHA UPDATED MRS	3.99E-01		
Scenario 2b Wellhead area leak during production -pressurized and non-pressurized wells							ORIGINAL MRS	1.14E-03	388%	
							BERCHA UPDATED MRS	2.94E-04		
2b1	Fittings per well	10	number	1	1.00E+01	Estimated				
2b2	Rupture of small fitting	1.10E-06	per fit-year	120	1.31E-04					
2b3	Leak at valve	9.86E-06	/valve.yr	6	5.91E-05	Rijnmond 1981, release of gas upstream of choke valve, estimated at 5m per well				
2b4	Pipe leak	5.00E-07	/m.yr	150	7.50E-05	->NPS 6 Bercha [27]		2.63E-06	1981 obsolete ref	use [27]
							ORIGINAL MRS	1.19E-04	267%	
Scenario 3 Rupture at Gas Plant separators, scrubbers to compressors - low pressure							BERCHA UPDATED MRS	4.46E-05		
4a1	Full bore pipe rupture	1.00E-07	/m.yr	126	1.26E-05	Estimated piping length from Applicant				
4a2	Full bore valve rupture	1.10E-06	/valve.yr	11	1.20E-05	Estimated based on Applicant information				
4a3	PSV fails wide open	2.00E-05	/yr	5	1.00E-04	Bercha [27]		2.13E-03	WASH, lifts light, assume 1% wide open	
4a4	Flare fails to ignite/VRU system fails	1.00E-03	on demand	1	1.00E-03	to VRU system				
4a5	Vessel rupture	1.00E-06	/yr	5	5.00E-06	Rijnmond 1982				
4a6	Heat exchanger failure	1.49E-05	/yr	1	1.49E-05	HLID, 10% to full rupture				

Ref	Event	Failure Rate or Probability	Units	Number	Event Rate or Probability	Reference	Total Rate	% MRS/BERCHA MRSRATE	MRS REFERENCE	COMMENT
Scenario 3b Leak at Gas Plant through inlet scrubbers to compressors - low pressure						ORIGINAL MRS	1.02E-03	827%		
						BERCHA UPDATED MRS	1.23E-04			
4b1	Leak in pipe	5.00E-07	/m.yr	102	5.10E-05	Rijnmond, 1981, for larger pipe		2.63E-06		
4b2	Leak at valve	9.86E-06	/valve.yr	6	5.91E-05	Assume 90% of releases are significant leaks but not catastrophic.				
4b3	Rupture of small valve	1.10E-06	/valve.yr	12	1.31E-05	Estimated twice as many small valves as large ones				
4b4	PSV fails leaks	2.00E-04	/yr	5	1.00E-03	Bercha [27]		2.13E-02	WASH, lifts light	1975=obsolete - use [27]
4b5	Leak in vessel	1.00E-05	/yr	5	5.00E-05	Rijnmond 1981				
4b6	Leak in heat exchanger	1.49E-04	/yr	0	0.00E+00	HLID				
Scenario 4 Rupture at Gas Plant LTS, scrubbers and compressors - mid pressure						ORIGINAL MRS	9.17E-05	211%		
						BERCHA UPDATED MRS	4.34E-05			
5a1	Full bore pipe rupture	9.00E-08	/m.yr	103	9.27E-06	Estimated based on Applicant				
5a2	Full bore valve rupture	1.10E-06	/valve.yr	11	1.20E-05	Estimated based on Applicant				
5a3	PSV fails wide open	2.00E-05	/yr	7	1.40E-04	Bercha [27]		2.13E-03	WASH, lifts light	1975=obsolete - use [27]
5a4	Flare fails to ignite/VRU system fails	1.00E-03	on demand	1	1.00E-03	to VRU system				
5a5	Vessel rupture	1.00E-06	/yr	7	7.00E-06	Rijnmond 1982				
5a6	Full bore compressor failure	3.50E-05	/yr	1	3.50E-05	Bercha T4 1and [27]	x	8.25E-03	Base failure of 0.66/yr with 10% catastrophic HLID 1992. Included SCAQMD fugitive rule inspection frequency	1992=incorrect use Bercha [27]
5a7	Low pressure shut off failure	1.00E-03	on demand	1	1.00E-03	Rijnmond 1982, failure on demand - high rate used - low testing frequency (6 months assumed)				
5a8	Heat exchanger failure	1.49E-05	/yr	1	1.49E-05	HLID, 10% to full rupture				
Scenario 4b Leak at Gas Plant LTS, scrubbers and compressors - mid pressure						ORIGINAL MRS	1.11E-03	234%		
						BERCHA UPDATED MRS	4.75E-04			
5b1	Leak in pipe	2.63E-06	/m.yr	103	2.71E-04	Rijnmond, 1981, for larger pipe				
5b2	Leak at valve	9.86E-06	/valve.yr	11	1.08E-04	Assume 90% of releases are significant leaks but not catastrophic.				
5b3	Rupture of small valve	1.10E-06	/valve.yr	22	2.41E-05	Estimated twice as many small valves as large ones				
5b4	PSV fails leaks	2.00E-04	/yr	7	1.40E-03	Bercha [27]		2.13E-02	WASH, lifts light	1975=obsolete - use [27]
5b5	Leak in vessel	1.00E-05	/yr	7	7.00E-05	Rijnmond 1981				
5b6	Compressor leak	2.50E-04	/yr	1	2.50E-04	Bercha T4 1and [27]				
5b7	Leak in heat exchanger	1.49E-04	/yr	1	1.49E-04	HLID				
Scenario 5 Rupture at Gas Plant compressors 2nd stage - high pressure						ORIGINAL MRS	4.65E-05	290%		
						BERCHA DERIVED	1.60E-05			
6a1	Full bore pipe rupture	9.00E-08	/m.yr	95	8.55E-06	Estimated piping length				
6a2	Full bore valve rupture	1.10E-06	/valve.yr	4	4.38E-06	Estimated based on Applicant PFD				
6a3	PSV fails wide open	2.00E-05	/yr	3	6.00E-05	Bercha T4 1and [27]		2.13E-03	WASH, lifts light, assume 1% wide open	1975=obsolete - use [27]
6a4	Flare fails to ignite/VRU system fails	1.00E-03	on demand	1	1.00E-03	to VRU system				
6a5	Vessel rupture	1.00E-06	/yr	3	3.00E-06	Rijnmond 1982				
6a6	Full bore compressor failure	3.50E-05	/yr	1	3.50E-05	Bercha T4 1and [27]				
6a7	Low pressure shut off failure	1.00E-03	on demand	1	1.00E-03	Rijnmond 1982, failure on demand - high rate used - low testing frequency (6 months assumed)				
Scenario 5b Leak at Gas Plant compressors 2nd stage - high pressure						ORIGINAL MRS	7.80E-04	237%		
						BERCHA UPDATED MRS	3.29E-04			
6b1	Leak in pipe	2.63E-06	/m.yr	95	2.50E-04	Rijnmond, 1981, for larger pipe				
6b2	Leak at valve	9.86E-06	/valve.yr	4	3.94E-05	Assume 90% of releases are significant leaks but not catastrophic.				
6b3	Rupture of small valve	1.10E-06	/valve.yr	8	8.76E-06	Estimated twice as many small valves as large ones				
6b4	PSV fails leaks	2.00E-04	/yr	3	6.00E-04	Bercha [27]		2.13E-02	WASH, lifts light	1975=obsolete - use [27]
6b5	Leak in vessel	1.00E-05	/yr	3	3.00E-05	Rijnmond 1981	3 VESSELS OK			
6b6	Compressor leak	2.50E-04	/yr	1	2.50E-04	Bercha Table 4 1and [27]	x	8.25E-02	HLID 1992	1975=obsolete - use [27]
Scenario 6 Rupture at natural gas pipeline along Valley Dr and at meter-SECOND Sc6						ORIGINAL MRS	1.10E-04	364%		
						BERCHA DERIVED	3.02E-05			
Scenario 6 Rupture at natural gas pipeline along Valley Dr: near facility						ORIGINAL MRS	3.15E-05			
						BERCHA UPDATED MRS	2.48E-05			
7a1	Full bore pipe rupture	2.00E-08	/m.yr	805	1.61E-05	Bercha Table 4 1and [27]				
7a2	Rupture fraction	3.70E-01	fraction	1	3.70E-01	OPS data on ruptures, 37%, for years 2001-2004				
7a3	Full bore valve rupture/meter	1.10E-06	/valve.yr	3	3.29E-06	Lees, WASH, counts meter as a valve				
7a4	Catastrophic earthquake > 1.5g	2.10E-05	/yr	1	2.10E-05	Based on a probability of a 1.5g or greater earthquake, USGS data, Hermosa location				
7a5	Spillage near facility	6.71E+01	meters	1	6.71E+01	based on largest rupture distance				
Scenario 6b Leak at natural gas pipeline						ORIGINAL MRS	1.19E-04	399%		
						BERCHA UPDATED MRS	2.98E-05			
Scenario 6b Leak at natural gas pipeline : near facility						ORIGINAL MRS	3.70E-05	180%		

Ref	Event	Failure Rate or Probability	Units	Number	Event Rate or Probability	Reference	Total Rate	% MRS/BERCHA MRSRATE	MRS REFERENCE	COMMENT
						BERCHA UPDATED MRS	2.06E-05			
7b1	Full bore pipe rupture	2.00E-08	/m.yr	805	1.61E-05	Bercha [3]			CSFM 1993 obsolete	Use 2007 [3]
7b2	Leak fraction	6.30E-01	fraction	1	6.30E-01	OPS data on ruptures, 37%, for years 2001-2004				
7b3	Leak at valve	9.86E-06	/valve.yr	2	1.97E-05	Rijnmond 1981				
Scenario 7 Loss of Containment from odorant storage/transfer						ORIGINAL MRS	6.32E-02	94%		
						BERCHA UPDATED MRS	6.72E-02			
8a1	Hole in odorant pipe	2.63E-06	/m.yr	10	2.63E-05					
8a2	Leak at a odorant valve	5.54E-04	/valve.yr	10	5.54E-03	Assume 90% of leaks are significant but not catastrophic rupture				
8a3	Rupture of small threaded connection	2.08E-05	/conn.yr	5	1.04E-04	CCPS with correction for annual fugitive I&M program, 10% ruptures				
8a4	Rupture of small welded connection	2.63E-06	/conn.yr	0	0.00E+00	WASH 1400, weld leaks, 10% to rupture				
8a5	Odorant pump leak	1.70E-03	/yr	1	1.70E-03	HLID, leakage, 10% to rupture				
8a6	Hole in odorant vessel	1.00E-05	/yr	1	1.00E-05	Rijnmond 1982				
8a7	Hole in loading hose	4.00E-04	/operation	1	4.00E-04	Shell rupture per operation. Leaks assumed to be 10 times great probability.				
8a8	Incorrect hose coupling	4.40E-03	/operation	1	4.40E-03	Rijnmond 1982				
8a9	Carbon canister or vapor recovery procedure failure	5.50E-02	/operation	1	5.50E-02	Rijnmond 1982, failure to follow instructions				
8a10	Loading operations	1	Operations	1	1.00E+00	Number of annual loading operations				
Scenario 8 Release of Crude Oil and Subsequent Fire						ORIGINAL MRS	2.73E-04	157%		
						BERCHA DERIVED	1.74E-04			
Scenario 9 Release of Crude Oil Storage/Pumping with subsequent spill outside containment						ORIGINAL MRS	1.56E-07	189%		
						BERCHA UPDATED MRS	8.26E-08			
9a1	Crude oil tank failure	5.00E-05	/yr	2	1.00E-04	Bercha [27]			obsolete	use [27]
9a2	Major earthquake	6.90E-04	/yr	1	6.90E-04	Based on a probability of a 0.5g or greater earthquake, USGS data, Hermosa location				
9a3	Crude oil tank pipe rupture	9.00E-08	/m.yr	50	4.50E-06	length estimated				
9a4	Probability of ignition	1.00E+00	on demand	1	1.00E+00	OPS data for crude releases at pump stations 1986-2000, 5% produce fires. As flare is in the bermed area, would be 100%				
9a5	Probability of earthquake tank failure	1.00E-01	on demand	1	1.00E-01	Estimated at 10%				
9a6	Number of drainings per year	1.0	number	1	1.0	assumed drained once every 1 years				
9a7	Failure to close drain valve after draining	1.90E-03	on demand	1	1.90E-03	Rijnmond, failure to close a valve properly				
9a8	Failure to notice drains valves not closed during a subsequent inspection	1.00E-03	on demand	1	1.00E-03	Bercha [27]		1.00E-01	Unacceptably high 10% assumes no training	Use [27] and [7]
9a9	Frequency of drain valve inspections	4	number	1	4	weekly inspections				
Scenario 10a Rupture at refrigeration system						ORIGINAL MRS	3.52E-05	141%		
						BERCHA UPDATED MRS	2.49E-05			
10a1	Full bore pipe rupture	7.90E-09	/m.yr	25	1.98E-07	Bercha [27]				
10a2	Full bore valve rupture	1.10E-06	/valve.yr	8	8.76E-06					
10a3	Heat exchanger failure	1.49E-05	/yr	1	1.49E-05					
10a4	Vessel rupture	1.00E-06	/yr	1	1.00E-06					
10a5	Full bore compressor failure	3.50E-05	/yr	1	3.50E-05	Bercha [27]		8.25E-03	no reference	use [27]
10a6	Low pressure shut off failure	1.00E-03	on demand	1	1.00E-03					
10a7	Fraction to overpressure/explosion	1.05E-03			0.04					
Scenario 10b Leak at refrigeration system						ORIGINAL MRS	4.04E-04	132%		
						BERCHA UPDATED MRS	3.06E-04			
10b1	Leak in pipe	2.00E-06	/m.yr	25	5.00E-05	Bercha [27]				
10b2	Leak at valve	9.86E-06	/valve.yr	8	7.88E-05					
10b3	Rupture of small valve	1.10E-06	/valve.yr	16	1.75E-05					
10b4	Leak in vessel	1.00E-05	/yr	1	1.00E-05					
10b5	Leak in heat exchanger	1.49E-04	/yr	1	1.49E-04					
10b6	Compressor leak	2.50E-04	/yr	1	2.50E-04	Bercha [27]		8.25E-02	no reference	use [27]
10b7	Low pressure shut off failure	1.00E-03	on demand	1	1.00E-03					

References to Table A.1

BERCHA REFERENCES (to Table A.1)	
1	Bercha International Inc., "E&B Oil Development Project Quantitative Risk Analysis", Final Report, for E&B Natural Resources Management Corporation, Bakersfield, California. July 3, 2013
3	Alberta Energy and Utilities Board (AEUB). "Pipeline Performance in Alberta, 1990-2006". Report 2007-A. April 2007.
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Table A.2: Fault Tree Summary Table

SUBTREE	UPDATED MRS		Release Type	
	Annual Frequency	Return (yrs)		
Scenario 1 Wellhead Area Rupture during drilling	3.0E-04	3,378	R	
Scenario 1b Wellhead area leak during drilling	4.0E-03	251	L	
Scenario 2 Wellhead Area Rupture during production	1.0E-06	999,935	R	
Scenario 2b Wellhead area leak during production -pressurized and non-pressurized wells	2.9E-04	3,405	L	
Scenario 3 Rupture at Gas Plant separators, scrubbers to compressors - low pressure	4.5E-05	22,403	R	
Scenario 3b Leak at Gas Plant through inlet scrubbers to compressors - low pressure	1.2E-04	8,112	L	
Scenario 4 Rupture at Gas Plant LTS, scrubbers and compressors - mid pressure	4.3E-05	23,051	R	
Scenario 4b Leak at Gas Plant LTS, scrubbers and compressors - mid pressure	4.8E-04	2,105	L	
Scenario 5 Rupture at Gas Plant compressors 2nd stage - high pressure	1.6E-05	62,402	R	
Scenario 5b Leak at Gas Plant compressors 2nd stage - high pressure	3.3E-04	3,041	L	
Scenario 6 Rupture at natural gas pipeline along Valley Dr and at meter-SECOND Sc6	3.0E-05	33,069	R	
Scenario 6b Leak at natural gas pipeline	2.5E-05	40,353	L	
Scenario 7 Loss of Containment from odorant storage/transfer	6.7E-02	15	no gas	
Scenario 8 Release of Crude Oil and Subsequent Fire	1.7E-04	5,764	no gas	
Scenario 9 Release of Crude Oil Storage/Pumping with subsequent spill outside containment	8.3E-08	12,109,862	no gas	
Scenario 10a Rupture at refrigeration system	2.5E-05	40,186	no gas	
Scenario 10b Leak at refrigeration system	3.1E-04	3,272	no gas	
RUPTURE FT Combined Facility Gas Rupture w drilling	4.0E-04	2,494	COMPARISONS	
RUPTURE FT Combined Facility Gas Leak w drilling	5.2E-03	191	With drilling	
Combined Facility Gas Rupture: No Drilling	1.6E-04	6,243	% UPDTED	% ORIGINAL
Combined Facility Gas Leak: no Drilling	1.2E-03	803	MRS/Bercha	MRS/Bercha
BERCHA [1]				
RUPTURE FT Bercha [1] Table 4.6	3.98E-04	2,513	101%	1783%
LEAK (HOLE) FT [1] Bercha Table 4.6	4.01E-03	249	130%	986%
COMPARISONS				
Without drilling				
			% UPDTED	% ORIGINAL
			MRS/Bercha	MRS/Bercha
			40%	102%
			31%	129%

E&B

Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

April 1, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: E&B Oil Drilling & Production Project
Draft Environmental Impact Report
Analysis of Phases 2 and 4 Drilling and Production in Chapter 4.11 – Noise and Vibration

Dear Mr. Robertson:

E&B Natural Resources Management Corp. (E&B) has conducted a review of the noise analysis in Chapter 4.11, Noise and Vibration, and Appendix E - Noise Impact Analysis of the Draft Environmental Impact (Draft EIR) for the E&B Oil Drilling and Production Project (Proposed Project). The attached letter from Behrens and Associates, Inc. addresses their review of the analysis of the potential noise impacts as a result of concurrent drilling and production in Phases 2 and 4 of the Proposed Project.

As a result of the revised analysis presented by Behrens and Associates, Inc. in their attached letter, we request that the following additional mitigation measures be incorporated into the Proposed Project:

Proposed Mitigation Measure: The Applicant will provide an addition to the acoustical shroud for the drill rig mast that includes enclosure of the top 26 feet of the fourth side of the drill rig mast.

Proposed Mitigation Measure: The Applicant will provide full mud pump enclosures constructed from Semco acoustical panels (which have a 2-inch thick acoustical absorptive lining) on three sides and a clear plastic panel on one side.

Proposed Mitigation Measure: The Applicant will provide upgraded silencers for the hydraulic power unit (HPU) that provide the following insertion loss:

Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	8	14	29	41	40	41	32	17

As discussed in detail in the attached letter, with the correction of the noise model to reflect the metal-on-metal noises that would occur with the 'quiet mode drilling' plan and incorporation of the proposed mitigation measures provided above, the significant impacts from the noise levels

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during concurrent drilling and production in Phases 2 and 4 would be reduced to a less than significant level.

Please feel free to contact me with any questions.

Regards,



Michael Finch
Vice President of Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.

Attachment – Letter from Behrens and Associates, dated March 27, 2014

Behrens and Associates, Inc.

Environmental Noise Control



March 27, 2014

Mr. Michael Finch
E&B Natural Resources Management Corp.
1600 Norris Road
Bakersfield, CA 90254

Subject: Review of Noise Analysis for E & B Oil Drilling and Production Project

Reference: Section 4.11, Noise and Vibration, E&B Oil Drilling and Production Project Draft Environmental Impact Report, February 2014

Dear Mr. Finch,

As requested, we have reviewed the analysis provided in Section 4.11, Noise and Vibration, of the E&B Oil Drilling and Production Project Draft Environmental Impact Report (Draft EIR). As a part of this review, we have verified if all of the project design features were incorporated and performed additional analysis to determine if the mitigated significant impacts identified in the Draft EIR analysis during drilling and production in Phases 2 and 4 can be further reduced. The revised analysis provided below used the Draft EIR noise model to allow direct comparison with the results shown for Phase 2 in Table 4.11-22 and Phase 4 in Table 4.11-32 of the Draft EIR.

Phase 2 Drilling and Testing

Section 4.11, Noise and Vibration, of the Draft EIR assesses significant impacts during Phases 2 and 4 in two ways:

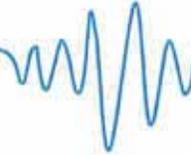
- The analysis indicates a significant impact would occur if the drilling plus production noise causes an increase to the average noise level during the quietest hour of more than 3 dBA at the nearby residential properties or more than 5 dBA at Veterans Parkway.
- The analysis indicates a significant impact would occur if the drilling noise level exceeds the City of Hermosa Beach Oil Production Code nighttime noise standard of 45 dBA at the nearby residential properties and at Veterans Parkway.

The noise level was assessed in the Draft EIR at elevations of 5 feet and at 20 feet above ground level. The Noise Impact Study in the November 2012 Planning Application assessed noise levels 5 feet above ground level only.

The Draft EIR noise model uses the same equipment sound power levels as the model in the Planning Application Noise Impact Study. A source was added to the model to represent metal-on-metal 'clanging' sounds on the drill rig. The basis for the Draft EIR data was sound level measurements of pipe-handling activities made by Arup Acoustics at the Whittier oil field. The Draft EIR analysis assumed a sound power level of 131.7 dBA during a single impact, with impacts occurring 0.1% of the time to give an equivalent sound power level of 101.7 dBA. This equivalent level is almost as high as an

Behrens and Associates, Inc.

Environmental Noise Control



unmitigated mud pump running continuously and it is our opinion that this assumed noise level is much higher than would actually occur at the project site, especially since the a 'quiet mode drilling' plan would be implemented at the project site as a part of the Proposed Project. The quiet mode drilling plan is specifically designed to reduce the quantity and sound level of these types of sounds during the nighttime hours.

For this revised analysis, a sound level measurement was obtained at a drilling rig at the Inglewood Oil Field where the same quiet mode drilling plan has been implemented. From the measurement, it was possible to determine the contribution of metal-on-metal noises to the overall sound level. It was determined that the average sound power level was 87.4 dBA. This sound level was substituted into the model for this revised analysis to provide a more realistic simulation of the metal-on-metal sounds.

From the Draft EIR model it was determined that, with implementation of the mitigation measures recommended in the Draft EIR, the mud pumps would generally be the highest contributors of noise at the nearby sensitive receptors. It was proposed in the Planning Application Noise Impact Study that noise from the mud pumps would be reduced with enclosures around each pump. The enclosures were designed to have three sides and a roof, but would be open on one side. Since the Draft EIR analysis predicts significant impacts at the nearby sensitive receptors, this revised analysis includes full mud pump enclosures constructed from Semco acoustical panels (which have a 2-inch thick acoustically absorptive lining) with a clear plastic panel on one side (to allow for observation). The ventilation system required for this enclosure would maintain the insertion loss of the enclosure with the use of silenced inlets and vents.

Since the time of the preparation of the Planning Application Noise Impact Study, more detailed plans of the proposed enclosure of the drilling rig mast have been provided by the manufacturer. It has been determined that the drilling rig mast can be enclosed to a greater extent than originally modeled. In the Planning Application Noise Impact Study model and the Draft EIR model, the sound was assessed with only three sides of the rig mast enclosed. The more detailed plans provide that, in addition to the enclosure of three sides of the rig mast as originally analyzed, the top 26 feet of the rig mast would also be enclosed on the fourth side. This configuration is modeled in this revised analysis.

