

1 CALDWELL LESLIE & PROCTOR, PC
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6 Attorneys for Petitioner EQUILON ENTERPRISES
LLC dba SHELL OIL PRODUCTS US

**STATE WATER RESOURCES CONTROL BOARD
FOR THE STATE OF CALIFORNIA**

In the Matter of the Petition of

Case No.

EQUILON ENTERPRISES LLC dba SHELL
OIL PRODUCTS US

**PETITION FOR REVIEW AND
REQUEST FOR HEARING**

13 Cleanup and Abatement Order R4-2013-0007
14 California Regional Water Quality Control
Board, Los Angeles Region

15 | California Water Code §§ 13267 and 13304

17 Equilon Enterprises LLC dba Shell Oil Products US (“Equilon”) hereby files this Petition
18 for Review, along with the supporting Declaration of Gene Freed (attached hereto and referred to
19 hereafter as “Freed Decl.”). Equilon also requests that an order be issued staying the effect of the
20 subject Order and that a hearing regarding this Petition be granted. *See* Water Code § 13320, 23
21 Cal. Code Reg. § 2053. Equilon alleges as follows:

22 1. Equilon's mailing address is 20945 South Wilmington Avenue, Carson,
23 California 90810. (Freed Decl., ¶ 2.) Equilon requests that copies of all communications
24 relating to this Petition should be sent to Gene Freed at the foregoing address with copies sent to
25 the above-captioned counsel.

26 2. On February 8, 2013, the Executive Officer of the California Regional Water
27 Quality Control Board, Los Angeles Region (the “Regional Board”) issued Cleanup and

1 Abatement Order R4-2013-0007 pursuant to Water Code sections 13267 and 13304.¹ (Freed
2 Decl., Exh. 2 (referenced herein as “CAO”.) The CAO requires Equilon, Chevron Corporation
3 (“Chevron”), Phillips 66 (“Phillips”), and BP p.l.c. and BP Pipelines (North America) Inc.
4 (collectively, “BP”) to undertake certain remediation and abatement actions relating to a portion
5 of the Dominguez Channel in Carson, California, and to provide technical and monitoring
6 reports. (*Id.*, ¶ 4.) Specifically, as stated in the CAO, “[t]he Site is a section of the Dominguez
7 Channel, approximately 400 feet south of the Carson Street bridge in Carson, California and the
8 surrounding area where discharges of petroleum hydrocarbons in the subsurface have occurred.”
9 (CAO, p. 2.)

10 3. This Petition for Review is made on the following grounds:

11 a. *First*, there is no substantial evidence that Equilon is a “discharger” as that
12 term is used in Section 13304(a). As the sole basis for naming Equilon (and the other named
13 parties) in the CAO, the Regional Board points to the presence of 26 different pipelines that are
14 “in the vicinity” of the contamination observed in the Dominguez Channel, that the named
15 parties are associated (either currently or historically) with those pipelines, and that some of the
16 pipelines transported crude oil and refined products. However, there is no evidence that *any* of
17 the pipelines is the actual source of the contamination. Thus, at most, Equilon and the other
18 named parties are *suspected* dischargers, but Section 13304 does not authorize the Regional
19 Board to name suspected dischargers in a CAO, only actual dischargers or parties threatening to
20 discharge waste. Given the absence of evidence of the actual source or sources for the
21 contamination observed in the Dominguez Channel, the CAO should be rescinded.

22 b. *Second*, as noted above, the CAO defines the Site to include not only the
23 section of the Dominguez Channel located approximately 400 feet south of the Carson Street
24 bridge where the contamination has been observed, but also “the surrounding area where
25 discharges of petroleum hydrocarbons in the subsurface have occurred.” This additional
26 language makes the scope of the CAO vague and potentially imposes obligations on the named
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¹ All statutory references are to the Water Code unless otherwise indicated.

1 parties that are unrelated to the discharge observed in the Dominguez Channel that is the subject
2 of the CAO. If the CAO is not rescinded, its scope should be clarified and limited to the impacts
3 that have been observed in the specified area of the Dominguez Channel and their source(s).