In addition, as part of this revised analysis, the hydraulic power unit (HPU) was modeled with upgraded silencers that provide the insertion loss shown in Table 1 below.

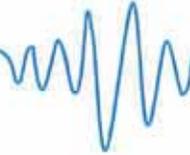
Table 1. Hydraulic Power Unit Silencer Insertion Loss

Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	8	14	29	41	40	41	32	17

Tables 2 and 3 below provide the resulting sound levels of this revised analysis during Phase 2 drilling and testing with: 1) the metal-on-metal noises that would occur with the 'quiet mode drilling' plan implemented; 2) the implementation of the improved mud pump enclosures; 3) the addition of the

Behrens and Associates, Inc.

Environmental Noise Control



enclosure of the top 26 feet of the fourth side of the drilling rig mast; and 4) the addition of upgraded HPU silencers. The results are shown alongside the Draft EIR analysis results for comparison.

The results of this revised analysis indicate that the noise level during concurrent drilling and production in Phase 2 would be reduced to a less than significant level at all receptors. Furthermore, the results indicate that the noise level during concurrent drilling and production would comply with the City Hermosa Beach Oil Production Code at all nearby sensitive receptors at 5 feet and 20 feet above ground elevation.

Phase 4 Development and Operations

Tables 4 and 5 below provide the resulting sound levels of this revised analysis during Phase 4 drilling and testing with: 1) the metal-on-metal noises that would occur with the 'quiet mode drilling' plan implemented; 2) the implementation of the improved mud pump enclosures; 3) the addition of the enclosure of the top 26 feet of the fourth side of the drilling rig mast; and 4) the addition of upgraded HPU silencers. The results are shown alongside the Draft EIR analysis results for comparison.

The results of this revised analysis indicate that the noise level during concurrent drilling and production in Phase 4 would be reduced to a less than significant level at all receptors. Furthermore, the results indicate that the noise level during concurrent drilling and production would comply with the City Hermosa Beach Oil Production Code at all nearby sensitive receptors at 5 feet and 20 feet above ground elevation.

Please contact the undersigned with any questions or comments.

Very truly yours,

Thomas Corbishley
Engineering Manager

Behrens and Associates, Inc.

Environmental Noise Control



Table 2. Predicted Phase 2 Noise Impact Relative to Existing Ambient Noise Levels

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation (Table 4.11-22)				Revised Analysis with Improved Mitigation				
		Noise Level (L_{eq} dBA)		Increase in noise level (dBA)	Significant?	Noise Level (L_{eq} dBA)		Increase in noise level (dBA)	Significant?	
		Baseline (Lowest 1-hr nighttime L_{eq})	Drilling + test production			Drilling + test production + baseline	Drilling + test production			Drilling + test production + baseline
Residential uses north of site on 8 th Street	5	45.6	43.7	47.8	2.2	NO	35.3	46.0	0.4	NO
	20	45.6	48.0	50.0	4.4	YES	36.6	46.1	0.5	NO
Residential uses northwest of site on Cypress Street	5	37.6	41.1	42.7	5.1	YES	33.5	39.0	1.4	NO
	20	37.6	45.1	45.8	8.2	YES	37.0	40.3	2.7	NO
Residential uses east of site on Ardmore Avenue	5	38.3	44.6	45.5	7.2	YES	34.8	39.9	1.6	NO
	20	38.3	47.0	47.5	9.2	YES	37.6	41.0	2.7	NO
Residential uses west of site on Loma Drive	5	39.9	43.9	45.4	5.5	YES	35.5	41.2	1.3	NO
	20	39.9	44.4	45.7	5.8	YES	35.6	41.3	1.4	NO
Veterans Parkway (Center)	5	35.6	43.7	44.3	8.7	YES	34.0	37.9	2.3	NO

Table 3. Phase 2 Compliance with City of Hermosa Beach Oil Production Code

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation		Revised Analysis with Improved Mitigation	
		Drilling + test production noise level (dBA)	Complies with 45 dBA limit?	Drilling + test production noise level (dBA)	Complies with 45 dBA limit?
Residential uses north of site on 8 th Street	5	43.7	YES	35.3	YES
	20	48.0	NO	36.6	YES
Residential uses northwest of site on Cypress Street	5	44.1	YES	33.5	YES
	20	45.1	NO	37.0	YES
Residential uses east of site on Ardmore Avenue	5	44.6	YES	34.8	YES
	20	47.0	NO	37.6	YES
Residential uses west of site on Loma Drive	5	43.9	YES	35.5	YES
	20	44.4	YES	35.6	YES
Veterans Parkway (Center)	5	43.7	YES	34.0	YES

Behrens and Associates, Inc.

Environmental Noise Control



Table 4. Predicted Phase 4 Noise Impact Relative to Existing Ambient Noise Levels

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation (Table 4.11-32)				Revised Analysis with Improved Mitigation				
		Noise Level (L_{eq} , dBA)		Increase in noise level (dBA)	Significant?	Noise Level (L_{eq} , dBA)		Increase in noise level (dBA)	Significant?	
		Baseline (Lowest 1-hr nighttime L_{eq})	Drilling + production			Drilling + production + baseline	Drilling + production			Drilling + production + baseline
Residential uses north of site on 8 th Street	5	45.6	43.8	47.8	2.2	NO	35.0	46.0	0.4	NO
	20	45.6	47.7	49.8	4.2	YES	36.5	46.1	0.5	NO
Residential uses northwest of site on Cypress Street	5	37.6	39.5	41.7	4.1	YES	34.1	39.2	1.6	NO
	20	37.6	44.2	45.1	7.5	YES	36.8	40.2	2.6	NO
Residential uses east of site on Ardmore Avenue	5	38.3	45.0	45.8	7.5	YES	34.5	39.8	1.5	NO
	20	38.3	47.1	47.6	9.3	YES	36.6	40.5	2.2	NO
Residential uses west of site on Loma Drive	5	39.9	44.2	45.6	5.7	YES	33.7	40.8	0.9	NO
	20	39.9	44.4	45.7	5.8	YES	34.8	41.1	1.2	NO
Veterans Parkway (Center)	5	35.6	42.8	43.6	8.0	YES	34.1	37.9	2.3	NO

Table 5. Phase 4 Compliance with City Hermosa Beach Oil Production Code

Location	Receiver Height (ft)	Draft EIR Analysis with Mitigation		Revised Analysis with Improved Mitigation	
		Drilling + production noise level (dBA)	Complies with 45 dBA limit?	Drilling + production noise level (dBA)	Complies with 45 dBA limit?
Residential uses north of site on 8 th Street	5	43.8	YES	35.0	YES
	20	47.7	NO	36.5	YES
Residential uses northwest of site on Cypress Street	5	39.5	YES	34.1	YES
	20	44.2	YES	36.8	YES
Residential uses east of site on Ardmore Avenue	5	45.0	YES	34.5	YES
	20	47.1	NO	36.6	YES
Residential uses west of site on Loma Drive	5	44.2	YES	33.7	YES
	20	44.4	YES	34.8	YES
Veterans Parkway (Center)	5	42.8	YES	34.1	YES



Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

March 31, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: E&B Oil Drilling & Production Project
Draft Environmental Impact Report
Odors Analysis in Chapter 4.2 – Air Quality and Greenhouse Gases

Dear Mr. Robertson:

E&B Natural Resources Management Corp. (E&B) has conducted a review of the odors analysis in Chapter 4.2, Air Quality and Greenhouse Gases and Appendix B - Air Emission Calculations of the Draft Environmental Impact (Draft EIR) for the E&B Oil Drilling and Production Project (Proposed Project). The following discusses the key comments that we identified in our review.

Odor Threshold of Significance

The Draft EIR (Table 4.2-6, page 4.2-32) defines the significance threshold for odors as “Nuisance defined as more than six odor events per year.” However, the South Coast Air Quality Management District’s (SCAQMD’s) significance threshold for odor is stated as, “Project creates an odor nuisance pursuant to SCAQMD Rule 402.” Refer to Attachment 1 of this letter for the current SCAQMD Air Quality Significance Thresholds, including odors, dated March 2011.

SCAQMD’s Rule 402 does not provide a quantitative standard for determination of a nuisance. Rule 402 states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Based on review of Rule 402 (Refer to Attachment 2) and the SCAQMD Policies and Procedures, Public Nuisance Investigation Guidelines (Refer to Attachment 3), a finding of nuisance may be made after appropriate investigation by the SCAQMD to “observe, identify, or otherwise establish evidence of the emissions” and to confirm “the source of the emissions and eliminate other potential sources,” with documentation to support the condition based on a minimum of six to ten (10) complaints, and, if a public nuisance violation has occurred pursuant to Rule 402, issue a Notice of Violation (NOV).

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Therefore, the significance threshold is defined as an odor nuisance warranting the issuance of an NOV pursuant to Rule 402.

SCAMQD records indicate several urbanized oil and gas facilities operating for decades, including our own sites, have not received an NOV for odors (Refer to Attachment 4 and Attachment 5). Thus, these existing facilities have sufficient controls to operate below SCAQMD's significance threshold for odors. As explained below, the Proposed Project incorporates additional design features to eliminate odors, such as the closed loop system. Therefore, the Proposed Project's potential air quality impacts with respect to odors should be less than significant.

Odor Design Features Proposed in Planning Application

The Draft EIR (page 4.2-33) briefly summarizes design features proposed as a part of the Proposed Project in the Air Quality Impact Analysis provided as Appendix C to the November 2012 Planning Application. Some of these proposed project design features were incorporated after the impact analysis of odors as mitigation measures (pages 4.2-51 and 4.2-52). The design features related to odors proposed in the Planning Application, further supplemented with annotations that provide clarification (*in italics*), are provided below:

- The Proposed Project's plant safety and control systems will be a closed-loop system. A closed-loop system is a design that does not allow for the venting or emitting of gases into the air as part of the normal operation of the facility. All tanks and process vessels will be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to the vapor recovery unit. *The vapor recovery unit also has a backup unit that eliminates downtime from the vapor recovery unit system.* In addition, all pressure relieving devices will be connected to an enclosed ground flare. As a result, the closed-loop system is self-contained and will not allow for venting of gases to the air, even during any emergency venting of gases. *This design criteria is substantially different than all other onshore facilities because venting from pressure safety valves and tank hatches have been eliminated and, therefore, eliminates these as possible sources of leak events.*
- The Proposed Project will be inspected for fugitive emissions as required by SCAQMD Rule 1173 "Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants." This requires that every valve, thread connection, coupling, and site glass be inspected. The Proposed Project will accept the limitation on allowable leaking components more stringent than those required by Rule 1173. *E&B is proposing to implement an enhanced Leak Detection and Repair (LDAR) program for the Proposed Project. E&B will inspect fugitive components monthly instead of quarterly, which will improve the effectiveness of the LDAR program. Additionally, E&B will agree to a no leak standard as part of their SCAQMD operating permit, which exceeds Rule 1173 standards that allow for a specific number of leaking components during an inspection. To further reduce emissions, E&B has agreed to implement an action level of 100 ppm for repair of fugitive components, well below the action level prescribed in Rule 1173 for all fugitive components except those in heavy liquid service.* In addition, Rule 1173 requires daily inspection of compressors, pumps, and pressure relief devices and inspection of all other components at least quarterly. New technology (such as thermal imaging devices) will be used to augment traditional methods of leak detection.

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- The Proposed Project will have an Air Quality Monitoring Plan that will provide for the monitoring of total hydrocarbon vapors and hydrogen sulfide (H₂S) on the project site during drilling and production operations. Monitors installed within and at the edge of the facility will be triggered if total hydrocarbon vapors and H₂S are detected. A meteorological station to monitor wind speed and direction under the guidance and specifications of the SCAQMD will be installed at an applicable location.
- The Proposed Project will have an Odor Minimization Plan that will address the potential sources of odors from all equipment, including wells and drilling operation, and provide methods to reduce or eliminate any identified odors (for example through containment, design modifications, carbon canisters). The Plan will include facility information, signs with contact information, logs of odor complaints, protocols for handling odor complaints and odor event investigations, and defines the methods that will be instituted to prevent a re-occurrence.
- The Proposed Project will use an odor suppressant spray system or vapor capture hood and carbon filter system on the mud shaker tables and install carbon capture canisters on all tanks (permanent and portable) containing potentially odiferous materials that are not equipped with vapor recovery so that no odor can be detected at the closest receptor.

Calculated Odor Threshold Exceedance

The Draft EIR (pages 4.2-50 and 4.2-51) analyzed the potential odor impacts from a single leaker release from a compressor seal. A dispersion analysis was used to determine the maximum concentration at a receptor. The analysis in the Draft EIR used the following assumptions and concluded that the Proposed Project could result in an exceedance of the combined odor threshold ratio of 1.00 for Hydrogen Sulfide (H₂S), Hexane, and Pentane by a factor of 1.02. Therefore, the Draft EIR identified this as a significant impact related to odors.

Leaker Emission Rate, compressor	0.1500 g/s	pegged value at 10,000 ppm
H ₂ S concentration in gas	100 ppm	
Hexane concentration in gas	2.9%	
Pentane concentration in gas	3.0%	

The design of the Proposed Project will include a compressor seal vent collection system; however, this was not explicit in the Planning Application and, therefore, apparently not included in the analysis provided in the Draft EIR. Therefore, to reduce the significant impact from odors calculated as a result of a single leaker release from a compressor or pump seal as analyzed in the Draft EIR, the following additional mitigation measure should be incorporated into the Proposed Project:

Proposed Mitigation Measure: The Applicant will install a compressor seal vent collection system. The compressor seal vent collection system will direct vapors to the closed loop system. In the event of a seal leak, vapors will be collected and sent to the flare for destruction. The use of the compressor seal vent collection system will eliminate the possibility of a compressor leak venting to the atmosphere.

With the incorporation of the proposed mitigation measure requiring installation of a compressor seal vent collection system, the maximum exposure ratio to the odor threshold ratio is calculated using emissions from a valve, which is the highest emitting component once the compressors are controlled. The calculated maximum exposure ratio is 0.12, well below the odor threshold ratio of 1.00 (refer to the following assumptions and Attachment 6).

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Leaker Emission Rate, valve	0.0178 g/s	pegged value at 10,000 ppm
H ₂ S concentration in gas	100 ppm	
Hexane concentration in gas	2.9%	
Pentane concentration in gas	3.0%	

Therefore, the potential significant impact as a result of a single leaker release would be reduced to a less than significant level.

As noted above, once the highest emitting sources of leaking fugitive emissions are removed by connecting the compressor seals and pressure safety valves to the vent collection system, the next highest source of fugitive component emissions are valves. The above calculations were performed using the pegged value at 10,000 ppm from the SCQAMD document "Guidelines for Fugitive Emissions Calculations," Table IV-3a, June 2003. This calculation was also provided in the Draft EIR.

Using the same assumptions provided in the Draft EIR, a calculation of the maximum odor threshold resulting from a valve leak at various H₂S concentrations was prepared. The maximum leak rate at a valve occurs when the measured valve is "pegged" at 100,000 ppm. Based on the SCAQMD "Guidelines for Fugitive Emissions Calculations," June 2003, the leak rate for a valve with emissions "pegged" at 100,000 ppm is 0.138 kg/hour, equivalent to 0.0383 grams/second. The valve is assumed to be in gas service with H₂S concentrations of 100 ppm. The resulting odor threshold ratio is 0.26, well below the odor threshold ratio of 1.00. Therefore, no odor is expected to be detected at a receptor, even if the valve has a leak at the highest published emission rate.

H2S Concentrations in Torrance Oil Field Crude Oil

The Draft EIR (page 4.2-51) states, "The H₂S concentration was assumed to be 100 ppm as a worst case, and H₂S in crude oil vapors was assumed to be 10 times higher as a worst case because vapors above crude oil containing even small amounts of H₂S can have a substantially higher H₂S content than the gas." Attached are laboratory analyses of gas and crude oil from oil wells located within the Torrance Oil Field which establish that H₂S concentrations are well below these values (Refer to Attachment 7). The concentration of H₂S in gas was non-detect (less than 2.5 ppm) in a gas sample collected from well "St. Francis" #2 and 15 ppm in a gas sample collected from well "Sterling" #1. The H₂S concentration from three crude oil samples was non-detect (less than 5 ppm on a volume basis). The highest ratio of H₂S in gas to crude oil was less than 0.33 in samples collected from well "Sterling" #1. No H₂S was detected in gas or oil from well "St. Francis" #2.

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The Draft EIR overstates the concentration of H₂S in crude oil by more than two orders of magnitude.

Conclusions

In summary, there are many urbanized oil and gas facilities within the Los Angeles basin that have been operating for decades without receiving NOVs for odors. E&B has proposed an additional level of design features for the Proposed Project, including the closed loop system, to substantially eliminate the potential for the release of odors that could affect the surrounding community. These design features should be incorporated into all of the analysis of the odors provided in the EIR. With the incorporation of these design features and an additional proposed mitigation measure for a compressor vent collection system provided above, the potential significant impact as a result of single leaker release that could cause an odor event would be reduced to a less than significant level. Further, corrections should be made to assumption used in the analysis of odors related to leak rates and the amount of H₂S

EB-326

concentrations in the crude oil in the Torrance Oil Field. Based on the analysis provided above, Proposed Project's potential air quality impacts as a result of odors should be less than significant.

Very truly yours,



Michael Finch
Vice President of Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.

Attachments (7)



SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO ₂ 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM ₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM _{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO ₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average Quarterly average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal) 1.5 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
MT/yr CO₂eq = metric tons per year of CO₂ equivalents $>$ = greater than

(Adopted May 7, 1976)

RULE 402. NUISANCE

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

APPENDIX C

**AQMD PUBLIC NUISANCE INVESTIGATION
POLICIES & PROCEDURES**

Appendix C

South Coast Air Quality Management District Policies & Procedures

Subject: Public Nuisance Investigation

Date: May 1, 1989

No. C-1

Sections 41700 and 41705.

1.0 POLICY

The District will investigate public nuisance complaints and issue Notices of Violation for public nuisances. This document identifies the District's authority in these areas and provides guidelines for gathering evidence to substantiate public nuisance complaints.

41700. Except as otherwise provided in Section 41705, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which can cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

2.0 GENERAL

An inspector usually conducts a public nuisance investigation in response to complaints from the public. To prosecute a public nuisance violation successfully, the chief prosecutor's office needs documented evidence that the activity or condition is in violation of Health and Safety Code Section 41700. The District is both the investigative and enforcement agency for public nuisance complaints.

41705. Section 41700 shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

3.0 HEALTH AND SAFETY CODE SECTIONS 41700 AND 41705

The complete texts of Sections 41700 and 41705 are given below. In substance, the text of Rule 402 is a restatement of

4.0 PUBLIC NUISANCE INVESTIGATION GUIDELINES

The inspector will conduct a public nuisance complaint investigation in accordance with the following guidelines:

- a. The inspector will check the complainants' premises or adjacent areas for the emissions

Appendix C

complained of (examples: odors, dust fallout, paint overspray). This may require driving around in the area surrounding the source. The inspector will write in the Violation Notice Report that this was done. Additionally, the inspector will note in the report whether or not another potential source of the emission was found.

1. If evidence of emissions is found, the inspector will track the emissions upwind from the complainants by visual or olfactory observations.
2. If no evidence of emissions is found, the inspector will ask the complainants for a description of the emissions and for other information which may help to determine their source.

b. After identifying the emissions and source, the inspector, using the process of elimination, will check all possible areas surrounding the alleged or known source to exclude any other potential source.

The inspector will inspect the source premises and establish the specific equipment or process responsible for the emissions. This involves inspecting all vents, stacks, and openings where the emissions occur or may occur, obtaining

samples of emissions if possible, and checking for Permits Operate.

c. The inspector will list all persons contacted at the source premises by full name and title (Mr., Mrs., Ms.), and will also include phone number, responsibility in the incident, and information to which each person can testify if called by the prosecutor as a witness.

The inspector may ask the complainants whether they know of other persons in the neighborhood who have complained of the emissions. If so, the inspector will request the complainants to tell these other persons to contact the District.

d. After establishing the source, the inspector will contact all complainants and, if possible, obtain samples of emissions from the complainants; premises. In more complex cases, the inspector may require a source test, air monitoring, and perhaps assistance from local health officials to establish health endangerment or natural tendency to cause injury or damage to business or property.

e. If a violation is indicated, the inspector will obtain the completed complaint forms from the complainants.

5.0 DISTRIBUTING AND COLLECTING COMPLAINT FORMS

- a. Whenever possible, the investigating inspector will personally distribute a complaint form to each complainant. The inspector's report must include the time, place, and date such forms were distributed and collected.
- b. The inspector will interview each complainant either at the time of the complaint or when the declaration form is collected.
- c. Inspectors who assist the investigating inspection to distribute or collect nuisance complaint forms must comply with the requirements of steps a and b above.

6.0 COMPLETING THE COMPLAINT FORM

- a. The complainant must list a residence location on the complaint form (attached), not a post office box number. The business address and telephone number should indicate where the complainant can be contacted from 8:00 a.m. to 4:30 p.m. Monday through Friday.
- b. The complainant must complete items 1 through 8 on the form. If the information is not known or is not applicable, the complainant will

indicate "not known" or "not applicable" in the space provided.

- c. The inspector will check that the signature is the complainant's legal name. If the answer to item 8 is "No," the complainant must complete the declaration on the reverse side, using printing rather than hand writing.
- d. The inspector will review the form and complete the "APCD USE ONLY" block.

7.0 REQUIREMENTS FOR ISSUING A PUBLIC NUISANCE VIOLATION NOTICE

- a. Before a public nuisance violation notice is issued, the investigating inspector must observe, identify, or otherwise establish evidence of the emissions complained of at or near the complainants' location.
- b. The investigating inspector must establish the source of the emissions and eliminate other potential sources.
- c. A multiple complaint condition must be documented. As a rule, District Legal Counsel prefers that it be based on a minimum of six (6) to ten (10) complainants from separate households. However, special circumstances

may dictate that a Notice of Violation be issued if supported by fewer complainants. For example, if property damage or a potential health hazard exists, a husband and wife living at the same residence may be considered as separate complainants. A Notice should not be issued only on the basis of complaints from members of a single family living at one location.

- d. The investigating inspector should complete the Notice of Violation form. In some instances another inspector may serve the notice.
- e. The inspector who establishes the public nuisance violation will write all of the supporting documentation, clearly demonstrating that each element of the violation has been met. Any inspectors who assist in gathering evidence or interviewing witnesses will prepare separate reports, coordinated by the lead inspector on the violation.

**SUMMARY LIST OF OIL AND GAS FACILITIES IN LOS ANGELES BASIN
WITH NO NUISANCE NOTICE OF VIOLATIONS (NOVs) RELATED TO ODORS**

LOCATION	TYPE OF FACILITY	OPERATORS	ADJACENT LAND USES
Long Beach/Spinnaker Bay	19 Active Wells Pumpjacks	<ul style="list-style-type: none"> • E&T LLC • The Lansdale Co. 	Adjacent to residential and commercial uses
Beverly Center	50+ Active Wells Pumpjacks and Drilling Rigs	<ul style="list-style-type: none"> • Freeport McMoRan (formerly Plains Exploration & Production [PXP]) 	Adjacent to residential and recreational uses
Beverly Hills High School	17 Active Wells Pumpjacks and Concealed Rig	<ul style="list-style-type: none"> • Freeport McMoRan (formerly Plains Exploration & Production [PXP]) 	Adjacent to residential, recreational, and institutional uses
Hillcrest Country Club	21+ Active Wells Pumpjacks and Drilling Rigs	<ul style="list-style-type: none"> • Hillcrest Beverly Oil Corp. 	Adjacent to recreational; ~600 feet from residential uses
Signal Hill Petroleum/ Discovery Well Park Area	50+ Active Wells in the vicinity	<ul style="list-style-type: none"> • Signal Hill Petroleum 	Adjacent to residential and recreational uses
Huntington Beach/ Bolsa Chica	50+ Active Wells in the vicinity	<ul style="list-style-type: none"> • John A. Thomas • Brindle/Thomas • Oxy USA • Gothard St. LLC 	Adjacent to residential and recreational uses

Source: South Coast Air Quality Management District FIND System, March 2014.

**SUMMARY LIST OF
E&B NATURAL RESOURCES MANAGEMENT CORPORATION FACILITIES IN LOS ANGELES BASIN
WITH NO NUISANCE NOTICE OF VIOLATIONS (NOVs) RELATED TO ODORS**

FIELD	LEASE	SCAQMB FACILITY ID NO.	LOCATION
Torrance	Midge	165100	Harbor City
Long Beach	Dutcher/Frew	165101	Long Beach
Long Beach	Del Mar	165102	Signal Hill
Long Beach	Just	165113	Long Beach
Rosecrans	Pacific-Clark	165103	Los Angeles
Long Beach	Rose	166490	Long Beach
Wilmington	Wilmington	165309	Carson
Torrance	Warren	171034	Wilmington
Torrance	Coastline B	171035	Wilmington
Torrance	Meeker	171036	Wilmington
Torrance	Conway 2	171037	Wilmington
Torrance	Conway 1	171040	Wilmington
Torrance	Stone	171042	Wilmington
Torrance	Spring	171043	Wilmington
Torrance	Aurthur #9	171044	Carson
Torrance	Figueroa	171045	Wilmington
Torrance	Girtin 53	171046	Wilmington
Torrance	Salter	171047	Wilmington
Torrance	Sterling 1 & 28	171048	Wilmington
Torrance	Sterling 29 & 30	171049	Wilmington
Torrance	United #1	171050	Wilmington
Torrance	Westport	171054	Wilmington
Torrance	Whitelaw	171083	Wilmington
Cheviot Hills	Rancho	13627	Los Angeles
Cheviot Hills	Hillcrest	3061	West Los Angeles
Huntington Beach	Angus Springfield Unit	54349	Huntington Beach

Source: South Coast Air Quality Management District FIND System and E&B Natural Resources Management Corporation, March 2014.

Draft EIR Single Leaker Odor Threshold Calculation (Compressor Leak)**AERMOD Output Receptors Unit Value: Single Leaker Release**

based on fugitive emissions peak day, converted to total TOC

Aermod result, max value at a receptor, ug/m ³	102,604	for unit emission rate of 1.0 g/s-m ²
Leaker emission rate, g/s	0.1500	compressor at pegged 10,000 ppm
Leaker emission rate, g/s	0.0178	valve at 10,000 ppm, pegged value

	H2S	Hexane	Pentane	
Fraction Material	0.0001	0.029	0.03	(1)
Max Values at receptor, ug/m ³	1.54	446.33	461.72	
ug/ppm	1420.00	3580.00	3000.00	
3 min/60min avg time ratio	1.65	1.65	1.65	(2)
Value at receptor, ppm, 3 min avg time	0.0018	0.2057	0.2539	
Odor Threshold, ppm	0.0020	68.00	2.00	
Max to threshold ratio	0.89	0.00	0.13	
Combined odor threshold value	1.02			

Assumes 10x H2S content as gas in the crude oil vapors

(1) Assumes H2S 100ppm, Hexane 2.9%, Pentane 3% (based on CARB profile 531)

(2) as per Duffee, O'Brien and Ostojic (1991)

Single Leaker Odor Threshold with Mitigation (Compressor Seal Vent System)**AERMOD Output Receptors Unit Value: Single Leaker Release**

based on fugitive emissions peak day, converted to total TOC

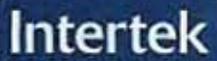
Aermod result, max value at a receptor, ug/m ³	102,604	for unit emission rate of 1.0 g/s-m ²
Leaker emission rate, g/s	0.1500	compressor at pegged 10,000 ppm
Leaker emission rate, g/s	0.0178	valve at 10,000 ppm, pegged value

	H2S	Hexane	Pentane	
Fraction Material	0.0001	0.029	0.03	(1)
Max Values at receptor, ug/m ³	0.18	52.96	54.79)
ug/ppm	1420.00	3580.00	3000.00	
3 min/60min avg time ratio	1.65	1.65	1.65	(2)
Value at receptor, ppm, 3 min avg time	0.0002	0.0244	0.0301)
Odor Threshold, ppm	0.0020	68.00	2.00	
Max to threshold ratio	0.11	0.00	0.02	
Combined odor threshold value	0.12			

Assumes 10x H2S content as gas in the crude oil vapors

(1) Assumes H2S 100ppm, Hexane 2.9%, Pentane 3% (based on CARB profile 531)

(2) as per Duffee, O'Brien and Ostojic (1991)



Report of Analysis

Client: Strata-Analysts Group, Inc.
 Job Location: Los Angeles, CA, USA
 Vessel: STRATA ANALYSTS
 Our Reference Number: US260-0020532
 Lab Reference Number: 2014-LOSA-000409

Client Reference Number:
 N/A

Description	Method	Test	Result	Units
CRUDE 20-Mar-2014 2014-LOSA-000409-001	ST. FRANCIS #2	H2S	< 1	ppm Wt
	UOP 163	Test Temperature	140	°F
	ASTM D5705	Average H2S Result	< 5	ppm v/v
CRUDE 20-Mar-2014 2014-LOSA-000409-002	ST. FRANCIS #3	H2S	< 1	ppm Wt
	UOP 163	Test Temperature	140	°F
	ASTM D5705	Average H2S Result	< 5	ppm v/v
CRUDE 20-Mar-2014 2014-LOSA-000409-003	STERLING #1	H2S	< 1	ppm Wt
	UOP 163	Test Temperature	140	°F
	ASTM D5705	Average H2S Result	< 5	ppm v/v

Signed: _____

Intertek
 Jamal Dahabra, Laboratory Coordinator

Date: _____



E&B Natural Resource Management
 1600 Noris Rd.
 Bakersfield, CA 93308

Date Sampled: May 16, 2012
 Date Reported: May 17, 2012

Attention: Mike Finch
 CC: George Paspalof

Lab ID: 120471
 File ID: 05-16-12 St. Francis #2

Sample ID: St. Francis #2

Pressure: psig
 Temperature: Deg F.
 Sample Time:

GC/TCD (ASTM D1945, GPA 2261)

Analysis Results:
 (Detection Limit = 0.01)

	Mole %		G/MCF	
OXYGEN	0.00			
NITROGEN	0.00			
CARBON DIOXIDE	1.33			
TOTAL INERTS:	1.33	(sum)		(sum)
METHANE	96.76			
ETHANE	1.77			
PROPANE	0.04		0.01	
iso-BUTANE	0.03	0.1	0.01	0.03
n-BUTANE	0.01		0.00	
iso-PENTANE	0.00	0.06	0.00	0.02
n-PENTANE	0.00		0.00	
HEXANE+	0.06		0.02	
Total:	100.00			

Specific Gravity*	0.578	Dew Point:	Deg F.
Hydrogen Sulfide:	ND < 2.5 ppm (vol)	Water Content:	561.6 lbs/MMCF
Mercaptan Sulfur:	ppm (vol)		
Gross BTU/ft ³	1014 (dry gas)	HHV:	1014
	996 (water vapor saturated)	LHV:	913

* (ASTM D3588-91)

Revised By:

Justin Stepanian

3302 Industry Dr., Signal Hill, CA 90755
 Tel: 562-426-0199 Fax: 562-426-5664
 www.strata-analysts.com



E&B Natural Resource Management
 1600 Noris Rd.
 Bakersfield, CA 93308

Date Sampled: May 16, 2012
 Date Reported: May 17, 2012

Attention: Mike Finch
 CC: George Paspalof

Lab ID: 120471
 File ID: 05-16-12 Sterling #1

Sample ID: Sterling #1

Pressure: psig
 Temperature: Deg F.
 Sample Time:

GC/TCD (ASTM D1945, GPA 2261)

Analysis Results: (Detection Limit = 0.01)	Mole %		G/MCF	
OXYGEN	0.00			
NITROGEN	0.17			
CARBON DIOXIDE	25.35			
TOTAL INERTS:	25.52	(sum)		(sum)
METHANE	64.16			
ETHANE	2.50			
PROPANE	1.76		0.49	
iso-BUTANE	0.67	6.06	0.22	2.29
n-BUTANE	1.10		0.35	
iso-PENTANE	0.57	4.29	0.21	1.72
n-PENTANE	0.41		0.15	
HEXANE+	3.31		1.36	
Total:	100.00			

Specific Gravity*	0.953		Dew Point:		Deg F.
Hydrogen Sulfide:	15	ppm (vol)	Water Content:	> 1125	lbs/MMCF
Mercaptan Sulfur:		ppm (vol)			
Gross BTU/ft ³	991	(dry gas)		HHV:	991
	974	(water vapor saturated)		LHV:	900

* (ASTM D3588-91)

Revised By:

Justin Stepanian

3302 Industry Dr., Signal Hill, CA 90755
 Tel: 562-426-0199 Fax: 562-426-5664
 www.strata-analysts.com

E&B

Natural Resources

Office: (661) 679-1700 • Fax: (661) 679-1797
1600 Norris Road • Bakersfield, CA 93308

April 8, 2014

Mr. Ken Robertson
Community Development Director
City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254

RE: E&B Oil Drilling & Production Project
Draft Environmental Impact Report
Analysis of Pipeline Spills in Executive Summary, Section 4.3 – Biological Resources,
Section 4.9 – Hydrology and Water Quality, Section 4.8 – Safety, Risk of Upset, and
Hazards, and Section 4.10 - Land Use/Recreation/Policy Consistency Analysis

Dear Mr. Robertson:

E&B Natural Resources Management Corp. (E&B) has conducted a review and further analysis of the issue of pipeline spills discussed in the Executive Summary, Section 4.3 – Biological Resources, Section 4.8 – Safety, Risk of Upset, and Hazards, Section 4.9 – Hydrology and Water Quality, and Section 4.10 - Land Use/Recreation/Policy Consistency Analysis of the Draft Environmental Impact (Draft EIR) for the E&B Oil Drilling and Production Project (Proposed Project). A discussion of this analysis is provided below.

The November 2012 Planning Application for the Proposed Project proposed three oil pipeline scenarios; two of which were the construction of a new pipeline within the public road right of way and the third utilizing some public road right of way and an existing pipeline in the Southern California Edison (SCE) Utility Corridor. The description of these oil pipeline scenarios and the end point at one of four valve box locations were provided on pages 2-48 to 2-51 in Section 2, Project Description, of the Draft EIR.

The Draft EIR, Executive Summary, Table ES.2 on page ES-7 and the abovementioned Draft EIR Sections identifies that the Proposed Project would have the potential to result in significant unavoidable adverse impacts to biological resources, hydrology and water quality, and recreation from a single oil spill event. This single event would be an oil pipeline spill located along Herondo Street near Valley Drive that would occur during a 0.50-inch or greater storm event, potentially allowing oil to reach the Pacific Ocean through the storm drain system. Based on this, the following provides: a discussion of updates to the pipeline spill probability presented in the Draft EIR based on the updated 2013 Office of the State Fire Marshal (OSFM) spill frequency; and Applicant proposed mitigation measures for additional pipeline design criteria that would reduce the causes in the CSFM Incident Causal Distribution identified in the Draft EIR.

Updated Pipeline Spill Probability

The analysis provided on pages 4.8-85 and 4.8-56 in Section 4.8 – Safety, Risk of Upset, and Hazards of the Draft EIR used the California State Fire Marshal (CSFM) 1993 report [1] to establish a spill frequency of 5.27 spills per 1,000 mile years. It was concluded in the analysis that the probability of any spill occurring during a 0.50-inch or greater storm event in the vicinity of Herondo Street and Valley Drive would be 0.4% during the life of the Proposed Project.

The CSFM spill frequency (for 1994 to 2012) was recently updated by the OSFM [2][3] (refer to Attachment 1 to this letter) and, as a result, the current spill frequency would be 0.3% of the 1993 spill frequency or 1.58 spills per 1,000 mile years. In addition, the Applicant has proposed mitigation measures (discussed further below) that provide additional design criteria that would eliminate a majority of the causes outlined in the CSFM Incident Cause Distribution as shown in Attachment 2 to this letter. A conservative reduction of 95% has been used to account for the incorporation of these proposed mitigation measures that mitigate the pipeline failure. The remaining 5% accounts for seismic or any other extraordinary events that may cause both the carrier pipe and the secondary containment pipe (provided with the proposed mitigation measures) to fail at the same time. Based on the 95% reduction, the appropriate pipeline failure frequency is 7.91 spills per 100,000 mile years.

EB-327

The main area of concern for the oil pipeline spill is the 0.9-mile section along Herondo Street in the Cities of Hermosa Beach and Redondo Beach. The mitigated failure rate for this section of pipeline is 7.11 per 100,000 years. The principal environmental effect is estimated to occur during a 0.5-inch or greater storm event that is predicted to occur an average of 10 days per year. Based on this, the probability of a simultaneous storm event and pipeline failure to occur within the 0.9-mile section along Herondo Street is 10/365 times the failure rate of the subject section, or 1.95 per million years. Distributing this frequency for any spill among different spill size ranges based on the CSFM 1993 report [1] gives the spill frequency distributions along Herondo Street near Valley Drive that are shown in Table 1 below. As indicated in Table 1, the estimated annual frequency of medium and large spills would be less than 1 in 1 million per year and the frequency of small spills (less than 10 barrels) would be very close to 1 in 1 million per year.

EBPS-328

Table 1
Annual Spill Frequency
0.9-Mile Section Along Herondo Street Near Valley Drive
During a 0.5-inch or Greater Storm Event (10 days per year)

Any 0+bbl	Small <10 bbl	Medium 10<50 bbl	Large > or = 50 bbl
1.95E-06	1.05E-06	4.09E-07	4.87E-07
100%	54%	21%	25%

Applicant Proposed Mitigation Measure (Additional Pipeline Design Criteria)

To reduce the potential significant impacts to biological resources, hydrology and water quality, and recreation from a single oil spill event as analyzed in the Draft EIR, the following proposed mitigation measures should be incorporated into the Proposed Project:

EBPS-329

Proposed Mitigation Measure: The Applicant will provide a “pipe-in-pipe” design to provide secondary containment for any leak or rupture in the main crude oil pipeline (i.e., carrier pipe). This mitigation measure will address the selected oil pipeline scenario as follows:

- For the two scenarios within the public road right-of-ways, the Applicant will install a 6-inch Grade X-56 crude oil carrier pipe with a three-layer FBE coating in a secondary fiberglass outer pipe. The 6-inch Grade X-56 carrier pipe will add approximately 1.6 times the Corrosion Allowance (CA) or about 4.8 times the required thickness. Check valves will be provided at strategic locations along the pipeline. The location of these check valves will be determined during final design in Phase 3.
- For the scenario within the Southern California Edison Utility Corridor, the Applicant will install a 6-inch Fiberspar pipe for the crude oil carrier pipe. For the portion of the pipeline constructed in Valley Drive and crossing Herondo Street, the Fiberspar pipe will be incased in a secondary fiberglass outer pipe. For the portion of the pipe installed in the Utility Corridor, the Fiberspar pipe will be “pulled” through an existing 14-inch steel pipe that will provide the required secondary containment. Check valves will be provided at strategic locations along the pipeline. The location of these check valves will be determined during final design in Phase 3.

Proposed mitigation measure: To reduce the risk of any third party damage to the oil pipeline, the Applicant will: sand slurry the pipe to 6 inches over the pipe and then use a 3-sack slurry above the pipe to the base of the pavement or ground surface (within the Utility Corridor); and lay strips of warning tape over the top which will prevent third party damage to the pipe.

Proposed mitigation measure: The Applicant will provide an inert gas, nitrogen, blanket within the secondary outer pipe to allow monitoring for the loss of secondary containment. In addition, the annulus between the carrier pipe and the secondary containment will be monitored for hydrocarbon vapor.

For the two oil pipeline scenarios within the public right-of-ways, the Applicant proposed mitigation measure provides for the installation of a six-inch Grade X-56 carrier pipe with a three-layer FBE coating in a secondary fiberglass outer pipe. A standard wall pipe would allow for a CA of 0.2143 or about 3 times the required thickness. However, by using the Grade X-56 carrier pipe proposed in the mitigation measure above would add about 1.6 times the CA or about 4.8 times the required thickness. In addition, the Applicant proposed mitigation measure to provide sand slurry over the pipe and a slurry backfill above the pipe to the pavement as well as warning tape would eliminate the opportunity for third party damage. By enclosing the pipeline in a secondary containment pipe, this would eliminate any opportunity for a leak or rupture that could occur from entering the surface streets and storm drain system. With the proposed mitigation measures, the 6-inch pipe would reduce the volume of oil contained in the carrier pipe, the check valves placed along the pipeline alignment would limit the quantity of oil that would drain in the event of a rupture, and the monitoring of the inert gas, nitrogen blanket

EBPS-329
continued

within the secondary outer pipe would allow for the pipe to be monitored for the loss of secondary containment.

For the third scenario within the Utility Corridor, Applicant would install a 6-inch Fiberspar pipe for the crude oil carrier. For the portion of the pipeline constructed in Valley Drive and crossing Herondo Street, the Fiberspar pipe would be incased in the same fiberglass outer pipe as in the two scenarios above. For the portion of the pipe installed in the Utility Corridor, the Fiberspar pipe would be "pulled" through an existing 14-inch steel pipe that would provide the required secondary containment. The Applicant has the 2006 Internal Pipeline Inspection Report that confirms the integrity of that line, but would perform an hydrostatic test on the pipeline prior to installing the new Fiberspar pipe to ensure that there are no leaks in the existing pipeline. In addition, the Applicant proposed mitigation measure to provide sand slurry over the pipe and a slurry backfill above the pipe to the pavement or ground surface in the Utility Corridor as well as warning tape, would eliminate the opportunity for third party damage. By enclosing the pipeline in a secondary containment pipe, this would eliminate any opportunity for a leak or rupture that could occur from entering the surface streets and storm drain system. With the proposed mitigation measures, the 6-inch pipe would reduce the volume of oil contained in the carrier pipe, the check valves placed along the pipeline alignment would limit the quantity of oil that would drain in the event of a rupture, and the monitoring of the inert gas, nitrogen blanket within the secondary outer pipe would allow for the pipe to be monitored for the loss of secondary containment.

EBPS-329
continued

In conclusion, with the incorporation of the additional mitigation measures described above, the oil pipeline provided as a part of the Proposed Project would, through the use of the latest technology and design, be far safer than any of the oil pipelines that were used to establish failure rates in both the 1993 CSFM study [1] and 2013 OSFM update [2][3]. This proposed oil pipeline with the incorporation of the additional proposed mitigation measures would reduce the potential significant unavoidable adverse impacts to biology resources, hydrology and water quality, and recreation from a single oil spill event to a less than significant level.

EBPS-330

Please feel free to contact me with any questions.

Regards,



Michael Finch
Vice President of Health, Safety, Environmental & Governmental Affairs
E&B Natural Resources Management Corp.

Attachment 1 – Information from Office of the State Fire Marshal (OSFM), Pipeline Safety Division, "Hazardous Liquid Pipeline Safety Seminar," March 26-28, 2013

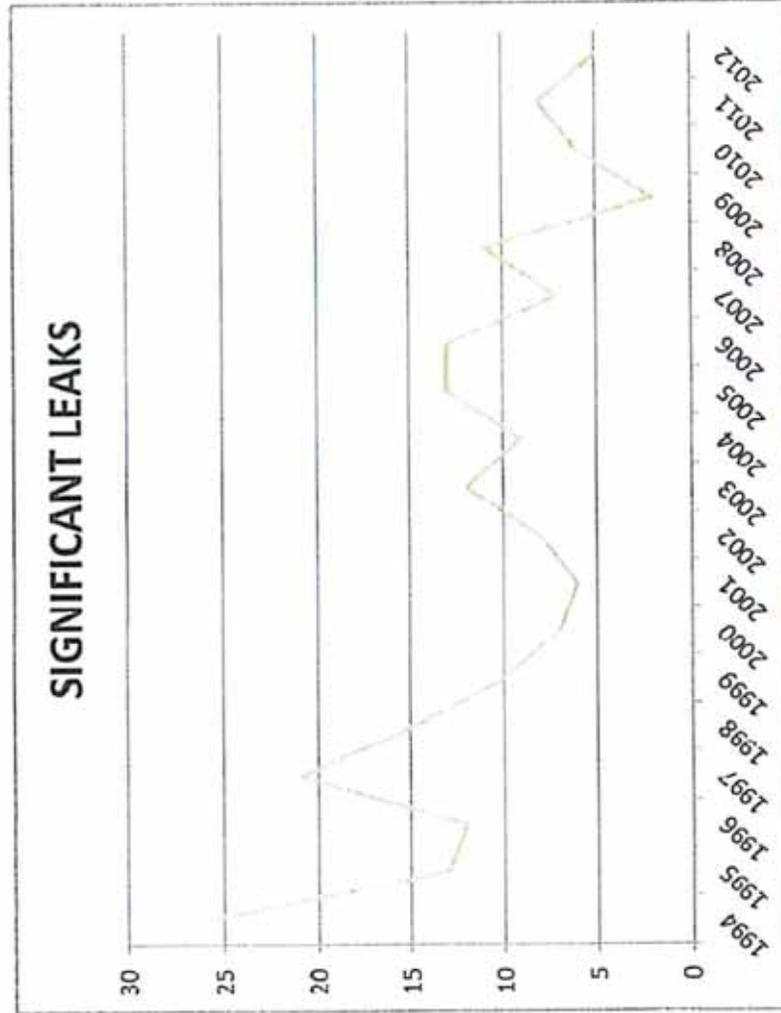
Attachment 2 – Table 4-1 from OSFM 1993 Hazardous Liquid Pipeline Risk Assessment

REFERENCES

1. Office of the State Fire Marshal, California State Fire Marshal (CSFM), "Hazardous Liquid Pipeline Risk Assessment," 1993.
2. Office of the State Fire Marshal (OSFM), Pipeline Safety Division, "Hazardous Liquid Pipeline Safety Seminar," Hilton Anaheim, March 26-28, 2013.
3. http://primis.phmsa.dot.gov/comm/reports/safety/CA_detail1.html?nocache=9728

Attachment 1

California Hazardous Liquid Pipeline 20 year Leak Trend



Source: USDOT-PHMSA 7000-1 accident reports

PHMSA defines Significant Incidents as those incidents reported by pipeline operators when any of the following specifically defined consequences occur:

- fatality or injury requiring in-patient hospitalization
- \$50,000 or more in total costs, measured in 1984 dollars
- highly volatile liquid releases of 5 barrels or more or other liquid releases of 50 barrels or more
- liquid releases resulting in an unintentional fire or explosion