4 4. This Petition is filed pursuant to Section 13320, which authorizes any aggrieved
5 person to petition the State Water Resources Control Board (the “State Board”) to review any
6 action (or failure to act) by a regional board. *See* Water Code § 13223 (actions of the regional
7 board shall include actions by its executive officer pursuant to powers and duties delegated to
8 him by the regional board). Equilon is an aggrieved party in this instance because the CAO is not
9 based on evidence of a discharge from the pipelines associated with Equilon, and because the
10 “Site” as defined in the CAO is impermissibly vague and overbroad.

11 5. Equilon respectfully requests that the State Board grant the relief requested in this
12 Petition as set forth in the Request for Relief. Equilon herewith submits a Request for Stay and
13 asks the State Water Board to order that the CAO be stayed pending review of this Petition and
14 the other petitions being filed in response to the CAO.

15 6. Equilon requests a hearing regarding the CAO. The arguments that Equilon
16 wishes to make at the hearing are summarized in this Petition, as is the testimony and evidence
17 that Equilon would introduce at the hearing, which also is contained in the administrative record
18 for this matter. Equilon reserves its right to supplement the testimony and evidence at the
19 hearing. If any meetings or hearings regarding the CAO are conducted that involve one or more
20 parties listed on the CAO, Equilon hereby requests prior notice and an opportunity to attend any
21 and all such meetings or hearings.

22 7. Equilon’s Statement of Points and Authorities in support of the issues raised by
23 this Petition commences below. Equilon previously raised the issues discussed herein in the
24 comments it submitted to the Regional Board in response to the draft CAO. (Freed Decl., ¶ 4.)

25 8. Equilon reserves the right to modify and supplement this Petition, and also
26 requests an opportunity to present additional evidence, including any evidence that comes to light
27 following the filing of this Petition. *See* 23 Cal. Code Regs. § 2050.6.

1 9. Copies of this Petition and Equilon's Request for Stay are being sent on this day
2 by personal delivery to the Regional Board to the attention of Mr. Samuel Unger, Executive
3 Officer, and by overnight delivery to counsel for Chevron, Phillips and BP (listed on the attached
4 service list).

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STATEMENT OF POINTS AND AUTHORITIES

I. BACKGROUND

3 10. The Dominguez Channel begins in the City of Carson, runs through industrial and
4 residential areas in the southern portion of Los Angeles County and drains to the Port of Los
5 Angeles. Beginning in or about January 2011, a hydrocarbon sheen was observed in a segment
6 of the Dominguez Channel located just south of the Carson Street bridge in the City of Carson.
7 (See CAO, Figure 1 (Site Vicinity Map).) The sheen was determined to be light non-aqueous
8 phase liquid (“LNAPL”) that was observed entering the channel waters from sediments in the
9 bottom of the channel and within the horizontal sub-drain pipe systems installed in the west and
10 east channel levees. (*Id.*)

11. Beginning in April 2011 and continuing through December 2011, the Regional
12 Board issued investigative orders pursuant to Section 13267 to various nearby property owners
13 and pipeline operators to take steps to assess the contamination. (CAO, p. 4 and Exh. 1 at 2-1.)
14 The recipients of these orders included Equilon, Chevron, Phillips, BP, Tesoro Refining and
15 Marketing Company, the Prowell Family Trust and Crimson Pipeline, L.P. (*Id.*) Equilon (which,
16 along with Chevron, coordinated its response through Resource Environmental LLC
17 ("RELLC")), complied with the Section 13267 order and provided information regarding
18 pipelines that it or its affiliates owned or operated which were located within one mile of the
19 intersection of Carson Street and the Dominguez Channel. (Freed Decl., ¶ 3.) In addition to
20 coordinating Equilon's and Chevron's response to the Regional Board's Section 13267 order,
21 RELLC has been removing LNAPL from the subdrains and a groundwater monitoring well, and
22 maintaining absorbent booms across the Dominguez Channel. (CAO, p. 4.) As the Regional
23 Board noted in the CAO, RELLC's efforts have stopped the appearance of LNAPL on the surface
24 of the Dominguez Channel. (*Id.*).

25 12. The LNAPL has been assessed to consist primarily of a combination of naphtha-
26 range intermediate hydrocarbons and crude oil. (*Id.*) While the LNAPL samples have been
27 analyzed to contain approximately 5% crude oil, the presence of crude oil has been detected in

1 greater proportions in soils indicating that crude oil plays a larger role in the overall
2 contamination than might be indicated by analysis of the LNAPL alone. (Freed Decl., ¶ 6.)