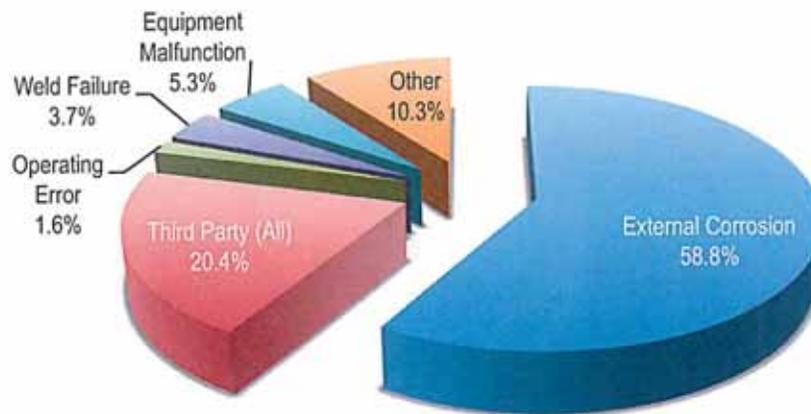
Attachment 2

Table 4-1
Overall Incident Causes
Incident Rate Comparison

(Incidents Per 1,000 Mile Years)

Cause of Incident	No. of Incidents	Incident Rate	Percentage
External Corrosion	302	4.18	58.75%
Internal Corrosion	14	0.19	2.72%
3rd Party - Construction	64	0.89	12.45%
3rd Party - Farm Equipment	18	0.25	3.50%
3rd Party - Train Derailment	2	0.03	0.39%
3rd Party - External Corrosion	7	0.10	1.36%
3rd Party - Other	14	0.19	2.72%
Human Operating Error	8	0.11	1.56%
Design Flaw	2	0.03	0.39%
Equipment Malfunction	27	0.37	5.25%
Maintenance	5	0.07	0.97%
Weld Failure	19	0.26	3.70%
Other	25	0.35	4.86%
Unknown	7	0.10	1.36%
Total	514	7.12	100.00%
Number of Mile Years	72,181		
Mean Year Pipe Constructed	1957		
Mean Operating Temperature (*F)	97.9		
Mean Diameter (inches)	12.3		
Average Spill Size (barrels)	408		
Average Damage (\$US 1983)	141,477		

Incident Cause Distribution



**E&B Oil Drilling & Production Project
Final Environmental Impact Report
Public Draft Comments
Applicant**

Comment #	Response
EB-1	<p>There is a range of uncertainties associated with any Project, but an oil and gas Project presents more uncertainties than most projects. A hotel Project for example, such as the hotel Project in Hermosa Beach in the 1990s, has impacts such as aesthetics, construction air emissions, construction noise and traffic, that current models present with a high degree of accuracy. Uncertainty is rarely an issue for these types of projects in determining impacts and significance. For an oil and gas Project, however, substantial uncertainties exist, particularly in the areas of blowout risk, air quality odors and even noise and aesthetics due to the 24 hour operations. CEQA requires that an EIR provide for full disclosure and that an EIR be "sufficient as an informational document" for the public. An EIR must "explain the effects of a Project on the environment" and must also provide "a good faith effort at full disclosure". This full range of potential effects of the Project is disclosed in the DEIR and such disclosure is effectively required by the CEQA full disclosure concept.</p> <p>The DEIR provides extensive information on the wide range of effects of the proposed Project, reiterating information provided by the Applicant in the application materials, that "it is anticipated that the wells drilled at the field would not be pressurized wells once they are drilled and in production for a certain amount of time". However, as uncertainty exists in the exact characteristics of the reservoir, the EIR discloses that "there may be periods of time and zones of the reservoir where substantial pressures could be encountered". This is based on historically drilled wells in nearby Redondo Beach and on CSLC studies of reservoir drainage. If areas nearby the site had not historically demonstrated some level of pressure, and previous documents had not indicated the potential for pressure, then the EIR would have concluded that blowouts were either not possible or a very low probability. However, this was not the case. The EIR must disclose this potential range of potential operating characteristics.</p> <p>The selection of significance criteria is conservative in the DEIR. Noise levels are based not just on municipal code requirements, but also increases over the quietest hour. This is done in order to capture the potential for substantial annoying effects of noise generated during the nighttime, when ambient noise levels can be very low. A less conservative approach might use the average 24 hour ambient noise level, which would have then determined that noise levels, as mitigated in the DEIR, are not significant, but would have not addressed the requirements in the Municipal Code related to annoyance. While these increases over ambient nighttime are not codified in the municipal code, the code does prohibit noises that are "annoying to reasonable persons of ordinary sensitivity and to cause or contribute to unreasonable discomfort". Considerations include time of day, duration, and proximity. In order to quantify this description, the EIR used an increase over the quietest nighttime baseline hour noise level of 3 dBA and measured ambient noise levels over an extended period. While the number of nighttime hours where the noise thresholds are exceeded would be limited to a few hours per night, these few hours would produce impacts to nearby residences, could produce discomfort to residents in the middle of the night, would be considered potentially annoying and were therefore considered to be a significant impact (before mitigation). While it is possible that the noise levels from the Project will be lower or that residents near the site will be less sensitive and that 3 dBA will not be annoying, it is also possible that a considerable number of persons will consider the activities in the middle of the night a nuisance. The DEIR must disclose this potential range of impacts and, as part of the full disclosure requirements of CEQA determined that the impacts could be potentially significant.</p>

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	<p>Another example is odors. If H₂S is present, or hydrocarbons or other maintenance materials, are released during maintenance procedures, well workovers or other activities at the site, these releases could produce offsite odors. It is possible that the facility could operate and drill wells without any releases and odors. But it is also possible that the facility could produce odors and might encounter conditions while drilling that could produce an odor release. Presenting this range of potential situations is in line with the full disclosure requirements of CEQA.</p> <p>Odors are another example, where the impacts are determined by the level of potential nuisance. The SCAQMD defines an odor as a significant impact if it produces a nuisance as defined by Rule 402 - any emission which would "cause injury, detriment, nuisance, or substantial annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public". While the facility might operate in a manner which would not produce annoyance or endangers the comfort of the public, it also might operate in a fashion that does produce discomfort or annoyance. This potential can be minimized through appropriate measures, but cannot be eliminated. Therefore, it is the role of the EIR as a full disclosure document to inform the public of this potential and to conclude that this would be a potentially significant impact.</p> <p>Pipeline significance thresholds are based on the CEQA Appendix G which states that it would be a significant impact if the project "creates a significant hazard to the public or the environment through a reasonably foreseeable upset and accident event". Impacting the ocean, ocean resources, recreation and water quality would be a substantially high consequence and a significant impact. An acceptable frequency of such an event is not well defined, but the risk matrix proposed by the Applicant and used historically by other jurisdictions (Santa Barbara County) indicates that, spills that occur less than 1 in a million years would be less than significant for all spill sizes. Due to the high sensitivity of a spill to the ocean and the resulting significant hazard, a very low frequency threshold has been used in the EIR.</p>
EB-2.	<p>Oil and gas projects within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) are heavily regulated, and most operations require the use of semi-closed loop systems. These are incorporated into the regulatory requirements of operating within the south coast air basin. Therefore, the Applicant's insistence that the facility is closed-loop is potentially misleading. There are multiple activities proposed that are not closed loop and would result in emissions to the environment that could cause odors. These are accounted for in the air emissions analysis as required by the SCAQMD. These include drilling and the use of drilling muds and fluids open to the environment, the activities associated with well workovers, maintenance operations that involve opening vessels, piping and other equipment, accident scenarios, as well as fugitive emissions from leaking facility valves and components. The use of a flare header to direct all pressure relief, including the tank relief to the flare, while good industry practice, does not eliminate the release of emissions. In conclusion, emissions to the environment would not be eliminated with these measures and the potential for odors continues to exist as indicated in the EIR.</p>
EB-3	<p>The uncertainties associated with the risk of upset scenario are discussed above in EB-1. Current drilling activities in many areas of the Torrance oil field involve drilling into zones of the Torrance field that are well developed and would not produce the potential for blowouts. However, drilling into zones and or areas of the field that have never been drilled into historically has a higher potential for pressurization. The initial wells that were drilled into the Redondo Beach area while not exactly the same as the proposed Project, demonstrated some potential for pressurization. Historical</p>

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	documents by the CSLC indicated a low potential for pressurization at levels up to 2,000 psi downhole based on gas-oil saturization. The DEIR preparers agree that the potential is low for a blowout, but, as required by CEQA's full disclosure requirements, the potential is not zero and may be high enough that the blowout scenario produces unacceptable risk levels. Note that the average well from Redondo Beach did not produce enough pressure to produce a blowout. However, using just the average well would have not fulfilled the CEQA requirement for full disclosure. The DEIR defines the range of risks by clearly showing that risks would be less than significant if the reservoir is not pressurized and shows the range of risks on the FN curves. However, the uncertainties associated with the determination of significant must be fully disclosed. Discussion related to the modeling of blowout releases are discussed in subsequent responses.
EB-4	Specific added design features by E&B have been analyzed and responded to in individual comments in this document below.
EB-5	E&B's separate letters providing comments on various issue areas are acknowledged and responses are provided to those individual comments as appropriate.
EB-6	The sentence is correct as stated. The city is obligated to fulfill its responsibilities under the Settlement Agreement. No further clarification is necessary.
EB-7	The Executive Summary is, by its nature, a synoptic document, and as such it does not contain all the detail included in the text of the Draft EIR. However, where appropriate, we have added language in the Executive Summary to supplement existing information.
EB-8	The Executive Summary has been edited in response to the comment.
EB-9	The Executive Summary has been edited in response to the comment.
EB-10	The Executive Summary has been edited in response to the comment.
EB-11	The Executive Summary has been edited in response to the comment.
EB-12	The City currently does not have an approved Local Coastal Plan and coastal development permits would be issued by the California Coastal Commission. It is up to that jurisdiction to decide how many coastal development permits they would issue for different phases of the Project.
EB-13	The Executive Summary has been edited in response to the comment.
EB-14	The Executive Summary has been edited in response to the comment.
EB-15	The Executive Summary has been edited in response to the comment.
EB-16	The Executive Summary has been edited in response to the comment.
EB-17	The Executive Summary has been edited in response to the comment.
EB-18	The Executive Summary has been edited in response to the comment.
EB-19	The Executive Summary has been edited in response to the comment.
EB-20	The Executive Summary has been edited in response to the comment.
EB-21	The Executive Summary has been edited in response to the comment.
EB-22	The Executive Summary has been edited in response to the comment.
EB-23	Additional design features proposed by E&B have been analyzed in the specific issue areas and if changes were merited as a result of the analysis, those changes have also been reflected in the Executive Summary. The localized extent of odors has been added to the FEIR section 4.2, Air Quality.
EB-24	Additional design features proposed by E&B have been analyzed in the specific issue areas and if changes were merited as a result of the analysis, those changes have also been reflected in the Executive Summary.
EB-25	Additional design features proposed by E&B have been analyzed in the specific issue areas and if changes were merited as a result of the analysis, those changes have also been reflected in the Executive Summary.
EB-26	Additional design features proposed by E&B have been analyzed in the specific issue areas and if changes were merited as a result of the analysis, those changes have also been reflected in the Executive Summary.
EB-27	Additional design features proposed by E&B have been analyzed in the specific issue

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	areas and if changes were merited as a result of the analysis, those changes have also been reflected in the Executive Summary.
EB-28	Additional design features proposed by E&B have been analyzed in the specific issue areas and if changes were merited as a result of the analysis, those changes have also been reflected in the Executive Summary.
EB-29	The Executive Summary has been edited in response to the comment.
EB-30	The AES Alternative is adequately described in the EIR as having similar obstacles and challenges as the Proposed Project in various fronts to get approved as suggested in the comment.
EB-31	The Executive Summary has been edited in response to the comment.
EB-32	The Introduction has been edited in response to the comment.
EB-33	The Introduction has been edited in response to the comment.
EB-34	The sentence is correct as stated. The city is obligated to fulfill its responsibilities under the Settlement Agreement. No further clarification is necessary.
EB-35	The Introduction has been edited in response to the comment.
EB-36	The comment does not reflect a defect in the environmental analysis in the EIR, but requests clarifications to the general description of the procedure. The Statement of Overriding Consideration will not be approved by the council but will be in the ballot measure to be considered by the people, as they exclusively possess the power to approve the project. The paragraph will be clarified as follows: The City of Hermosa Beach will consider information in the Final EIR and certify the Final EIR prior to placing a measure on the ballot asking the voters to approve or disapprove the project, as required under the Settlement Agreement. The decision to approve or deny E&B's project will then be made by Hermosa Beach Voters (see Project History, section 1.8.1, below). The conclusions of the EIR will also serve to inform the voters in their role as decision-makers for the Proposed Project. Mitigation measures identified in the EIR to reduce impacts will be incorporated into the Project (essentially providing conditions which must be met if the project is approved) and identified for voters on the ballot measure, as part of the Development Agreement. The ballot measure will include all necessary approval findings and a Statement of Overriding Consideration.
EB-37	The Introduction has been edited in response to the comment.
EB-38	The parking lot is considered part of the Project, together with all other development in the coastal zone undertaken or required to facilitate the Project, including development on the Project Site, within any right-of-way, or at accessory sites such as 636 Cypress Avenue, within the coastal zone. Thus the final bullet point already covers this point.
EB-39	It is possible that the City may process a Coastal Development Permit to demolish or relocate certain facilities from the existing City Maintenance Yard in advance of or separately from a CDP application by E&B. Maintaining this approval as is does not preclude E&B from processing a CDP rather than the City processing a CDP regarding the existing City Maintenance Yard.
EB-40	The Introduction has been edited in response to the comment
EB-41	The text reads as stated in the comment, no change is suggested.
EB-42	The sentence is correct as stated. The city is obligated to fulfill its responsibilities under the Settlement Agreement. No further clarification is necessary.
EB-43	The Introduction has been edited in response to the comment.
EB-44	The Introduction has been edited in response to the comment. Appendix F was not used in the draft document. However, the Settlement Agreement is included as Appendix N. Appendix F now contains Geology Appendices.
EB-45	The standards used are those referenced in the 1990 Santa Barbara County Environmental Thresholds Manual for oil spills.
EB-46	Comment EB-46 does not exist.
EB-47	The Introduction has been edited in response to the comment.
EB-48	The Introduction has been edited in response to the comment.

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EB-49	The Lease Agreement is included as Appendix N.
EB-50	The paragraph indicates the timing for the construction of the temporary maintenance yard and not the period of time when it would be used. This is an introductory paragraph to the Project Description and a detailed description of the parking arrangements would be confusing to the reader. The Project Description includes a separate sub-section on parking.
EB-51	Text has been modified to indicate that the lease is with the City, not the State.
EB-52	Text has been added to the FEIR describing the phase during which the Maintenance Yard would be constructed.
EB-53	Text has been modified to define the decision makers.
EB-54	This text modification has been incorporated into the FEIR.
EB-55	Text has been modified to correctly address the phasing of the permits.
EB-56	<p>Table 2.4 provides information on the maximum round trips per day for trucks and autos separately. The combined total column is not a simple addition, but the maximum number that would occur on any day, as explained in the notes. Truck and automobile axle specifications are listed in the notes.</p> <p>Information provided by the Applicant in the planning application did not fully account for all vehicle trips as it did not include vehicle trips required to deliver construction equipment to and from the Project site. This produced slightly different peak day numbers in the EIR than the application, although none of the changes caused exceeding the allowed 18 trucks per day or caused a significant impact.</p>
EB-57	This lease condition has been added to the text discussion to indicate that the site may be developed at a future date and that the lease does not terminate.
EB-58	Text has been modified to address the different truck routes for crude oil and construction related trucks. The crude oil truck route is included in Appendix A of the DEIR.
EB-59	Text has been added to include a period at the end of the sentence.
EB-60	The City had personal communications with both agencies. The statement has been revised to reflect that the RWQCB stated that they would put the case in their backlog status because they currently have other higher priority cases.
EB-61	Text has been modified to address the activities associated with drilling and that actual drilling would not occur for the full 30 days. However, activities would continue for 24 hours per day for up to 30 days.
EB-62	The Project Description does not provide an exhaustive listing of all items provided by the Applicant in their application and subsequent submissions. These are generally discussed in more detail within each applicable issue area discussion under design features.
EB-63	If the No Parking option for the City Maintenance Yard is selected, then the City will not have extra parking spaces to make available to the Applicant and the Applicant will have to make the Cypress Street parking spaces permanent. Even if the Parking Option is selected, the City has not made any determinations regarding whether it would enter into any agreement to supply replacement public parking for the existing City Maintenance Yard. The current design of the No Parking option for the City Maintenance Yard would have all parking within the maintenance yard and these sites most likely would not be available to the public during off hours as that would allow the public to have access to the Maintenance Yard. At this point in the Project, the Applicant has proposed parking be located on Cypress Street and this would fulfill the parking obligations. Should the Applicant propose other public parking replacement programs in the future that are not evaluated in the EIR, the appropriate permitting and CEQA procedures would need to be followed.
EB-64	Text has been corrected to state 601 Cypress in all locations.
EB-65	Text has been modified to include reference to the development agreement.
EB-66	The Project Description has been amended in response to the comment.

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EB-67	The Project Description does not need to be amended in response to the comment.
EB-68	Section 3.1.2 indicates that the Project is currently under review by the California Energy Commission (CEC). The CEC has held a number of workshops in Redondo Beach. The exact timing of the Project is uncertain at this time due to the permitting process, which has been extended multiple times.
EB-69	CEQA requires that cumulative projects be examined for all "past, present, and probable future" projects. The Anita Lane Project could affect the traffic flow in the area in a manner that is different than that assessed for the baseline conditions and was therefore included.
EB-70	CEQA requires that cumulative projects be examined for all "past, present, and probable future" projects. The Harbor Development Project could affect the conditions in the area in a manner that is different than that assessed for the baseline conditions and was therefore included.
EB-71	Section 4.0.1 discusses the issue area (safety and risk) that uses the SBC criteria. The criteria are discussed in more detail within the respective issue area section.
EB-72	The use of the terminology related to Classes of impacts was originally used in NEPA analysis. It allows for a simpler method of discussing impacts and was therefore used in this document. The table in the introductory section of the EIR explains the terminology.
EB-73	Each issue area lists the respective design features applicable to each issue area. The Project Description provides an abbreviated discussion of the most pertinent design features.
EB-74	The development agreement is discussed in section 1.0, Introduction. Monitoring of the compliance with mitigation measures is a critical part of the implementation portion of the EIR. CEQA requires that an agency "shall adopt a program for monitoring or reporting on the revisions which it has required in the Project and the measures it has imposed to mitigate or avoid significant environmental effects". The EIR includes mitigation measure EM-1 in order to ensure that this program is adopted and that the costs be borne by the Applicant.
EB-75	Section 4.1.1.3 clearly states that recent legal decisions indicate that "public and private views are properly studied" in an EIR and that the lead agency can decide to include private views. As the site is located in very close proximity to private views, the City decided to include private views in the assessment of significance. Mitigation measures applied for aesthetic impacts would benefit both public and private views.
EB-76	Text has been modified and the Project site description described on page 4.1-7 has been copied to page 4.1-13 in the FEIR.
EB-77	The existing site is M-1 manufacturing as per the City zoning map. The section of the Municipal Code would be applicable to M-1 facilities that abut residential zones. This reference has been removed as it would not be applicable to the proposed Project.
EB-78	A portion of the permanent City Maintenance Yard (the portion near Valley Drive) is zoned Open Space. Section 4.1.5.7 discusses potential impacts of the Maintenance Yard Project and includes mitigation measures, including landscaping, materials and finishes, and lighting. Issues related to the Open Space areas of the site, such as lot coverage and height, have been added to the FEIR.
EB-79	Redondo Beach and Torrance are included in the regulatory section because of the installation of the pipeline and valve station within Redondo Beach and Torrance
EB-80	The CUP allows for changes to the CUP to mitigate detrimental effects of the Project.
EB-81	The drill rig would be visible from a number of different locations throughout the City, particularly if second and third story viewing locations are included. However, just because the drill rig can be seen, does not mean that it produces a significant impact. This is repeatedly stated throughout the EIR in the aesthetics section, where views from the background have a "low potential to become dominant due to the distance". From middleground views, just a few blocks from the Project site, impacts

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	are still categorized as "less likely to be dominant" for the walls and non-rig features, and the rig is becoming dominant at this point. This accurately characterizes the potential aesthetic impacts.
EB-82	As is true with any Project, there are a number of places (behind buildings or vegetation) where the Project components are not visible. Figures 4.1-1 and 4.1-2 attempt to define these areas. However, there is little value to examining visual impacts of a Project from areas where it cannot be seen, particularly when there are areas where it can be seen. The determination of significance is based on the effect that the Project has on the existing viewshed environment. While the inability to view an area contributes to this determination, the drill rig would be visible from multiple locations in the middle and foreground areas.
EB-83	Text has been modified. The figure 4.1-7a was incorrectly labeled and has been changed in the FEIR.
EB-84	The exact design modifications are outside the scope of the EIR. Characteristics of the wall to be more in character with the surrounding buildings would be developed as part of the final permit process and would be reviewed by City staff for aesthetic elements. Extending the wall from 16 to 32 feet would require larger footings, which may extend into the landscaping area or extend back into the facility. As there is 10 feet of landscaping space in the plans, this would most likely not impede on appropriate landscaping elements.
EB-85	Materials used and landscaping requirements will have to take into account the actual function of the sound attenuation walls and would not sacrifice those required functions. The mitigation measure does not imply that the function of the sound wall should be compromised. Figure 4.1-44 (based on Breitburn Oil and Gas Drilling and Production Site) has been added to the FEIR to indicate the type of wall design features that could enhance aesthetics based on the .
EB-86	The requirement to increase the wall height may cause encroachment into the landscaping areas or cause encroachment into the facility areas, depending on the footing design. This could reduce the areas available for landscaping and will need to be taken into account during the detailed facility design. The extent to which footings encroach on the landscaping area in the current design have not been provided by the Applicant.
EB-87	The current Maintenance Yard site generates nominal emissions onsite, primarily due to solvent use, welding, etc, and most of the emissions associated with the facility are associated with vehicles traveling to and from the site: i.e. maintenance trucks, employee vehicles, etc. This level of activity is not anticipated to change with the proposed Maintenance Yard. Solvent use would continue, as would the arrival and departures of maintenance vehicles. There are not new combustion sources proposed for the proposed Maintenance Yard aside from possibly a standard residential type water heater, which currently exists on the site. Air emissions would therefore be similar as discussed in the DEIR.
EB-88	Table 4.2-2 has been modified to indicate the national standards (not the nation primary standards) and be in line with the published CARB listing of standards.
EB-89	Table 4.2-2 includes effects from different sources on the SCAQMD website. H2S, for example, produces odors but can produce more serious effects at higher concentrations, as described in SCAQMD literature on health risk assessments. The table is meant to provide information to the public on the effects of chemicals, such as that nitrogen dioxide results in the brown coloration Los Angeles is familiar with. Vinyl Chloride is listed in the CARB listing of state and federal standards and was therefore included in this table.
EB-90	The discussions on pages 4.2-7 through 4.2-9 concerning the health effects of various pollutants have been coordinated with Table 4.2-2 in the FEIR.
EB-91	The discussion on VOC health effects has been removed from the FEIR.
EB-92	This discussion was taken from the SCAQMD Management Plan and is meant to

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	indicate that the exceedances of ozone shown in the figures is due to emissions basin-wide and not just emissions within the inland areas. The exact language used in the 2012 Management Plan was inserted into the FEIR, and states that limited exceedances along the coast are due to sea breezes.
EB-93	Text indicating the station ID and location have been added to the footnotes in Table 4.2-3.
EB-94	GHG emissions are not a local issue. GHG emissions from any Project disperse throughout the entire planet. Although each project's individual contribution is very small, the cumulative impacts are the concern. State-wide regulations, such as AB-32 and Cap-and-Trade have attempted to quantify the levels at which individual projects would need to make a fair-share contribution to address the cumulative impacts. Text has been added and modified to indicate that the effects are cumulative in nature.
EB-95	Text has been modified to indicate gasoline combustion and electricity consumption.
EB-96	Text has been modified to use the most recent CO2 concentration values.
EB-97	All sources of GHG contribute to air quality impacts. One person driving their car on the 405 freeway contributes, in very small part, to the degradation of air quality in the Los Angeles basin. To say that they do not contribute at all is not accurate. The same goes for GHG emissions. There is no single source of GHG emissions that could be eliminated to address potential GHG impacts. All of the impacts are cumulative and composed of many, many small contributors.
EB-98	See response EB-97 above
EB-99	See response EB-87. The current Maintenance Yard site generates nominal emissions onsite, primarily due to solvent use, welding, etc, and most of the emissions associated with the facility are associated with vehicles traveling to and from the site; i.e. maintenance trucks, employee vehicles, etc. This level of activity is not anticipated to change with the proposed Maintenance Yard. Localized emissions would be nominal at the existing Maintenance Yard site as there are nominal combustion and area sources. Solvent use would continue, as would the arrival and departures of maintenance vehicles. There are not new combustion sources proposed for the proposed Maintenance Yard aside from possibly a standard residential type water heater, which currently exists on the site. Air emissions would therefore be similar for the proposed City Maintenance Yard, which is discussed in the EIR.
EB-100	Text has been revised to indicate that the thresholds for reporting are different for different chemicals and that facilities that emit more criteria pollutants above a given threshold must report their respective toxic emissions as well.
EB-101	Text has been modified to indicate that the CATEF database lists some oilfield emissions.
EB-102	The text on page 4.2-22 does not necessarily associate with the title of the rule as the rule title does not always indicate what the rule is addressing. The intention of this section is to provide the public with reference to the SCAQMD rules and what each rule is attempting to address. For example, the Rule 402 is just titled "Nuisance" but does not explain anything about what that is related to. The text on page 4.2-22 expands on this title to define what the Rule 402 is regulating.
EB-103	<p>The SCAQMD uses as their published thresholds any facility that produces an odor release that generates more than six odor complaints is a nuisance. However, as per Table 4.2-6, the SCAQMD thresholds are only that it creates a nuisance per rule 402. SCAQMD guidelines define this as 6 complaints.</p> <p>Lead and SO2 have been added to the SCAQMD thresholds Table 4.2-6.</p> <p>The maximum incremental cancer risk, health hazard index and cancer burden are shown in Table 4.2-6. The requirement for the peak year is pertaining to Rule 1401 which defines the requirements related to allowable cancer risk. EIRs reviewed by the SCAQMD require compliance with Rule 1401. The 1/70th peak risk per year has</p>

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	therefore been included in the significance thresholds. Text has been added to Table 4.2-6 to define this requirement.
EB-104	Text has been modified in the FEIR to remove the word "permitted".
EB-105	<p>The complete design features listing provided by the Applicant included many items that are rule requirements of the SCAQMD, such as Rule 402, 403, and that "all SCAQMD rules will be followed". CEQA documents assume that regulatory requirements will be applied and followed by projects and mitigation measures are generally applied as measures above and beyond the existing regulatory requirements in order to reduce impact levels. In addition, many of the design features from the Applicant are already discussed in the Project Description, such as the limit on truck trips to 18 per day and many of the features are non-specific, such as "normal wetting procedures shall be applied". Air quality analysis requires specific information about the frequency per day of wetting operations. The design features need to be specific enough that mitigation measures are not needed in order to reduce the impacts. However, due to the lack of specificity of many of the Applicant supplied design features, mitigation measures specifying the frequency per day of watering, for example, have been included as mitigation measures. Therefore, the listing in the air quality issue area write-up is an abbreviated listing.</p>
EB-106	Missing CUP requirements have been added into the FEIR.
EB-107	The DEIR used 250 feet as an estimate of the average distance that a vehicle would travel on the site. The Applicant indicates that the diagonal dimensions of the site are between 306-335 feet, indicating that an average distance of 250 feet is not an unreasonable assumption based on the fact that the vehicle would have to travel into, around, and out of the site.
EB-108	The contamination at the proposed City Maintenance Yard site is primarily lead and hydrocarbons, similar to that at the existing Maintenance Yard. Impact AQ.2 discusses the Maintenance Yard contamination. Text on page 4.2-35 has been modified to point to impact AQ.2 discussion.
EB-109	<p>The assumptions made to calculate the VOC and toxic emissions rates in the EIR are conservative in that the more volatile components are assumed to be excavated, along with the majority of the contaminated soils with a 25% contingency factor. Even with these conservative assumptions, the analysis still did not produce offsite impacts and the impacts were less than significant. In general, the approach used in the analysis is to use conservative assumptions and to check to see if, even with these conservative assumptions, offsite impacts would occur. If offsite impacts are found to occur, the analysis is refined (for example, more specific soil column data is used or a more accurate distribution of volatile compounds in the site is used). If no offsite impacts are found, then the analysis concludes that, even if substantial variations occur over the site and between soil sampling locations (see section 8.0 in the Brycon 2012 report), or if contamination is found beyond the limits of the surveys and substantially more soil excavation is required than that which is planned (as may be the case), that impacts would still be less than significant. This allows the Applicant to have the flexibility in the future and reduces the chances that subsequent CEQA analysis is required.</p> <p>The highest volatile VOC concentration (C4-C12) was 350 ppm at 35 feet with volatile hydrocarbons ranging down to 25 feet (with a small amount at 3 feet). The text in the FEIR has been corrected to these dimensions. In addition, the depth range for diesel (C13-C22) range from 3-44 feet. These dimensions have also been added into the FEIR as a correction. The VOC emission rate is based on page B-19 soil excavation using the EPA emission rate assuming 4 hours of excavation per day. Rates in g/s are needed for the AERMOD modeling.</p>
EB-110	Text in mitigation measure AQ-1b has been modified to require CARB certifications to be kept onsite.

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EB-111	See response to comment EB-109
EB-112	Text has been modified to indicate Phase 2 instead of Phase 1.
EB-113	<p>Odor Analysis E&B Comments Attachment 2</p> <p>Odor events are often very transitory, and the SCAQMD office is located in Diamond Bar, about 1 hour driving time from Hermosa Beach. Therefore, the City believes that it would be insufficiently protective to require issuance of a Notice of Violation (NOV) by the SCAQMD before an odor impact would be recognized as significant. Experience at other oil fields indicates that NOV's and inspections by SCAQMD are often ineffective at ensuring that a facility is not a nuisance (recent experiences at Allenco in University Park, for example). The Hermosa Beach Municipal Code addresses nuisance as any activity "which is injurious to health, or detrimental to the public safety, morals or general welfare, or is indecent, or offensive to the senses or an obstruction to the free use of property to such an extent as to interfere with the comfortable enjoyment or life or property by the entire community or neighborhood, or by any considerable number of persons" (MC 8.28.010). In addition, the SCAQMD's CEQA Thresholds establish that a project would have a significant odor impact if it creates an odor nuisance, which is defined as an odor release which produces more than six odor complaints. Therefore, the EIR has reasonably used the threshold of six odor complaints to define a significant odor impact.</p> <p>All oil and gas facilities leak gas to the environment, even with aggressive Rule 1173 compliance. The DEIR found that normal leakage below the thresholds defined by the AQMD would not produce normal, regular daily odor issues at nearby receptors. Design features and practices proposed by the Applicant and mitigation measures with the DEIR would reduce the potential for odors, but numerous other scenarios, including more substantial leaking components, maintenance activities, workovers and emissions from well components, etc, could cause odors that could travel offsite. Due to the close proximity of receptors and the public, odor releases could occur that generate more than six complaints and this was determined to be a significant impact.</p> <p>The DEIR indicates that under normal operations, leaking valves with an H2S level of 100 ppm would not produce offsite odors. This does not eliminate the other potential odor sources including maintenance activities such as line, tank or vessel openings, workovers removing well hole equipment and pumps or tubing, thereby exposing the well bore to the atmosphere, minor accident scenarios, drilling activities including muds handling that could cause short-duration, intermittent odors, pump leaks, etc.</p> <p>The H2S levels estimated in the crude oil vapor space are a function of the H2S in the crude oil and gas. Vapor space H2S levels can be as high as 10 times the H2S levels seen in the gas or crude oil. This assumption is considered conservative for the analysis. However, note that even with these very high concentrations of crude oil vapor space, that the DEIR concludes that impacts of fugitive emissions from tank components would be less than significant. It is not clear how representative the listed wells are of the crude oil that might be developed at the Hermosa Field. DOGGR indicates that the Torrance field has H2S odor, but with concentrations unknown. As discussed above, by assuming a conservative value and indicating that it does not produce offsite impacts or significant impacts, this allows for operational flexibility in the future.</p>
EB-114	Drilling emissions would occur at the same time as operational emissions during both Phase 2 and Phase 4. The SCAQMD requires that emissions occurring during operations be classified as operational emissions and compared to the operational thresholds.
EB-115	The emissions from the flare were assumed on the peak day to occur for the entire 24

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	hours with an annual limit of 200 hours, as per SCAQMD. The Application assumed that the flare would operate for 6.5 hours per day for 8.3 days per year. The DEIR assumed a full day of flaring as the worst case, and mitigated this down to 5 hours to limit emissions to less than the daily threshold.
EB-116	The sentence has been revised on page 4.2-45 to indicate that flaring during Phase 4 would only be related to upsets.
EB-117	Mitigation measure AQ-3a was revised to include reference to Phase 4 and the clarification on the equivalency of the flaring.
EB-118	Modeling parameters have been revised to indicate the correct phase. Increasing the height of the stacks could cause a number of different impacts, most likely air emissions impacts would decrease, but noise impacts could increase as the exhaust location would have changed. Please see the noise responses for a discussion of the impacts of higher stacks on noise. Modeling runs with a higher stack (32 feet for the microturbines and the flare) indicate that ground level impacts would be less than under the proposed Project case.
EB-119	The description of modeling parameters and the modeling runs have been addressed to describe the impacts that would be associated with the proposed Project. The CUP allows for the modification of conditions to allow for mitigation. Concerns about the potential onsite health and safety would also be an issue during proposed Project drilling as a 32 foot soundwall is proposed by the Applicant for a period of 30 months while the microturbines, etc would be operating. These health and safety concerns were not raised as a part of the Applicant's proposed Project with a 32 foot wall, but could be a potential concern during final design phases. However, the text under impact AQ-4 is discussing the proposed Project, which is for 16 foot stacks. The impacts of using taller stacks has been added under section 4.2.6.
EB-120	See response to EB-119.
EB-121	The sentence on page 4.2-49 of the DEIR has been revised to indicate that all of the microturbines are not critical. Some level of combustion would be needed for heat and any reduction in microturbine capacity could be made up for with additional electricity purchases.
EB-122	The odor threshold of 2 ppb has been added to the text under impact AQ.5.
EB-123	See response to comment EB-113
EB-124	The reference to the New Jersey pentane odor threshold is no longer available. New Jersey has updated their MSDS to indicate that the odor threshold is gasoline like, which would be on the order of 0.5-7 ppm. MSDS and a Center for Disease Control guideline indicating an odor threshold of 2 ppm for Pentane has been substituted in the references.
EB-125	See response to comment EB-113
EB-126	Mitigation measure AQ-5b has been deleted in the FEIR because the Applicant has proposed this measure already.
EB-127	See response to comment EB-113
EB-128	Drilling emissions would continue for the life of the Project through re-drills. The SCAQMD requires that emissions occurring during operations be classified as operational emissions and compared to the operational thresholds.
EB-129	Mitigation measure AQ-5b has been deleted in the FEIR because the Applicant has proposed this measure already. Discussion has been modified accordingly.
EB-130	The HARP model was run using a Tier 3 DPF on the diesel engines and risks were still significant and above the thresholds. The close proximity of the facility to receptors, the 90 days of workovers and the re-drills caused impacts to exceed the thresholds. Therefore, additional mitigation measures were proposed.
EB-131	The mitigation measure has been modified to allow for the use of a diesel engine if DPM emissions can be controlled to below the thresholds. With the close receptors, the use of a diesel particulate filter (DPF) with a diesel engine reduces the health risk to below the 10 in a million at the closest residential receptors, but not at the parcel

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	boundary.
EB-132	The Applicant had indicated in their application and air calculations that the vapor recovery would achieve a 99 percent reduction.
EB-133	The EIR Appendix B includes the calculations for the proposed Project, which would be for a Phase 4 non-drilling impacts with a 16 foot wall. Localized impacts are also provided in Appendix B for Phase 2 with no wall and with a 32 foot wall, as well as Phase 4 with a 32 foot wall and a 16 foot wall. The long term cancer calculations were conducted with the long term Phase 4 condition at the site, which would be a 16 foot wall and these are the modeling runs in the HARP input/output in Appendix B. HARP was also run for the peak year (as per SCAQMD Rule 1401), which would be the analysis with a 32 foot wall as this is what would be in place during the peak year and produces the greatest cancer risk. This run was not included in Appendix B in the DEIR and has been added to the FEIR Appendix B.
EB-134	This comment states that the DEIR did not define the environmental setting or provide enough analysis to support the conclusion that this Project has the potential for Class I impacts to biological resources. Some of the Applicant-proposed mitigation measures described in Attachments to comment letter were already expected to be implemented or would have been required by permit conditions and were already taken into consideration for the analysis and therefore would not substantially reduce the level of threat or significance. In addition, although the risk analysis in the DEIR uses one scenario of a pipeline rupture during a rain event, there are other potential scenarios such as seismic events that could be reasonably expected to occur and result in pipe failure. The Applicant-provided review (Attachment 4, E&B Comment Letter, 2014) discusses the possibility of pipe failure resulting from “seismic or any other extraordinary events that may cause both the carrier pipe and the secondary containment pipe to fail at the same time.” Due to the high level of sensitivity of all of the biological resources in the marine environment, any potential for a release into the marine environment represents (and remains) a substantial and significant impact.
EB-135	<p>This comment questions the scope of the geographic area used to define the “Project Area”. The marine environment and the biological resources found along the coastline in the general area of the Project are extremely sensitive to oil contamination. The species inhabiting this environment are extremely mobile and could be found anywhere within the general area, and therefore a large scope of geographical area is appropriate to determine presence or absence of individual species. The area of influence for a spill has many uncertainties depending on the amount of the spill, and the area of impact due to how the oil breaks up, winds, currents, seasonality, and other unknown variables. The DEIR preparers have attempted to better define a reasonable area of influence by including Figure 4.3-1 which includes only those sensitive resources closest to the Project site and excludes areas to the extreme north and south.</p> <p>The comment also questions why some species are included in analysis “that are not even known to the region, such as Marine Turtles”. This and other species included in the text are described as being “uncommon”. “Uncommon” is not defined as being absent; it is defined as being present but in low frequency or abundance.</p>
EB-136	This comment states that environmental setting does not include a description of the existing conditions for the Proposed City Maintenance Yard. Those habitat types located in proximity to the Proposed City Maintenance Yard (including a discussion of the Sandy Beach habitat, the Greenbelt, and the urban environment) are described under sections 4.3.1.1 and 4.3.1.2.
EB-137	<u>Future activities at the new City Maintenance Yard Project site will have the same impact as those from the existing City Maintenance Yard and will be equal to the baseline conditions. No additional impacts beyond those that already exist would occur.</u>
EB-138	Figure 4.8-3 was referenced as suggested. No further details on the design of the storm drain were added to the biology section. The intent of the description as

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	provided is to demonstrate that there is a direct connection from Valley Drive to the Ocean.
EB-139	This comment requests a Figure depicting sensitive habitats and resources. Section 4.3.1.4 now contains Figure 4.3-1 that shows the distance between sensitive biological resources and the project site. Alos, please see response to comment EB-135.
EB-140	Although the comment is correct in that there were no plant species observed in the Sandy beach community found in the immediate outflow area, this habitat exists elsewhere in the Project Area and could potentially be within the zone of an oil spill’s influence. In addition, several other wildlife species, including shorebirds such as the western snowy plover, utilize this habitat for foraging and nesting, regardless of vegetative cover, and are included in impact discussion in BIO 2.
EB-141	Section 4.3.1.2, Manhattan Beach was changed to Hermosa Beach as suggested.
EB-142	This comment questions including the description of the Channel Islands within the baseline scope of the geographic area used to define the “Project Area”. Although it is appropriate to describe existing conditions in a larger geographic area, the DEIR preparers have attempted to better define a reasonable area of influence by including Figure 4.3-1 which includes only those sensitive resources closest to the Project site and excludes areas to the extreme north and south.
EB-143	Conclusions on potential presence of sensitive species in Project area were added to Table 4.3-1 as suggested.
EB-144	The comment states that the Applicant has recently prepared a Marine Facility Oil Spill Contingency Plan. It is not clear whether this plan is designed to respond to the requirements of Mitigation Measure BIO-2 Emergency Response Plan which focuses on the protection of sensitive biological resources. The text within Mitigation Measure BIO-2 has been clarified so that the Emergency Response Plan would be prepared <u>in compliance</u> with the OSPR Contingency Plan. In addition, this plan would be reviewed and approved by OSPR. Text now reads: The Applicant shall submit for City approval and shall implement an Emergency Response Plan that would, <u>in compliance with the California State Oil Spill Contingency Plan (CDFW, OSPR 2010)</u> , address protection of biological resources and possible revegetation of any areas disturbed during an oil spill or cleanup activities.
EB-145	The reference has been changed as suggested to read: <u>“The following section describes the level of impact for each of the significance criteria described above in Section 4.3.3.”</u>
EB-146	This comment restates that with the implementation of added measures, the risk of pipeline failures has decreased to a level that would reduce significant impacts to biological resources. However, the risk of a pipeline rupture after some other potential scenarios such as a seismic event remains, and therefore, due to the high level of sensitivity of all of the biological resources in the local marine environment, any potential for a release into the marine environment represents (and remains) a substantial and significant impact.
EB-147	<p>This comment repeats the concerns of Comment EB-134 and EB-146. In addition, this comment states that the DEIR does not discuss different levels of impact depending on the amount and location of the spill. However, Impact BIO-2 Paragraph 1, discussion already states:</p> <p style="padding-left: 40px;">“Small leaks or spills, which are most likely, contained and remediated quickly, would result in minor or negligible impacts to biological resources.”</p> <p>Page 4.3-23 Second paragraph</p> <p>“The volume, location, and seasonal timing of any potential spill would dictate the severity of impacts to biological resources. The drilling and well location and the main Pipeline alignment are all located within an urban area or along a paved road and are therefore, easier to contain and clean up than any spill near native habitats or aquatic habitat where crude oil could be transported downstream.”</p>

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EB-148	<p>The comment restates the concerns of EB-146. In addition, this comment questions the level of impact to plankton. The Class I impact designation takes all of these different resources into consideration as a whole. Because there are so many different potential resources, and so many of them are mobile and cover a large geographic area, any potential for a release into the marine environment represents a substantial and significant impact. In addition, the discussion for plankton already states in Mitigation Measure BIO-2:</p> <p>“The severity of effects on phytoplankton will vary with respect to species present in the water column, the time of the year, and the chemical composition of the oil spilled. Both lethal and sublethal effects of oil on plankton depend on the persistence of sufficiently high concentrations of petroleum hydrocarbons in the water column.”</p>
EB-149	<p>This comment states that the discussion of impacts does not include any discussion that oil is a natural product, and that it will break down, be consumed by some micro-organisms, and is a “great source of energy as food for microbes.” This information is not pertinent to an impact discussion of a potential oil spill with an unknown quantity and area of effect. Discussing the beneficial impacts of an oil spill into the marine environment, in which the negative risks greatly outweigh any positives, could misrepresent the true level of impact for the reader.</p>
EB-150	<p>The comment states that an Oil Spill Contingency Plan would include protection and avoidance measures for sensitive biological resources. The DEIR preparers agree that the Oil Spill Contingency Plan, the required Emergency Response Plan, and review and involvement by appropriate agencies will reduce many of the associated impacts. However, due to the high level of sensitivity of all of the biological resources in the local marine environment, any potential for a release into the marine environment represents (and remains) a substantial and significant impact.</p>
EB-151	<p>This comment restates the concerns of EB-146. This comment states that due to the low likelihood of a release during a rain event, and with the implementation of added measures, the risk of pipeline failures has decreased to a level that would reduce significant impacts to biological resources. However, the risk of a pipeline rupture after mitigation remains, and therefore, due to the high level of sensitivity of all of the biological resources in the local marine environment, the potential for a release into the marine environment represents (and remains) a substantial and significant impact. Additional mitigation is included in Section 4.9, Hydrology, and includes pipeline manufacturing and coating requirements and reduced pipeline size.</p>
EB-152	<p>Text within Mitigation Measure BIO-2 has been clarified so that the Emergency Response Plan would be prepared <u>in compliance</u> with the OSPR Contingency Plan. In addition, this plan would be reviewed and approved by OSPR. Text now reads: The Applicant shall submit for City approval and shall implement an Emergency Response Plan that would, <u>in compliance with the California State Oil Spill Contingency Plan (CDFW, OSPR 2010)</u>, address protection of biological resources and restore any habitat areas that might possibly be disturbed during an oil spill or cleanup activities.</p>
EB-153	<p>Mitigation Measure CR-3a has been revised in response to the comment.</p>
EB-154	<p>Mitigation Measure CR-4 has been revised in response to the comment.</p>
EB-155	<p>No comment was provided.</p>
EB-156	<p>Text has been changed to reflect fire protection and emergency services section reference.</p>
EB-157	<p>Text has been changed to reflect the services for different jurisdictions.</p>
EB-158	<p>Text has been changed to reflect the aid agreements for different jurisdictions.</p>
EB-159	<p>The exact details of every station in all jurisdictions is not necessary to define capabilities, only that capabilities as per the LACFD matrix are available, such as hazmat units, etc. The closest fire stations are listed and their respective equipment listings in order to assess the applicability.</p>
EB-160	<p>The date of the annual performance report, dated 2013, is added to the section in the FEIR.</p>