3 13. The source or sources for the contamination have not yet been identified, and it is
4 not known whether the contamination is related to any of the area pipelines currently or
5 previously operated by the parties named in the CAO and/or third parties, or, if so, which
6 pipelines. (Freed Decl., ¶ 7.)

7 The CAO

8 14. On June 20, 2012, the Regional Board issued a draft of the CAO and invited
9 comments. In its draft CAO, the Regional Board stated that it “considers all liquid petroleum
10 pipelines at and near the site, even those without documented products compatible with the
11 naptha-range and crude oil materials, to be *suspected* discharge points.” (Freed Decl., ¶ 4.)

12 15. Equilon (along with Chevron, BP, ExxonMobil Pipeline Company, Plains All
13 American Pipeline, L.P. and the City of Carson) submitted comments to the Regional Board.
14 (Freed Decl., ¶ 4.) The Regional Board issued the final version of the CAO on February 8, 2013,
15 along with its Response to Comments. (A copy of the Regional Board’s Response to Comments
16 is attached as Exhibit 1 to the Freed Declaration.)

17 16. In the CAO and in its Response to Comments, the Regional Board implicitly
18 concedes that no source has been identified for the discharge, but nevertheless takes the position
19 that the mere ownership or operation of pipelines in the area that are associated with the transport
20 of crude oil and refined products is a sufficient basis for naming Equilon, Chevron, Phillips and
21 BP. (CAO, pp. 3-4 and Exh. B (only basis for naming the Dischargers is the presence of 26
22 pipelines identified in the vicinity of the Dominguez Channel that are associated currently or
23 historically with the named parties); Exh. 1, Response to Comments “Shell 3,” “Shell 5” and
24 “Shell 7” (only basis for naming Equilon is that it operated pipelines “in the vicinity of the
25 discharges”). As discussed below, this does not accurately characterize the Regional Board’s
26 authority under Section 13304, which requires substantial evidence that a party named in a
27 cleanup order was responsible for the discharge that caused the contamination.

1 17. Based solely on the fact that they operated pipelines "in the vicinity of" the
2 portion of the Dominguez Channel where the sheen was observed, the Regional Board has
3 ordered Equilon, Chevron, Phillips and BP to take the following actions:

- 4 a. Submit and implement a work plan for the containment of the petroleum
5 hydrocarbons and associated wastes discharging into the Dominguez
6 Channel;
- 7 b. Submit and implement a work plan to remove and legally dispose of the
8 petroleum hydrocarbons and associated wastes within both channel sub-
9 drain systems;
- 10 c. Submit an Interim Remedial Action Plan;
- 11 d. Develop and update a Site Conceptual Model;
- 12 e. Submit and implement a Master Work Plan to completely delineate the
13 waste;
- 14 f. Prepare a Human Health Risk Assessment;
- 15 g. Conduct remedial action to address any remaining wastes, including
16 development and implementation of a comprehensive Remedial Action
17 Plan; and
- 18 h. Initiate a groundwater monitoring program.

19 (CAO, pp. 10-14.) The first two work plans are due on or before April 30, 2013, with other
20 deliverables due in April and subsequent months as set forth in Exhibit D to the CAO.

21 **II. BECAUSE THERE IS NO SUBSTANTIAL EVIDENCE THAT EQUILON IS A
22 DISCHARGER, IT SHOULD BE REMOVED FROM THE CAO**

23 18. When reviewing a challenge to an order by a Regional Board, the State Board first
24 must determine if the aggrieved party qualifies as a discharger under the relevant statute. *In re*
25 *Pacific Lumber Company*, WQ 01-14, 2001 WL 1651930 (Cal.St.Wat.Res.Bd.), *5. Here,
26 Section 13304 authorizes the Regional Board to order cleanup activities by any person "who has
27 caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged
28 or deposited where it is, or probably will be, discharged into the waters of the state and creates,

1 or threatens to create, a condition of pollution or nuisance.” Water Code § 13304(a). Thus,
2 before a person or entity may be named in a CAO, the Regional Board must determine that the
3 person or entity *actually* caused or permitted the discharge of waste or threatens to do so. Absent
4 this determination, the Regional Board lacks any statutory authority to name a party in a CAO.
5 See *In re Chevron*, WQ 04-05, 2004 WL 5840852 (Cal.St.Wat.Res.Bd.), *5 (improper to require
6 petitioner to participate in investigation and remediation where no substantial evidence existed
7 showing it caused discharged).