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EB-161	The source (The 2013 report) has been included in the FEIR.
EB-162	The use of the words "exceedingly slow" is a quote from the Operations Analysis report and was included in the DEIR under quotes. The Operations Analysis Report actually termed it "Exceeding Slow", which is interpreted as a spelling mistake (on page 44 of the Operations Analysis Report).
EB-163	While the CCPS and IRI are "guidelines" and are not code requirements, they do provide input on the safety of equipment arrangements and spacing and are used in the EIR to assess the safety of equipment arrangements. They are not treated as hard rules in that spacing can be closer with appropriate measures, such as thermal barriers or insulation. The reference to API 2510, as no appreciable quantities of gas liquids would be stored onsite, has been removed in the FEIR.
EB-164	The CCPS provides guidelines for equipment spacing and safe design and has been retained in the FEIR.
EB-165	The IRI provides guidelines for equipment spacing and safe design and has been retained in the FEIR.
EB-166	The CCPS and IRI provide guidelines for equipment spacing and safe design and have been retained in the FEIR.
EB-167	The CCPS and IRI provide guidelines for equipment spacing and safe design and have been retained in the FEIR.
EB-168	The DEIR does not propose interconnecting the reclaimed and potable water systems. Text has been modified under Impact FP.1. However, extension of the 8 inch water main to install the new hydrant during Phase 3, in order to provide sufficient flow, was added as a mitigation measure (FP-1a , with added text for extending the 8" water main). The discussion related to the capabilities of the system to provide sufficient water flow has been retained.
EB-169	The proposed design features have been added to the Fire Protection and Emergency Response section of the FEIR, including those features listed by the Applicant in their comment letter. Note that compliance with codes and standards would be a regulatory requirement and was not specifically addressed. Text has been modified to indicate that the detailed fire protection design documents would be developed and provided as part of the permitting process.
EB-170	Text has been modified to clarify the deficiencies within the aid agreements and HAZMAT. Mutual aid arrangements are discussed in Section 4.6.1.1.
EB-171	Mitigation measure FP-1a has been revised as per the comments, with the water flows and supply applicable to all phases. The determination of capabilities and sufficiency of the current system to provide water flows will be determined during the permitting with the HBFD. The Applicant shall ensure that the hydrant testing is conducted. This would involve requesting the flow tests as well and ensuring that the tests are adequate.
EB-172	Text in mitigation measure FP-1b has been modified to ensure that the existing community alert system is includes the Project facilities.
EB-173	The specific time requirements for plan inspection and field work related to the facility would be determined once final permitting is completed, and would most likely be at least full time.
EB-174	Mitigation measure FP-1e text has been modified. Requirements related to ensuring neighbors are given ample opportunity to participate in the notification system have been retained.
EB-175	The availability of the Torrance HAZMAT unit to a mutual aid agreement is not known at this time until actual negotiations are initiated and completed. It is possible that Torrance HAZMAT unit would not be available and some local HAZMAT capabilities would need to be developed. While the DEIR agrees that an agreement with Torrance is preferable, it is not certain that it could be accomplished and the option for a HAZMAT capabilities and training has been retained.
EB-176	The flare would be in very close proximity to the 32 foot soundwall but could be

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	acceptable for allowable thermal radiation with appropriate methods. The 2.5 years with the 32 foot soundwall under the proposed Project would not be any different than the aesthetics mitigation which requires a permanent wall, as all Phase 4 equipment would be operating. The design issues are the same and were not addressed as part of the proposed Project.
EB-177	Mitigation measure FP-2b has been modified. The requirement for automatic foaming could produce potential personnel safety issues and has been removed, while retaining the automatic detection and notification.
EB-178	The residual impact section has been revised to reflect the need for automatic fire detection and manual activation.
EB-179	The text has been revised in response to the comment.
EB-180	Additional text has been added to Impact GEO.2 in response to the comment.
EB-181	The text has been revised in response to the comment.
EB-182	The text in question reflects proposed project design. Any future changes resulting from mitigation measures in the Aesthetics section are not reflective of the existing design. Therefore, the text has not been edited in response to the comment.
EB-183	We respectfully disagree with the comment. For example, a parking structure at the CSUN campus, completed within one year prior to the Northridge earthquake, and built to the most current seismic standards at that time (1994), catastrophically failed as a result of that earthquake. While it is acknowledged that seismic standards have been updated over the years, history has shown that such standards cannot preclude failure of all properly/currently engineered structures and infrastructure.
EB-184	The text has been revised in response to the comment.
EB-185	The text has been revised in response to the comment.
EB-186	The text has been revised in response to the comment.
EB-187	The text has been revised in response to the comment.
EB-188	The text has been revised in response to the comment.
EB-189	Most of the mitigation measures provide assurances of minimizing risk, such as training requirements and effective emergency response and measures to ensure that human factor influences are minimized, that are difficult to quantify in a QRA and have not been specifically addressed in the FN curves. Some measures, such as back flow prevention on the gas pipeline, do provide a quantifiable measure of risk reduction. Mitigated FN curves were not detailed as the measures make nominal effect on the logarithmic scale of the FN curves and are more qualitative in nature.
EB-190	Risk assessments are generally based on the incremental risk changes introduced by a Project. Discussion of all of the pipelines in the area does not affect the incremental risk levels. The basis for assessing the current City Maintenance Yard risk levels is associated with consequence more than frequency as small spills and vehicles would not present offsite risks. The 500 gallon propane tank would present offsite risk and was therefore assessed quantitatively.
EB-191	The 500 foot distance is based on the impacts from potential release scenarios and the distance that could produce serious injuries or fatalities. As the modeling associated with the QRA indicated distances could reach 800 feet, the 500 foot distance was increased in the discussion.
EB-192	See response to comment EB-189.
EB-193	A shielding factor was included in the risk model to address shielding of receptors by buildings and walls. Heat from a crude oil fire or a jet fire would be deflected by the area wall and reduce impacts to the receptors. No credit was taken for the 32 foot soundwall as it could be damaged in a fire or explosion situation. The shielding was used to reduce the number of receptors exposed. The modeling was not adjusted in distance by the presence of the wall, only the number of persons being exposed was reduced by an estimated 0.5 factor. This is why the DEIR risk analysis showed a maximum number of fatalities of only about 6 persons, while the Applicant-sponsored Bercha study estimated over 40 persons.

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EB-194	<p>Design features are discussed in section 4.8.4. Many of the design features submitted by the Applicant are related to existing codes and standards, which are regulatory requirements and would be incorporated into the failure rates already. CEQA does not take into account under additional mitigation measures the existing regulatory requirements. Design features, such as the inclusion of a closed vent system, the increased use of isolation valves, and the use of offshore systems, were listed in the DEIR. As discussed with the Applicant, the use of offshore systems, while intuitively providing additional levels of safety, is difficult to quantify as minimal data is available from some of the recent developments. However, some of the safety factors related to the BOPE system proposed by the Applicant in their comments appear reasonable and have been incorporated into the FEIR. Other design features, such as the increased use of isolation valves, did not include enough specificity to incorporate. The piping and vessel volumes documented by the Applicant in their risk assessment were used to estimate the release volumes. However, the specific location of isolation valves and the specific control mechanisms and SAFE charts to define when exactly these isolation valves might be initiated have not been developed at this point. The QRA determined that risks from the facility equipment, not including blowouts, would be less than significant, so additional specificity was not needed to determine significance.</p>
EB-195	<p>Design features were incorporated into the risk analysis. Design features related to codes and standards were assumed to be incorporated into the historical databases and no credit was additionally taken for these. Pressure relief devices were all assumed to vent to flares so that releases from pressure relief devices, which usually produce some of the greater risks associated with these types of facilities, was not an issue. In order for a pressure relief device to release to the environment, an additional failure of the flare was incorporated into the QRA. As a matter of fact, it was the incorporation of the design features such as these that produced risk levels that were less than significant for the facility gas and crude oil processing.</p>
EB-196	<p>The risk model does take into account many automatic systems, including the venting to flare and the failure rate of the flare to ignite, the failure rate of a safety valve to close properly on a wellhead release, for example. A crude oil spill into the bermed area was given a high probability of ignition, however, due to the location of rotating equipment and other equipment, including the flare, located within the bermed area. These assumptions and factors are included in the risk spreadsheets located in the risk appendix. However, the risk analysis is a conservative approach, meaning that it provides 'worst case' scenario, to ensure full range of disclosure..</p>
EB-197	<p>The model takes into account pipe friction effects, as all release models of any quality generally do. However, depending on the release point, the level of piping friction could be vastly different. If a release were to occur on a flange attached to the largest vessel, the release would have substantially less friction due to piping effects than a release at a point 200 feet downstream. Therefore, it was assumed that the release from a section of the process would occur at the location where it would produce the greatest impact, or generally, a location close to the largest inventory vessel. Note that the impact distances as modeled in the DEIR take into account piping friction, hole friction, cooling and dense gas dispersion. The analysis provided by the Applicant did not take all of these items into account and actually estimates larger impact zones than the DEIR. Text has been modified in the FEIR to clarify this assessment.</p>
EB-198	<p>Modeling of flammable gas releases generally produces more accurate impact zones if the peak, initial release rate is used to estimate dispersion. Ignition of releases often occurs very quickly after a release, particularly at an industrial facility where numerous ignition sources exist, and when total cloud mass has not reached its maximum extent and is defined more by the release volume that occurs within the first short period. Note this is only an issue for flammable vapor clouds, not for fires or flame jets.</p>

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EB-199	<p>See response to comments EB-194 through EB-196. The inclusion of a more advanced BOPE than required by DOGGR would reduce the frequency of blowouts that could produce a release to the environment. However, the DEIR utilized offshore blowout databases, which incorporate these features as a requirement. In addition, additional factors as proposed by the Applicant, including a factor of 0.5 to account for the shear ram BOPE, have been incorporated into the FEIR. CEQA requires that there be "substantial evidence" to its analysis, and there is minimal data related to the recent requirements related to BOPE inspections and certifications. Intuitively, it should reduce some failures though, and the inclusion of an additional factor of 0.5 (means a reduction by half of the BOPE failure rate) has therefore been included in the FEIR. Note, however, that generally shear rams are not capable of shearing all portions of a pipe, such as tools or the collars, and these could be portions that could introduce potential failures. HAZOPs are required under the regulatory requirements for facilities that have sufficient inventory of materials. Redundancy is standard practice in the industry, with tanks and scrubbers and vessels have high and high-high level alarms, and designing to a level of safety with two levels of failure is a standard measure used during HAZOPS. All vessels and pumps are required by codes to have pressure relief. These factors are incorporated into the inherent design safety of all facilities in the United States and are good practices and are addressed in the risk analysis through the historical failure rates of equipment. For example, industry-wide historical vessel failure rates would be much higher if vessels were not required to be protected by pressure relief. These codes and standards are already incorporated into the risk analysis through the use of historical failure rate databases of facilities which are subject to these same codes and standards. The closed loop system has been accounted for in the risk analysis through the incorporation of a flare failure needed in order to have a release to the environment through a pressure relief valve. In addition, the SCAQMD Rule 1173 inspection frequency of quarterly is also included as a reduction in the valve failure rate. A fail-safe system means that, if energy is lost to a device or system, it fails to a safe condition. It does not mean that pipe breaks, valve releases or vessel/exchanger failures to the environment would be prevented. The SCAQMD would most likely not allow venting to the atmosphere and would require venting to a flare system. Many of the items listed in the Applicant design features are features that are required by codes and standards and regulatory requirements. The Applicant still gets credit for these items, but they do not necessitate being called out as "design features" that are above and beyond those features required by the existing regulatory environment.</p>
EB-200	See response to comment EB-197.
EB-201	<p>While the Applicant proposes offshore standards for the BOPE and API RP14c, it is not apparent where the Applicant has proposed standards that exceed any code or recommended practice related to protection of overpressure, metallurgical standards, vessel design, piping design, seismic reinforcement or design criteria, atmospheric tank design or any other onshore requirements. The design features listed by the Applicant are important design considerations and are generally requirements associated with most onshore oil and gas projects, and most industrial projects, in the developed countries as per existing codes and standards. These codes and standards are incorporated into the risk analysis through historical failure rates associated with facilities that also have these codes and standards. Issues specifically related to design features, such as PSV that vent to flare instead of atmosphere, are included in the risk analysis. In addition, the SCAQMD Rule 1173 inspection frequency of quarterly is also included as a reduction in the valve failure rate. The differences in design standards pertain mostly to differences between industries, such as nuclear verses oil and gas. Age is an issue that is discussed in the DEIR and the proposed Project does not include any age-related factors for increase failure rates due to age as it would be installed new. The DEIR notes also that a new facility does not necessarily have the lowest failure rates as a portion of the failure rate is associated with</p>

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	mechanical/construction failures related to incorrectly made equipment.
EB-202	Redundant systems, such as the failure of a PSV and subsequent failure of the flare system (when called upon, or as a demand basis), were incorporated into the risk analysis where appropriate.
EB-203	The design criteria provided by the Applicant has already been incorporated into the risk analysis as discussed above. Some adjustments have been made, such as taking more credit for the shear rams and updating some of the frequency numbers.
EB-204	The information in Table 4.8-2 is taken from the National Safety Council reports on accidents. Frequency per year is self explanatory and the interval is just the inverse of the frequency. Notes have been added to Table 4.8-2 explaining the interval.
EB-205	The DEIR provides information on the San Bruno case in order to provide an idea of the range of effects of natural gas releases and why the gas pipeline is included in the risk analysis. It in no way suggests that the impacts of the proposed Project pipeline could produce similar impacts. The San Bruno case is well known and the issue often comes up in discussions about natural gas pipeline releases. The San Bruno release continued for more than an hour due to the absence of check valves and shutoff valves in the system, which could also be the case for the Project pipeline. In fact, due to the difference in size from the San Bruno pipeline, the Project pipeline would produce substantially smaller impact zones and the San Bruno case highlights this. Text has been added to this effect. The pipeline would require automatic shutoff valves at the facility, but the tie-in to the natural gas main would not, at this time, require automatic shutoff valves. The comparison to the San Bruno case is not about the frequency or type of construction, but about the extended release duration that could occur. Note that mitigation measures require the installation of check valves to limit the release duration.
EB-206	The detailed data for gas pipeline failures within California are not available to remove those from specific types of pipeline construction methods. Note that impacts from pipeline releases are found to be less than significant and additional refinement of the failure rates is not necessary in the determination of significance.
EB-207	CDFW and OSPR are discussed in the Biological Resources section 4.3 of the DEIR.
EB-208	Text has been modified in Table 4.8-9 to include additional agencies and their respective responsibilities.
EB-209	CDFW and OSPR are discussed in the Biological Resources section 4.3 of the DEIR. The comment is not specific or unclear. The risk section of the EIR finds that the likelihood of an oil spill is very low; however, because of the potential consequences of an oil spill affecting water quality, sensitive biological resources and recreational users on the beach, the impact is found to be significant and unavoidable in those issue areas. Emergency response plans and other measures are taken into consideration when making this finding.
EB-210	See responses to comment EB-199.
EB-211	Drill stem tests are conducted with minimal muds in order to assess the potential flow from a well. If muds are controlled correctly, with the hole maintaining mud levels and no loss of containment or other muds related issues, the potential for blowouts is substantially reduced. Most blowouts occur due to a muds failure with the surface break exposed to partial or full open hole conditions. Therefore, as a worst case, a drill stem test would be appropriate.
EB-212	<p>The Applicant has conducted a refined analysis of the well blowout scenario using the OLGAs Dynamic Multiphase Flow Simulator. The Applicant assumed a reservoir pressure of approximately 1,000 psi at a depth of 2,000 feet, with an historical pressure gradient of 0.46 psi/foot.</p> <p>MRS has refined the analysis to estimate the mass release rate of flammable liquids and gases. A full bore well blowout was simulated using SuperChems, which has the ability to simulate multi-component, multi-phase flow and releases. The modeling</p>

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	<p>scenario was based on the oil/gas/water ratios as outlined in the project application. An initial well bore length of 2,000 was assumed along with an initial reservoir pressure of 1,000 psi. Using these assumptions, MRS estimated a total flammable mass release rate (oil, gas liquids and gases) of 17.8 kg/s. This release rate is somewhat higher than the Applicant's estimate of 5.1 kg/s, but lower than the original EIR estimated release rate of 42 kg/s.</p> <p>While the original EIR well blowout simulation focused on the gas phase portion of the well blowout, the revised well blowout simulation was designed to estimate the mass flow rate of flammable materials (oil and gas), as well as water. This approach is similar to the applicant's analysis that was submitted as part of this comment. The flammable mass release rate that was estimated as part of the well blowout simulation was used to evaluate thermal radiation hazard zones using a multi-component, two-phase (gas and liquid droplets) flame jet model. Using this approach is more realistic for blowouts that have substantial amounts of crude oil (GOR<600) than the original simulation using just methane since much of the crude oil and gas liquids would aerosolize when released during the well blowout, and would contribute to the potential thermal radiation hazard zones. The total methane release had a significant amount of air entrainment due to the high velocity, versus the two phase release where there is less entrainment and a higher combustion fraction. Results of the vertical flame jet model were fairly consistent with the original EIR analysis with slightly smaller thermal radiation hazard zones of 66 and 47 meters for 5 and 10 kw/m², respectively. These results were used in the revised risk analysis for the crude oil/gas blowout scenario (GOR < 600).</p>
EB-213	<p>The pressure would decrease rapidly once the release occurs. This is a standard situation with any pressurized release. The inventory of the well bore would rapidly depressurize releasing the produced gas to the atmosphere. The Redondo Beach well produced 800 psi at the surface during a drill stem test, which is what was essentially modeled for the blowout scenario. In fact, the inclusion of crude oil and other heavier gas liquids would increase the thermal radiation effects of the release. MRS has historically conducted more complicated modeling of blowout scenarios which have produced similar results, with the gas portion of the release dominating the impact zones. MRS conducted additional modeling of the blowout scenario for the FEIR. See response to comment EB-212 above.</p>
EB-214	<p>Detailed drawings showing the drainage systems were not a part of the Application. Most facilities of this type with fully enclosed system do have an overflow-type drain system. The DEIR indicates that, if the system is designed with this type of system, the spill risks would still be less than significant. Additional text has been added to clarify the situation, including the potential for water used for fires overflowing the site capacity.</p>
EB-215	<p>E&B Comments Attachment 8 Risk Assessment responses follow:</p> <p>Release Frequencies: Attachment 8 mistakenly uses the DEIR "loss of well control" frequency as the frequency of releases to the environment and incorrectly compares this frequency to the Attachment 8 blowouts producing a release frequency. Loss of well control does not mean a release to the environment. It means a failure to maintain control of a well, which could cause a kick or an increase in pressure at the surface, a loss of muds volume or numerous other situations involving loss of well control. There are two additional factors that are applied to the loss of well control frequency in order to define the frequency of a loss of well control that actually produces a release of materials to the environment during a blowout. The first factor is the fraction of loss of well control incidents that produce a release. The second factor is the fraction of wells at Hermosa that could contain sufficient pressure to produce a situation that could result in a blowout, given other factors occurring. If a well is not pressurized, a blowout could not occur even if other failures happen. These two</p>

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	<p>factors together produce an order of magnitude difference in the frequencies of a blowout. Blowout frequencies on a "number of wells drilled between blowouts" basis are listed below for a number of different sources"</p> <p>Wells Drilled Per Blowout</p> <table border="0"> <tr><td>471</td><td>Texas, 1990-2013</td></tr> <tr><td>588</td><td>BOEMR, 1996-2005</td></tr> <tr><td>625</td><td>HLID</td></tr> <tr><td>667</td><td>Texas, 1990-2006</td></tr> <tr><td>714</td><td>DOGGR 1950-1990</td></tr> <tr><td>1,700</td><td>Kern County: drilling, 1991-2005</td></tr> <tr><td>1,900</td><td>Kern County: non-thermal, 1991-2005</td></tr> <tr><td>1,961</td><td>DEIR</td></tr> <tr><td>2,020</td><td>OGP, from Applicant</td></tr> <tr><td>3,030</td><td>DOGGR 1980-1990</td></tr> <tr><td>3,344</td><td>Applicant, comment letter</td></tr> <tr><td>3,922</td><td>FEIR with 0.5 shear-ram factor</td></tr> <tr><td>10,000</td><td>Applicant Application submittals</td></tr> </table> <p>As the list shows, the actual release frequency associated with the Proposed Project would be in the same range as those recently proposed by the Applicant and is not the multiple order of magnitude difference as those incorrectly described in Attachment 8.</p> <p>The use of the blowout frequency from the offshore environment was used in order to approximate the reservoir conditions that the Project may encounter. One of the problems with many of the blowout databases is that many of the wells drilled in California or Texas, for example, are drilled into reservoirs that are well established and would not produce the pressures that could produce a blowout. Yet these wells are included in the database and the resulting blowout frequency and therefore introduce a range of errors into the estimates. If one wanted the average well in California, the DOGGR database would provide a good number. In order to estimate the blowout rate from a well drilled into a reservoir known to have pressure, the offshore database is used as almost all reservoirs offshore are less mature and generally have a much higher fraction of wells drilled into pressurized reservoirs. While the offshore environment is very different than the onshore environment, with spacing issues and the corrosivity of the marine environment being issues that would increase the failure rates, this is considered to be a conservative estimate of the upper range of the blowout frequency into a pressurized reservoir. An additional factor is then applied, which is the fraction of wells drilled in Hermosa that are expected to be pressurized (30%). This factor was based on the historical wells drilled in Redondo Beach to the south, some of the wells presented pressures (9 out of 30) and the Applicant has not disputed this conclusion. In fact, if Redondo Beach wells had indicated no pressure, the risk levels would be acceptable for the Project.</p> <p>Shear Rams and BOPE: The use of blind shear rams would generally increase the ability of the BOPE to shut down a loss of well control for a loss of well control that involved release through the drilling pipe or within the casing. The offshore failure rates include some of this reduction as shear rams are required in the offshore environment. However, no credit was taken specifically for the use of a higher class BOPE. While there is little data on the reduction in frequencies associated with these devices, MRS agrees that there would be some reduction and the Applicant proposed factor of 0.5 sounds reasonable. It was therefore included in the risk assessment. Note that CEQA requires there to be "substantial evidence" for the impact classification. The reduction associated with the blowout scenarios as the "% of historical" listed in Attachment 8 is unsubstantiated without references and is therefore only general best</p>	471	Texas, 1990-2013	588	BOEMR, 1996-2005	625	HLID	667	Texas, 1990-2006	714	DOGGR 1950-1990	1,700	Kern County: drilling, 1991-2005	1,900	Kern County: non-thermal, 1991-2005	1,961	DEIR	2,020	OGP, from Applicant	3,030	DOGGR 1980-1990	3,344	Applicant, comment letter	3,922	FEIR with 0.5 shear-ram factor	10,000	Applicant Application submittals
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	<p>guesses and was not used in the DEIR.</p> <p>MRS Fault Trees: The MRS fault trees are codified in the spreadsheets included in the DEIR Appendix C. While they do not provide a visual figure showing the relationship, they do provide the frequencies and references for all events that lead to the final frequency. This spreadsheet was provided to the Applicant as part of the response to comments and will be included on the Appendix CD in the FEIR. In general, figures are not useful as most lay persons cannot understand them anyway. The WASH factor is only in combination with four other databases and is used for pressure relief valves to describe the range of failure frequencies that could occur, with the highest frequency associated with sour gas, older facilities and the lowest frequencies assigned to newer, sweet gas facilities with good maintenance programs. Failure rate databases generally produce a wide range of failure rates, as discussed in the DEIR Section 4.8.1.2. The rates quoted in the comments are not actually the rates used in the DEIR. The rates used in the FEIR included additional factors such as the fraction of PSV that produce larger releases and the reduction in release frequency due to the implementation of the 1173 program. The final large release rate for PSV was 5.3×10^{-4}. Although this is higher than that in Attachment 8, note that the risk analysis includes a factor related to the need for the flare to also fail given a PSV release in order for there to be a release to the environment. This produces a failure rate to the environment of 5.3×10^{-7} which is substantially below that given in Attachment 8. In fact, releases from PSV do not contribute to the risk levels primarily because of the use of a venting-to-flare system.</p> <p>Risk Spectrum Plotting: The facility operating without drilling (and therefore a low probability of a blowout) would not present significant risks and is not designated by the DEIR as a risk level within the grey region. Risks with the blowout would present risks in the grey region and would therefore be a significant impact.</p>
EB-216	<p>The E&B risk analysis only examined crude oil fires at the well head and cellar location and these were not included in the risk FN curves as it was determined that they would not produce offsite impacts. However, the E&B analysis did not address the 168,000 gallons of crude oil located in the two storage tanks on the far eastern side of the site, which would be located within 20 feet of the sidewalk. A tank failure and subsequent crude oil spill in this area would impact offsite and should be included in the risk analysis. In addition, as rotating and spark producing equipment is located within the crude oil spill containment berm area, a higher ignition frequency should also be included. The DEIR addressed these issues and the E&B analysis did not. Blowouts were not addressed in the E&B analysis because it was determined by E&B that blowouts would not produce offsite impacts. Based on pressures seen at the Redondo Beach wells, offsite impacts could occur, although not for all wells drilled. The text in the FEIR has been clarified to make that distinction.</p>
EB-217	<p>E&B Comments Attachment 4 Spill Analysis responses follow:</p> <p>Updated Spill Probability: The CSFM related attachments indicate the California rates as developed from national DOT data and do not appear to be specific to the CSFM. The DOT PHMSA data made available by the DOT on their online system indicates that there have been 268 incidents between the years 2003-2012 related to hazardous liquid pipelines (crude oil, gasoline, jet fuel, etc.). With a total California mileage of 7,374 miles, this produces a rate of 3.63 failures per 1,000 mile-years. This information is discussed in the DEIR Page 4.8-85. This rate is not substantially different than the CSFM rate from 1993 of 5.27 spills per 1,000 mile years. If only ruptures are examined, the rupture rate is actually higher for the recent DOT data than for the CSFM data (44% DOT failures are ruptures vs. 18% CSFM are ruptures).</p>

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	<p>Spill rates have been trending downwards, as the chart provided by the commenter shows, but an average over a number of years provides the best estimate of the failure rate. Although the CSFM data is older, it does provide information on the rate by product type, with crude oil producing a higher rate generally due to the elevated temperatures of many crude oil pipelines (due to the heavier oils). It also provides information on the failure rates by pipeline type and coating type as well as the design characteristics (SCADA, cathodic protection, etc). This allows the development of failure rates that are specific to the design of a Project.</p> <p>If the database is broken out by crude oil only, and California only, the rate increases to 4.54 per 1000 mile years between the years 2010 and 2013. This is also discussed in the DEIR.</p> <p>The Keystone pipeline EIR, although controversial, did provide a good assessment of pipeline failure rates by size (in the Keystone Pipeline EIR Appendix K), producing a failure rate for pipelines less than 8" of 0.95 per 1000 mile-years. However, the rupture rate for the DOT data was much higher than the CSFM rate (44% produced ruptures greater than 50 bbls in the DOT data vs. 15% in the CSFM data). If only larger spills greater than 50 bbls are examined (ruptures), the CSFM rate is 0.95 per 1000-mile-years vs the DOT rupture rate of 0.42 per 1000 mile-years. So although using the more recent data does provide some reduction in frequency, it is not substantial and, as the DOT data related to all hazardous liquids does not take into account the potential differences due to crude oil pipelines, the CSFM was used.</p> <p>Proposed Mitigation Measures: The Applicant has proposed additional mitigation measures, including the installation of the pipeline within another pipeline with a cement slurry cover placed over the pipe in order to reduce third party impacts.</p> <p>By creating a double walled pipe, the failure rate of the pipeline could be reduced. A double walled pipe would reduce corrosion, allow for more rapid detection of smaller leaks and would provide some protection in the event of a third party impact. In addition, placing cement over the top of the pipeline would reduce the potential for third party impacts. By examining the causes of pipeline releases, the amount of reduction in the failure frequency can be estimated for the mitigation measure that would place a pipe within a pipe. The main causes of the releases, as per the DOT data, are corrosion and external force damage, followed by manufacturer's defects and natural force damage. The CSFM had similar listing for crude oil pipelines, but with a bit higher percentages for corrosion due to the use of crude oil. Assuming a reduction between 0-95% reduction for the different causes produces a reduction in the overall rate of 83%. However, longer term impacts could increase, as reported by the CSFM (communication with Mr. Flores and Mr. Gorham, 5/15/2014). The external pipe could corrode or collapse, allowing water into the annular space, increasing corrosion. The use of a double walled pipe has been addressed by the CSFM in past bulletins (CSFM 1998). At that time, the CSFM had concerns about the use of double walled pipes for the following reasons: cathodic protection, incorporation of valves, construction of bends, and thermal stress. The bulletin further stated that "The design, construction, operation and maintenance difficulties listed above serve as some examples of how the proposed installation of double-wall pipeline is contrary to established law, regulation and established engineering principles and could compromise public and environmental safety" and that "double-wall construction adds significant operator costs for design, construction, operation and maintenance while increasing the risk to the public and the environment." While these concerns have been reduced substantially by the proposal to use non-metallic outer pipe on a portion of the route, the CSFM staff indicated that they do not recommend a double walled pipe and would actually not allow it to be built. The preferred approach is to use the</p>

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	<p>best pipe construction and coating techniques available. The CSFM data provides a breakdown of failure rates by construction and coating type. Although this information is older, the substantial reductions associated with the use of electrical resistance welding techniques of construction and the use of Fusion Bonded Epoxy or other advanced techniques would still be applicable. The use of ERW pipe from CSI in Fontana and the top-of-the line coating provided by Bredero Shaw Company would produce substantial reduction in failure rates, on the order of 70-80% reduction. Note that the use of these measures would not affect the third party causes, equipment malfunctions or weather/natural force damage. These measures have been added to the mitigation measures in the FEIR.</p> <p>Covering the pipeline with warning tape and cement would reduce the number of third party impacts. It would be difficult to conduct third party damage if the pipeline is covered with cement, so an estimated 90% reduction was assigned to this measure.</p> <p>In addition, the frequency of earthquakes would need to be included and would be site specific. USGS data on the area indicates that the probability of a large earthquake, producing a ground acceleration of over 1.5g, sufficient to cause some pipeline damage, would occur at a frequency of about once every 2.1×10^{-5} per year. The analysis assumes a 10% probability of a pipeline rupture given this magnitude earthquake.</p> <p>Combining all of these failure mechanisms together produces a reduction in failure rate. This information has been added to the mitigation measures and the text in the FEIR in section 4.9, Hydrology, mitigation measures HWQ-2i and HWQ-2j.</p> <p>Note also that during periods of the Project, particularly during Phase 2, crude oil would be transported by truck. The potential for a truck accident and subsequent spill would also introduce the potential for impacts during this phase of the Project.</p> <p>The use of the 6 inch pipe instead of an 8 inch pipe would reduce the spill volumes from 4,826 gallons at Herondo and Valley to 3,805 gallons, and with a check valve at Herondo, preventing drain down from Prospect Avenue, the volume would be reduced by about 700 gallons.</p>
EB-218	<p>E&B Comments Attachment 9 Frequency Analysis responses follow:</p> <p>Graphics: The MRS fault trees are codified in the spreadsheets included in the DEIR Appendix C. While they do not provide a visual figure showing the relationship, they do provide the frequencies and references for all events that lead to the final frequency. This spreadsheet was provided to the Applicant as part of the response to comments.</p> <p>Dated Sources of Failures: the outdated source included in the FT analysis is the WASH numbers, which are admittedly dated. However, the WASH frequency numbers for PSV releases was only used in combination with four other databases to define the range of PSV failures. See response to comment EB-215 for further discussion. The use of a vent-to-flare system as proposed by the Applicant would reduce PSV release frequencies substantially and PSV frequencies do not play in to the risk factors as they are so low. Even by using the Applicant's PSV frequencies, it would not change the risk analysis.</p> <p>Blowouts: The EIR preparers continue to respectfully disagree with the Applicant that blowouts could not occur. We agree that the frequency would be low (see response to comment EB-215), but previous wells drilled in Redondo Beach showed surface pressures of 800 psig, sufficient to produce offsite impacts if a blowout were to occur,</p>

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	<p>that the CSLC study on Drainage also indicated the potential for downhole pressures ranging from 1,000-2,000 psi and that observations of the Stinnett well indicated that there were some pressures produced weekly that had to be released. Most wells currently operating in Torrance are located in areas that are well established and in areas of the Torrance field that have long histories of production. No gas pressure remains in these areas and wells drilled into these areas of the Torrance field would not produce a blowout potential. This far western area of the Torrance field, offshore in particular, has never been drilled into historically, could have sections that are isolated from the other portions of the field and could produce pressures sufficient to produce a blowout.</p> <p>The Applicant's approach that there could be a frequency of a blowout but no flow is contradictory. Wells that cannot produce flow cannot have a blowout frequency. As discussed above, this is why the DEIR uses the approach of trying to assess the blowout frequency of wells drilled into areas that could produce pressure and the potential for a blowout and then assigning a fraction of wells that would have those conditions, thereby customizing the blowout frequency for the specific project. Blowout frequencies into reservoirs that do not produce pressures are zero.</p> <p>Updated spectrum: Note that in the updated spectrum, the updated MRS curve is very similar to the MRS curve located in the DEIR, with a top combined public risk frequency of between 1e-5 and 1e-6, with a maximum fatalities level of less than 10. The changes to the PSV rates, as noted above, do not affect the FN curves due to the vent-to-flare design. However, the Applicant FN curves have changed markedly from the Final risk analysis submitted by the applicant in their Application. The Final QRA (dated July 2013) produced a top spectrum frequency of 1e-6 (versus a top frequency of close to 1e-5 in the comments) with a maximum impact of over 40 fatalities (versus a revised number of about 10).</p>
EB-219	Figures 4.8-5 and 4.8-6 have been revised and have been updated in the FEIR as appropriate.
EB-220	The text has been updated in mitigation measure SR-1a to reflect that the facility shall be reviewed for seismic compliance with the LEPC Region 1 requirements after installation. Periodic reviews, however, should be made to ensure that all pipe bracing, etc., are in place and functioning properly.
EB-221	Mitigation measure SR-1b has been modified to include the use of Class I Div I, which is an electrical classification standard that prevents the ignition of flammable gasses by electrical equipment. It is not clear if a flare could be a Class I Div I device, however, and therefore wording to the extent of isolation of equipment has been retained. Note that the risk analysis does not give credit for the reduction in ignition probabilities due to the location of the flare within the containment area.
EB-222	The text has been modified in mitigation measure SR-1g to indicate that the H2S levels in the produced gas are the concern. However, the intent of the mitigation measure is to ensure that no locations within the facility operate with H2S above 100 ppm, including individual wells. Therefore, text to this extent has been added to the mitigation measure SR-1g to clarify this requirement.
EB-223	Text has been added to Section 4.9.1.6 Water Quality, in response to the comment. In addition, text has been added indicating that beneficial impacts would result from detention of all onsite stormwater during operations, in comparison to existing conditions.
EB-224	Ashba Engineers completed the Hydrology and Water Quality Study for E&B. We have no reason to think that the detailed stormwater runoff information provided in this report is incorrect. The amount of stormwater currently diverted through the sanitary sewer is irrelevant to the impact analysis; therefore, the text has not been

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	edited. However, text has been added indicating that beneficial impacts would result from detention of all onsite stormwater during operations, in comparison to existing conditions.
EB-225	MRS to change “Torrance Refinery” to “Exxon Mobil Refinery” throughout the document. The Hydrology section text has been revised in response to the comment.
EB-226	Additional text has been added in response to the comment. However, the specifics of the Barrier Project and how much water the City consumes are not relevant to water quality discussion. Water supply and demand is discussed in Section 4.14, Water Resources. As indicated in Section 4.9.4.4, third paragraph, beneficial uses of groundwater west of the Barrier Project include industrial water demand. The nearby Pacific Ocean is also considered waters of beneficial use. Impact HWQ.2 discusses the lack of nearby creeks, but the proximity of the ocean.
EB-227	The text has been revised in response to the comment.
EB-228	Although it is acknowledged that an NPDES permit would likely not be required during Phases 2 and 4, an NPDES permit would be required for grading at the Project Site, grading at the relocated City Maintenance Yard facility, pipeline construction, and operations at the new City Maintenance Yard facility. Therefore, the regulatory information regarding NPDES permits would apply. In addition, Project design drainage features were included in the upfront portion of Section 4.9.4.4, Impacts, Drainage Patterns. However, additional text has been added with respect to the SUSMP and OSCP.
EB-229	The text has been revised in response to the comment.
EB-230	The text has been revised in response to the comment and additional details have been provided as appropriate.
EB-231	The text has been revised in response to the comment.
EB-232	The text has been revised in response to the comment.
EB-233	The text has been revised in response to the comment.
EB-234	Additional text has been added to support the finding of significant and unavoidable impacts, including more descriptions of spill scenarios, as discussed in Section 4.8, and more discussion regarding beneficial uses of underlying groundwater. Inclusion of a spill contingency plan and adherence to applicable regulations regarding notification, spill cleanup, and subsurface remediation would not negate the initial significant water quality impacts that could occur as a result of a spill. In addition, recent history has repeatedly demonstrated that large spills still occur even with incorporation of leak detection programs in oil pipelines.
EB-235	See response to comment EB-234. In addition, 90 barrels of oil released into the marine environment or directly into the underlying groundwater would be considered a significant water quality impact. Please see the significance criteria listed prior to Impact HWQ.2, which indicates impacts would be considered significant if the Project “violates any water quality standard or waste discharge requirements” or “results in a discharge of pollutants of concern to a receiving water body, as identified by the LA RWQCB”. Both of these thresholds would be exceeded as result of accidental release of crude oil into marine waters or underlying groundwater.
EB-236	Please see response to comment EB-217. Impacts levels have not been changed.
EB-237	The text has been revised in response to the comment.
EB-238	The text has been revised in response to the comment.
EB-239	Text has been revised per comment, reference to refinery in the City of Torrance deleted.
EB-240	The discussion on the number of parking spaces in this section is extensive and provides a detailed accounting of all parking related to the Project.
EB-241	The text in on page 4.10-3 has been revised consistent with the associated information in the Executive Summary per the comment.
EB-242	The summary of the parking proposal is revised as follows. Reference to the lease is immaterial to the evaluation of environmental impacts.

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	<p>“The Project proposes that the 17 replacement parking places be located at the new City Maintenance Yard location, or if no added parking is constructed there, the 17 replacement spaces would be located at the Cypress Parking Lot <u>or other suitable parking spaces acceptable to the City and Coastal Commission in coordination with the City’s coastal parking program.</u> (The City has indicated there is no agreement to provide for this parking at a relocated City Maintenance Yard).”</p>
EB-243	<p>The environmental factors checklist in Appendix G of the CEQA guidelines identifies recreation as separate from the land use/planning environmental resource issue area. Therefore, consistent with CEQA guidelines, the DEIR provides a separate environmental impact analysis for the recreation resource. Information on other land uses near the project sites is contained in Section 4.10.1.1 and Figure 4.10-2.</p>
EB-244	<p>Text has been revised, references to the U.S. Army Corps of Engineers (ACOE) and the U.S. Fish and Wildlife Service (USFWS) have been deleted. Consistent with Table 2.15, <i>E&B Oil Drilling & Development Project Permits/Approvals</i>, the U.S. Department of Transportation has been added to the text.</p>
EB-245	<p>The reference to the CSLC is correct, the text is documenting that under the California Coastal Act, the CSLC retains jurisdiction of tidelands, submerged lands, and public trust lands lying within the coastal zone.</p>
EB-246	<p>The following text has been added to the discussion to acknowledge the fact that Section 3062 of the Coastal Act allows for oil and gas development: <i>Section 3062 allows for oil and gas development subject to certain environmental and geotechnical conditions.</i></p>
EB-247	<p>Text has been added to note the adjacent General Plan Map land use designations for the Proposed Project site and the Proposed City Maintenance Yard locations.</p>
EB-248	<p>Figure 4.10-2, Project Site and Area Land Uses, shows the Proposed Project site, Proposed City Maintenance Yard locations, and surrounding area zoning designations.</p>
EB-249	<p>While the Oil Code is proposed to be amended as part of the ballot measure, technically the sentence is correct as is because the Oil Code will apply. However, in case it is misconstrued that the 1985 Oil Code would apply, without amendment, the sentence could be clarified as follows: “While the Oil Code ceased to be of effect in 1995 due to a ballot measure which disallowed any oil drilling in the City of Hermosa Beach, if the ban on oil drilling is lifted by the voters, then the Oil Code will apply <u>as amended by the ballot measure.</u>”</p>
EB-250	<p>This statement does not preclude the city and applicant from coordinating permitting if appropriate. The proposed City Maintenance Yard relocation is consistent with the proposed General Plan Open Space land use designation which allows public governmental buildings. The General Plan Land Use Element suggests creating a Public Facilities designation to encompass public governmental buildings; however that has not yet been implemented. No change to the section is necessary.</p>
EB-251	<p>The list of permit conditions for the 1993 Conditional Use Permit (CUP) included on page 4.10-9 is specific to the conditions relating to land use development and is annotated as such. The CUP is not described as “an existing and valid entitlement” in this section to avoid confusing the reader due to the legal and other issues of the Settlement Agreement necessary to execute the permit. All CUP conditions will be part of the Project and included in the DA, unless usurped in a more stringent Mitigation Measure.</p>
EB-252	<p>Section 11-4.02, <i>Definitions relating to pipeline franchises</i>, of Chapter 4, Title 11 of the Redondo Beach Municipal Code defines the various appurtenances associated with a pipeline in the definition of a pipeline facility. The gas metering station would be included as an appurtenance to the pipeline and thus subject to the same requirements as the pipeline. The text has been revised to add the gas metering station to the</p>

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	discussion and to correct the citation (Section <u>Title 11</u>) to the Redondo Beach Municipal Code.
EB-253	Text has been changed from “ <i>refinery in the City of Torrance</i> ” to “ <i>area refinery</i> .”
EB-254	Recreational land use is a very important part of the identity of the City of Hermosa Beach. As such, and consistent with Section 15064.7 of the CEQA Guidelines, the City developed project specific thresholds of significance for recreational impacts to address the unique nature of the recreational land use of Hermosa Beach. See response to comment EB-243 regarding the stand alone analysis of the recreational land use category. Goal #3 of the Land Use Plan encourages land uses that promote and enhance the City’s coastal environment and quality of life and a number of the objectives require the preservation of the recreational uses of the area. As a beach community, Hermosa Beach specially values the recreational resources its beaches provides.
EB-255	<p>The commenter is correct that the proposed amendments to the General Plan, Coastal Land Use Plan and Municipal Code would eliminate any inconsistency between the Proposed Project and those plans is approved by the voters. That is why Impact LUPR.1 was found to be less-than-significant. The sentence which starts with “As currently written...” is reworded by deleting the redundant words “As currently written...” resulting in: The Proposed Project conflicts with the existing City of Hermosa Beach ...”</p> <p>It is not indicated that the proposed amendments are mitigation measures, but rather that adoption of the plan, code and ordinance amendments would resolve inconsistencies and by doing so the residual impacts are less than significant. These amendments are not listed in the DEIR as mitigation measures. No change to the section is necessary.</p>
EB-256	Section 30262 of the Coastal Act does allow for oil and gas development and the citation has been added to the Land Use section of the DEIR, see response to comment EB-246. However, the City of Hermosa Beach’s Coastal Land Use Plan (titled ‘Local Coastal Plan’ but referred to as the Coastal Land Use Plan in the DEIR), as certified by the Coastal Commission in 1982, did not contain specific energy policies that would guide the development of oil and gas resources within the city. Therefore, the Coastal Land Use Plan does not provide guidance regarding whether oil and gas development is allowed in the Industrial designation.
EB-257	The consistency analysis is included as part of the land use section consistent with this comment. Notwithstanding the existing CUP and the analysis of other policies, the DEIR finds that the Proposed Project may be inconsistent. No change to the section is necessary.
EB-258	The text on page 4-10.14 has been revised, the bulleted reference to the franchise agreement has been deleted.
EB-259	The text has been revised per the comment; <i>gas metering station</i> has been added to the referenced bullet item.
EB-260	The comment questions the finding that potential noise, odor, and visual impacts generated from the Proposed Project could be incompatible with adjacent land uses due to the fact that the Project site is designated as Industrial on the City’s General Plan Land Use Map. The subject finding is not based on the Proposed Project’s compatibility with the Industrial land use designation but rather the following significance criterion: <i>Incompatible in scale or use characteristics with any adjacent land uses</i> . Based on this criterion and with surrounding land uses including residential and recreational, the Proposed Project is clearly incompatible in both scale and use characteristics with certain adjacent land uses. Further, the fact that the City’s General Plan designates the Proposed Project site for an industrial land use does not make the scale and character of that industrial land use compatible with nearby residential or

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	<p>recreational land uses.</p> <p>Regarding the need for a specific City policy or requirement to find potential noise, odor and visual impacts under the subject significance criteria; the respective sections of the DEIR determined Class I impacts may occur for each of those issue areas. Therefore, the noise, odor and visual impacts are clearly incompatible both in scale and characteristics with adjacent residential and recreational land uses independent of a specific City policy or requirement. The Proposed Project's consistency with land use policy is discussed in Section 4.10.7.</p>
EB-261	<p>The temporary and permanent City Maintenance Yard cannot be developed on both proposed sites without legislative changes. There are inconsistencies on the various portions of the sites and between the General Plan and Coastal Land Use Map. The Coastal Land Use map currently indicates a portion of the proposed site is Residential Medium Density; it is not necessary for this EIR to evaluate the reason it is currently Residential Medium Density. The proposed changes will make land use maps and designations and zoning consistent.</p> <p>This is an existing condition and it is not necessary to explore the reason the sites were so designated (which may be because the land use designations do not necessary follow parcel lines or because the Coastal land Use Map is a static reflection of older General Plan land use maps). No change to the section is necessary.</p>
EB-262	<p>Comment noted. The section acknowledges that if the Proposed Oil Project is approved by the voters then the City Maintenance Yard will be moved. It is not necessary to address timing here. No change to the section is necessary.</p>
EB-263	<p>Noise generating activities at the City Maintenance Yard include maintenance and testing of vehicles, landscaping equipment, and other types of equipment associated with Public Works type projects, solid waste contractor activities, dumping and pick-up of solid waste, materials staging, repair of various equipment, and a wide range of activities for normal and at times emergency operations. The operation of the City Fire Station includes maintenance work on fire engines, pumps, chain saws, hydraulic rescue tools, and other noise generating equipment. Therefore, impacts to adjacent land uses are expected to be similar. Further, the potential impacts of noise, odor, and visual from the Proposed Oil Project are significantly different from the operation of the City Maintenance Yard or City Fire Station.</p>
EB-264	<p>The DEIR identifies Impact BIO-1, <i>A rupture or leak from oil Pipelines has the potential to result in a substantial adverse effect on native species and habitats, sensitive species, and biologically important habitats associated with the Pacific Ocean</i>, as a Class I impact. The reference to biologically important habitats associated with the Pacific Ocean are the same habitats used by recreational users. Impact HWQ-2, <i>A rupture or leak during oil drilling operations, from pipelines, or from other infrastructure could substantially degrade surface water and groundwater quality</i>, remains Class I after the implementation of mitigation measures and the regulatory requirements noted by the Applicant in the comment. Surface water runoff can directly impact the beach and ocean, the two primary recreational areas of the City of Hermosa Beach. In addition, due to the heavy use of the beach and ocean during certain times of the year, any impact to the subject recreational areas would be significant independent of the duration or temporary nature of the impact. Therefore, the DEIR determination of a Class I impact from an oil spill to recreational land uses is merited and consistent with the other sections of the document.</p>
EB-265	<p>Impact HWQ.2 discussed in Section 4.9 Hydrology (see Pages 4.9.-16 to 4.9-19) analyzes the potential for the potential of an oil spill to reach nearby drainages, stormwater runoff, and the ocean and concludes that this impact would be significant and unavoidable, even with implementation of Mitigation Measures HWQ-2a through HWQ-2h because there is no absolute certainty that an oil spill will not reach and</p>

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	impact sensitive water resources.
EB-266	See response to comment EB-264.
EB-267	The General Plan/Coastal Land Use Plan update is just commencing. No proposed goals, policies, programs, land use maps, alternatives, or any other component has been prepared by which consistency or cumulative impacts may be evaluated. No change to the section is necessary.
EB-268	The Proposed Project differs in certain respects from the 19943 CUP and more information has been provided about the Proposed Project since 1993; therefore, this EIR must analyze the consistency of the Proposed Project as a whole with the City's land use plans and policies. The conditions of the CUP have been incorporated into the Proposed Project and may serve to reduce impacts that would otherwise occur if that was not the case. However, this EIR evaluates impacts that may result from the Proposed Project and represents the independent judgment of the City at this time based on the Proposed Project. Therefore, differing conclusions may be reached. With regard to Goal 6, the Proposed Project will not affect land use controls.
EB-269	The analysis in this section concludes that the Proposed Project may be inconsistent with Land Use Element Goals 1 and 3. The determination that an oil drilling and production facility may be inconsistent with the goal to <i>protect and maintain the small town beach community atmosphere of Hermosa Beach</i> (Goal 1) and <i>to encourage land uses which enhance and promote the City's Coastal environment</i> (Goal 3) will be decided by the voters. Thus the conclusion of the analysis that the voters of Hermosa Beach will determine the Proposed Project's consistency with the Land Use Element goals.
EB-270	The following text has been added to the section to provide additional information on the financial benefits of the Proposed Project and direct the reader to the Cost Benefit Analysis for detailed subject information: <i>Other direct revenue sources to the City if the Proposed Project is approved include oil lease property taxes, business license taxes, and school district revenues. Additional information on the financial impacts and potential benefits of the Proposed Project is available in the Oil Drilling and Recovery Cost Benefit Analysis (CBA). The CBA was prepared by the City and provides a comprehensive review of the financial benefits and costs to the City of the Proposed Project.</i>
EB-271	Text has been added to the analysis of Noise Element Goal 4 acknowledging the additional noise reduction design features proposed by the Applicant.
EB-272	The DEIR identifies Impact SR-1, <i>Operational and drilling activities would generate offsite risks that exceed the thresholds</i> , as a Class I impact and recommends mitigation measures to help reduce that impact. The residual impact after implementation of these mitigation measures, and including the safety measures and regulatory requirements noted in the comment, remains Class I due to the fact that the blowout scenario cannot be mitigated to a level of insignificant. Therefore, the proposed Project represents a new potential hazard to the City and thus is potentially inconsistent with the Fire Safety Objective 1 of the Safety Element. The conclusion of the analysis would not change by listing the mitigation measures, safety measures and regulatory requirements contained in Section 4.8 of the DEIR and the land use policy section need not repeat information presented in other sections of the document to provide an adequate analysis on policy consistency.
EB-273	This EIR evaluates impacts that may result from this Proposed Project, which differs from the earlier project. This EIR represents the independent judgment of the City at this time based on the Proposed Project. Therefore, differing conclusions may be reached. No change to the section is necessary.
EB-274	This EIR evaluates impacts that may result from this Proposed Project, which differs from the prior project. This EIR represents the independent judgment of the City at this time based on the Proposed Project. Given these facts and that coastal policy

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	does not provide specific standards as relates to view sheds and scenic corridors, it is possible to find that the Proposed Project may be inconsistent with coastal policy. No change to the section is necessary.
EB-275	Independent of the level of the risk from the Proposed Project determined in Section 4.8, the Proposed Project is a new hazardous industrial development located near existing developed areas. Further, as described in the discussion of the Environmentally Superior Alternative, there is a feasible location that is located at a greater distance from existing developed areas than the Proposed Project site. Therefore, a determination of consistency with Section 30250 of the Coastal Act cannot be made.
EB-276	Consistency with Section 3062 of the Coastal Act does not make the Proposed Project consistent with the other sections of the Act. Section 3062 allows for the Coastal Commission to make the consistency determination after review of the Proposed Project location, analysis of the potential impact to the welfare of the public and the mitigation of adverse environmental effects.
EB-277	The City does not have a threshold for vibration; the City chooses to use the County code as their threshold only.
EB-278	Mitigation Measure NV-1a will be revised to reflect the 24-foot feasibility limit on the height of the temporary noise barrier for Phase 1 and the noise models for this phase will be rerun to reflect the reduced noise barrier height and corresponding increase in noise impact on the neighborhood. The Applicant has indicated that they can install a temporary 24 foot barrier.
EB-279	Mitigation Measure NV-1b will also be revised to reflect the 24-foot feasibility limit on the height of the temporary noise barrier for Phase 1 and the noise models for this phase will be rerun to reflect the reduced noise barrier height and corresponding increase in noise impact on the neighborhood. The Applicant has indicated that they can install a temporary 24 foot barrier.
EB-280	The intent of Mitigation Measure NV-1c is to ensure that each of the gates constitutes a continuous and imperforate barrier to sound. Materials other than sheet metal or plywood will be acceptable, provided that they deliver the required STC performance and have no gaps or holes in them. The wording of Mitigation Measure NV-1c will be revised accordingly.
EB-281	This comment refers to a comment letter from the Applicant dated April 1, 2014, which is recorded as Public Draft Comment EB-321. See response to EB-321.
EB-282	<p>This comment requests a clarification of the CUP to allow the maximum height of “temporary equipment and appurtenant structures” associated with Phase 2 of the project to be increased from 16-feet to 35-feet, to match the height of the sound barriers required by Mitigation Measure NV-2a.</p> <p>This comment is directed at the CUP rather than the EIR; however, it does have a bearing on the noise analysis presented in the EIR because if the height of any of the noise generators in the project is increased relative to the top of the noise barriers, the noise impact on the surrounding neighborhood will increase. In that case, it will be the Applicant’s responsibility to apply whatever additional mitigation measures necessary to offset the diminished effectiveness of the noise barrier. The wording of Section 4.11 of the EIR will be revised to include this requirement.</p>
EB-283	The intent of Mitigation Measure NV-2b is to ensure that each of the gates constitutes a continuous and imperforate barrier to sound. Materials other than sheet metal or plywood will be acceptable, provided that they deliver the required STC performance and have no gaps or holes in them. The wording of Mitigation Measure NV-2b will be revised accordingly.
EB-284	Mitigation Measure NV-3a will be revised to reflect the 24-foot feasibility limit on the height of the temporary noise barrier for Phase 3 and the noise models for this phase will be rerun to reflect the reduced noise barrier height and corresponding increase in

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	<p>noise impact on the neighborhood. The Applicant has indicated that they can install a temporary 24 foot barrier.</p> <p>The phasing of Phase 3 construction work should be revised, so that the perimeter sound wall is built first, or at least as early as possible in the schedule, so that it can act as a noise barrier to the subsequent construction activities in Phase 3.</p>
EB-285	<p>The first part of Mitigation Measure NV-3b will be revised to reflect the 24-foot feasibility limit on the height of the temporary noise barrier for Phase 3 and the noise models for this phase will be rerun to reflect the reduced noise barrier height and corresponding increase in noise impact on the neighborhood. The Applicant has indicated that they can install a temporary 24 foot barrier.</p> <p>The phasing of Phase 3 construction work should be revised, so that the perimeter sound wall is built first, or at least as early as possible in the schedule, so that it can act as a noise barrier to the subsequent construction activities in Phase 3.</p> <p>The intent of the second part of Mitigation Measure NV-3b is to ensure that each of the gates constitutes a continuous and imperforate barrier to sound. Materials other than sheet metal or plywood will be acceptable, provided that they deliver the required STC performance and have no gaps or holes in them. The wording of the second part of Mitigation Measure NV-3b will be revised accordingly.</p>
EB-286	<p>This comment refers to a comment letter from the Applicant dated April 1, 2014, which is recorded as Public Draft Comment EB-321. See response to EB-321.</p>
EB-287	<p>The apparent conflict between the height of the perimeter noise barrier described in Mitigation Measure NV-5a in the Noise and Vibration section and Mitigation Measures AE-1b and AE-2a in the Aesthetics and Visual Resources section of the DEIR will be resolved in the wording of the Final EIR and any changes in the impact significance analysis will be recalculated accordingly.</p>
EB-288	<p>Mitigation Measure NV-5b will be revised to remove the option of constructing the permanent site gates from plywood.</p>
EB-289	<p>The apparent conflict between the height of the perimeter noise barrier described in Mitigation Measure NV-6a in the Noise and Vibration section and Mitigation Measures AE-1b and AE-2a in the Aesthetics and Visual Resources section of the DEIR will be resolved in the wording of the Final EIR and any changes in the impact significance analysis will be recalculated accordingly.</p>
EB-290	<p>The outdoor acoustical panels required by Mitigation Measure NV-6b in the Noise and Vibration section are be applied on the inside (oil production site side) of the north and west walls. The appearance of the exterior façades (outer facing surfaces of the walls) would not be affected by this measure.</p> <p>Nonetheless, the language of Mitigation Measures NV-6b, AE-1b and AE-2a will be reviewed and revised in the Final EIR if necessary to avoid confusion.</p>
EB-291	<p>Response to comment not required, commenter stated no comments on the subject section of the DEIR.</p>
EB-292	<p>The modifications have been made relating to the jurisdiction request for traffic counts.</p>
EB-293	<p>The designation of Valley Drive as a truck route does not necessarily mean that the use of the truck route by trucks 18 times per day or by 6 crude oil trucks per day is "safe". Additional measures are proposed to ensure that the highly used pedestrian area is compatible with the truck traffic proposed by the Applicant.</p>
EB-294	<p>The DEIR only provides a qualitative assessment of the conversion of Valley Drive to one-way. City staff and the DEIR traffic consultant both indicated that the conversion would be feasible and would not require any major infrastructure changes. As Valley Drive currently operates one-way in other jurisdictions to the north (Manhattan beach)</p>

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	and the public works and traffic engineers saw no issues, it would therefore produce nominal impacts. Detailed design considerations of the traffic change would be addressed during the final permit stages. Additionally, the option to convert the southern portion of Valley Drive back to two-way was added as an additional option.
EB-295	The mitigation measure has been modified to allow for the use of 70 foot trucks, but only with flaggers.
EB-296	The City Maintenance Yard Project would utilize the 11th Place and Valley intersection. Bard Street and Pier Avenue would not be used as preferred by the Police and Fire Departments to prevent potential vandalism within the police and fire station areas. The 11th Place and Valley Drive intersection is examined in the DEIR. The issue with accessing the site is not related to truck routes, but to adding a driveway onto Valley where trucks would enter and exit, possibly with limited visibility. This issue is mitigated by requiring the driveway to exit onto 11th Street.
EB-297	Commenter stated no comments on the DEIR.
EB-298	Commenter stated no comments on the DEIR.
EB-299	Alternatives have been updated to address changes to the respective issue area impacts.
EB-300	The basis is the depths of the test wells provided by the Applicant in their test wells map. The throw ratios are based on historical throw ratios for drilling within a California onshore environment, which has seen throw ratios up to 3-4 range.
EB-301	The DEIR does acknowledge the many constraints, both legal and procedural, that would be associated with the AES site. The selection of the AES site is not new, as it was identified in previous environmental studies. While the challenges, particularly related to the lease arrangements, are considerable, they are not considered to be insurmountable and the AES site is considered feasible for purposes of considering a reasonable range of alternatives under CEQA.. CEQA requires examining alternative locations, and the use of the AES site provides substantial environmental advantages.
EB-302	The reduced wells alternative does not state that the risks of a blowout would be reduced, only that the duration that the public would be exposed to these risks would be reduced. Text has been modified to indicate that a range of a number of wells could be drilled depending on the number and location of targets chosen by the Applicant.
EB-303	Text has been modified to indicate Phase 2 instead of Phase 1.
EB-304	The alternatives listed could obtain many of the objectives of the Project (i.e. production of oil and gas"). CEQA states that the alternatives must obtain "most" of the "basic" Project objectives and all of the alternatives do satisfy that requirement. , The alternatives have been considered and it can be argued that for purposes of providing the public a meaningful discussion of a reasonable range of alternatives, it was necessary to provide an alternative at an alternate site. The objectives related to the yard only need to be met if the project is built at the proposed site and the yard has to be removed
EB-305	Both uses of the AES site would be industrial (drilling and power generation). Drilling sites are often located on industrial sites. Zoning and land use issues would have to be revised and most likely a vote of the people required. But it is feasible, which is the test under CEQA. Under aesthetics, the CEQA analysis is required to examine the potential impacts of the alternative site on the facilities as they exist today. The cumulative analysis does discuss the construction of a new power plant, but it would also be an industrial facility and the drilling activities would take place immediately next door to it and would therefore have similar impacts. Although specific details of the site contamination are not available, the level of contamination most likely is hydrocarbons and lead, given the historical industrial nature of the site, which would be similar to the Proposed Project. The site contamination would be subject to the SCAQMD requirements and impacts would most likely be similar.
EB-306	The measure recognizes that heat would be required and would need to be generated

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	by other means than microturbines. Wells being shut down is completely feasible in an oil and gas operation and it is not unreasonable, if the facility required full flaring of all gas processing, that it would have to shut in wells. This is standard practice and would be required on the Proposed Project if flaring` occurred for an extended period.
EB-307	Aerial photographs indicate that the AES site has substantially more room than the City Maintenance Yard site.
EB-308	The process of placing a measure on the ballot and having a vote of the people in Redondo Beach is similar to the process that has occurred and is occurring in Hermosa Beach. If you look at the history of the process in Hermosa Beach, the Lawsuit, the settlement agreement, the vote, the process in Redondo Beach would be similar to the history and current requirements in order to secure drilling in the City o f Hermosa Beach.
EB-309	The City Maintenance Yard could stay where it is while drilling occurred on the AES site. The Applicant might have the lease, but there is no requirement to move the Yard. If the vote fails, the Applicant would not require the yard to move even though the lease is still active.
EB-310	Section 5.1.6 addresses the alternatives and the Project objectives.
EB-311	<p>The City’s Coastal Land Use Plan lacks policies governing industrial development and particularly oil and gas development. While it is not anticipated that other oil and gas projects at other sites would be proposed in the future, consultation with Coastal Commission staff indicates that the policies should be written to address oil and gas development more generally, with some allowance for specificity to the Proposed Project such as found in Programs 3.1 and 4.1.</p> <p>The proposed amendment is to the Coastal Land Use Plan and addresses consistency with the Coastal Act as relates to oil and gas development; it is not necessary to address consistency with all other laws. However, Appendix P is amended by adding, <u>“Oil and gas exploration, development and production must also be consistent with the public access, recreation, environmentally sensitive habitat, visual, cultural, air quality, water quality, and marine resource protection policies, among others, of the Coastal Act stated in other sections of this Plan”</u> to Section B. Other laws remain operative and need not be referenced, and we do not believe the proposed amendment is inconsistent with other laws. Consultation between City staff and Coastal Commission staff during the drafting of the proposed amendment indicated that reference to the Settlement Agreement was not appropriate for inclusion within the proposed amendment.</p>
EB-312	The City intends to file an application for the proposed Coastal Land Use Plan amendment concurrently with E&B’s application to the Coastal Commission. The ballot measure will specify that suggested modifications by the Coastal Commission to the Land Use Plan amendment may be considered and adopted by the City Council without the need for voter approval. While E&B may comment on suggested modifications before the Council for approval, E&B’s agreement is not necessary. The City’s responsibilities and E&B’s rights under referenced documents will remain unchanged.
EB-313	<p>Section 30101 of the Coastal Act provides a definition for “Coastal Dependent” industry. The definition is not specific to offshore oil and gas facilities but rather <i>“any development or use which requires a site on, or adjacent to, the sea to be able to function at all”</i>. As the Proposed Project requires a location that is adjacent to the sea to achieve the directional drilling component of the Project and the Project Site is located in the coastal zone, discussion of Section 30101 of the Coastal Act is appropriate.</p> <p>The Proposed Project does propose to develop offshore oil and gas reserves via directional drilling. The proposed amendment does not state that offshore wells are</p>

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	proposed. Policy 2 is modified to state that “ <u>offshore oil and gas wells, platforms, processing and storage facilities are prohibited.</u> The modified policy eliminates language that would prohibit drilling, and is therefore consistent with the Proposed Project which proposes directional drilling.
EB-314	The proposed amendments to the City’s Coastal Land Use Plan are in draft form and would require certification by the Coastal Commission. The goals and policies contained in amendments proposed by the City have not been subject to formal review by the Coastal Commission at this state of the Proposed Project. City staff consulted with Coastal Commission staff in the preparation of the proposed amendment in Appendix P. The appropriateness of the language will ultimately be considered by the Coastal Commission when it considers the City’s application for the Coastal Land Use Plan amendment to add a new section titled “Coastal Industrial (Oil and Gas) Development.”
EB-315	This sentence is deleted since the meaning of this sentence may not be clear, and its elimination does not affect the application of the Coastal Act to development proposals. However, Coastal Commission staff has advised that the proposed amendment to the Coastal Land Use Plan should provide policy by which to guide and evaluate projects that may be proposed in the coastal zone, whether it be the Proposed Project or some other project. The proposed amendment strikes a balance between this objective and the limits imposed by the voters.
EB-316	<p>The cited provisions of the Coastal Act were determined in consultation with Coastal Commission staff. However, Appendix P is modified to state that, “<u>Oil and gas exploration, development and production must also be consistent with the public access, recreation, environmentally sensitive habitat, visual, cultural, air quality, water quality, and marine resource protection policies, among others, of the Coastal Act stated in other sections of this Plan</u>” in Section B. This method of referencing policies was preferred per consultation with Coastal Commission staff.</p> <p>Objective 1 in Appendix P to the Draft EIR is deleted per consultation with the Coastal Commission; however Objective 2 (now Objective 1) in Appendix P to the Final EIR is retained. The Coastal Land Use Plan in its entirety as well as the General Plan (since the Coastal Land Use Plan is an element of the General Plan) provide policy demonstrating the importance of these attributes.</p>
EB-317	The Comment is not specific as to which provisions of the lease, if any, were potentially inconsistent with the policy. Policy 4 is modified and renumbered as Program 4.2 to allow trucking during site and pipeline construction consistent with the Proposed Project. Program 4.2 states, “ <u>All oil and gas products shall be transported by pipeline to processing and refining facilities. Produced resources may be transported by vehicles designed for this purpose only during exploration and construction phases of minimum duration necessary to confirm the petroleum resource, construct facilities on the project site, and construct pipelines. Oil and gas produced from production wells shall be conveyed by pipeline.</u> ” City staff believes the policy as revised is consistent with the Lease.
EB-318	The Comment is not specific as to which provisions of the lease, if any, were potentially inconsistent with the policy.
EB-319	The Comment is not specific as to how and whether the policy is potentially not consistent with laws, regulations, the lease or the settlement agreement. Other laws remain operative and need not all be specifically referenced, and we do not believe the proposed amendment is inconsistent with other laws or regulations. Consultation between City and Coastal Commission staff during the drafting of the proposed amendment indicated that reference to the Settlement Agreement and Lease were not appropriate for inclusion within the proposed amendment.
EB-320	The proposed amendments to the City’s Coastal Land Use Plan are in draft form. The Hermosa Beach City Council in 2010 declared its intent to pursue the path to make

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	city operations carbon neutral, the proposed amendment language reflects this City goal. The proposed final amendment language would be required to be consistent with the Proposed Project, the Conditional Use Permit, Lease Agreement, the Coastal Act, and all applicable laws and regulations. The policy also uses the term permissive term "should" rather than mandatory term "shall."
EB-321	The additional noise mitigation submitted by E&B has been taken into consideration in the Final EIR and the document has been revised to reflect the level of impact as a result of the added mitigation.
EB-322	The threshold is that it creates a nuisance. The SCAQMD defines an odor as a significant impact if it is a nuisance as defined by Rule 402 - any emission which would "cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public". The criteria that an NOV is required in order for the facility to be a nuisance is difficult to achieve as the SCAQMD is located more than an hour away from the Project Site. The requirement that the inspector must "observe, identify or otherwise establish evidence of" the emissions is difficult as odors can be very transitory, sometimes lasting for only a short period of time. Therefore, the DEIR utilized the number of "6 complaints" to establish the "considerable number of persons". While the facility might operate in a manner which would not produce annoyance or endangers the comfort of the public, it also might operate in a fashion that does produce discomfort or annoyance. Oil and gas facilities have substantially different potentials for odors. Non-sour, liquid-only type facilities that are well run and maintained, which are common in Los Angeles and Torrance/Wilmington, produce very different odors from facilities that process sour gas in relatively large quantities being more susceptible to odors. The EIR does not conclude that the facility would always and on a regular basis provide for a nuisance, only that a nuisance could occur. Please see responses to comments EB-1, EB-2 and EB-113.
EB-323	The inclusion of a vent-to-flare system and tank hatch control reduce the frequency and sources of odor emissions. However, from an odor standpoint, the facility is not "closed-loop" because the leakage from components and the releases during drilling and workovers, and maintenance activities, which are known and expected, mean that odors could occur. SCAQMD Rule 1173 is a regulatory requirement and leakage still occurs from components even under the 1173 inspection programs. Please see responses to comments EB-2 and EB-113.
EB-324	The inclusion of a compressor seal vent system would reduce the potential for odor emissions from the compressor seals. However, as discussed above, there are a number of other potential sources of odors, including accidents, and these are not accounted for with a compressor seal vent system.
EB-325	H2S in the vapor space above a tank of crude oil can often be substantially higher than that within the crude oil, with observed levels 10x higher than the H2S in the crude oil. The use of 1,000 ppm is very conservative, but was used to estimate if normal operations could produce an offsite impact. With tank hatch and 99% control of fugitive emissions, as proposed by the Applicant, emission during normal operations would be less than significant. Therefore, even at elevated levels, impacts would be less than significant. The 1,000 ppm H2S was not used to define significance, only used to establish potential operational levels during normal operations.
EB-326	The Applicant has proposed numerous design features which would reduce the potential for odors. However, the potential is substantial for an odor release producing odor complaints due to the proximity to receptors and the possibility of odor complaints cannot be eliminated and is therefore a significant impact.
EB-327	Please see response to comment EB-217
EB-328	Please see response to comment EB-217
EB-329	Please see response to comment EB-217
EB-330	Please see response to comment EB-217