8 19. Any time a Regional Board includes a person or entity as a “discharger” in a CAO
9 that finding must be based on substantial evidence. *In re Exxon Company*, WQ 85-7, 1985 WL
10 20026 (Cal.St.Wat.Res.Bd.), *6. Substantial evidence means “credible and reasonable evidence
11 which indicates the named party has responsibility.” *Id.* This is true even if the Regional
12 Board’s inability to meet this evidentiary threshold places the Regional Board in a “difficult
13 position” and “no one is able to clean up a demonstrated water quality problem.” *Id.* Substantial
14 evidence must show both that the named party caused or permitted the discharge in question *and*
15 that the discharge caused the contamination that is the subject of the order. *In re HR Textron,*
16 *Inc.*, WQ 94-2, 1994 WL 86342 (Cal.St.Wat.Res.Bd.), *3-4.

17 20. The Regional Board may not name parties in a CAO that it merely *suspects* may
18 be a discharger. By contrast, Section 13267 expressly permits the Regional Board to order
19 suspected dischargers to provide technical reports. This difference is no accident: the Water
20 Board authorizes Regional Boards to order technical reports from both known and suspected
21 dischargers so that evidence can be gathered that will aid the Regional Board in determining who
22 should be named as a discharger in a related CAO. Manaster & Selmi, Cal. Env. Law & Land
23 Use Practice, Ch. 32, § 32.32(1)(c) (Matthew Bender). But only actual dischargers or parties
24 threatening a discharger may be named in a CAO under Section 13304.

25 21. Despite the fact that the Legislature has not authorized the Regional Board to
26 name *suspected* dischargers on a CAO, the Regional Board elected to name Equilon and other
27 parties it merely suspects of causing the discharges in the Dominguez Channel without any
28 evidence that any of the nearby pipelines was actually a source. While the Regional Board

1 omitted the statement in the final CAO (that was included in the draft CAO) that it considers all
2 liquid petroleum pipelines at or near the Site to be “suspected” discharge points, the final CAO
3 does not identify any evidence showing that any pipelines associated with Equilon have
4 discharged waste into the environment or that any such discharge caused the contamination that
5 is the subject of the CAO. In fact, as the Regional Board has implicitly conceded, and as
6 expressly stated in the technical report attached to the CAO, the sources of the contamination in
7 the Dominguez Channel are unknown. (CAO, Exh. A at p. 2-1.) Nevertheless, the Regional
8 Board prematurely issued the CAO and named everyone associated with pipelines “in the
9 vicinity” of the contamination that were operated at any time in the past and that may have
10 transported materials similar to those that have been detected in the Dominguez Channel. But
11 evidence of prior use of pipelines located near a release is not substantial evidence that any
12 particular pipeline is a source; nor is it substantial evidence that a party associated with a given
13 pipeline is, in fact, a discharger under Section 13304, where there is no evidence of a leak. For
14 this reason, the State Board should rescind the CAO.

15 **III. THE DEFINITION OF THE “SITE” IN THE CAO IS VAGUE AND
16 OVERBROAD**

17 22. The CAO defines the Site to include not only the section of the Dominguez
18 Channel located approximately 400 feet south of the Carson Street bridge, but also “the
19 surrounding area where discharges of petroleum hydrocarbons in the subsurface have occurred.”
20 (CAO, p. 2.) This additional language makes the scope of the CAO vague and potentially
21 imposes obligations on the named parties that are unrelated to the discharge or discharges into
22 the Dominguez Channel that are the subject of the CAO. If the CAO is not rescinded, its scope
23 should be clarified and limited to the impacts that have been observed in the specified area of the
24 Dominguez Channel and their source(s).

25 **REQUEST FOR RELIEF**

26 For the reasons set forth above, Equilon respectfully requests that the State Board grant
27 Equilon the following relief:

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1 1. That the State Board grant Equilon's Request for Stay, filed concurrently
2 herewith, pending the State Board's decision on this Petition and any other petitions challenging
3 the CAO.

4 2. That the State Board hold a hearing on the CAO, and Equilon be permitted to
5 present evidence and testimony supporting the arguments contained herein.

6 3. That the CAO be rescinded by the State Board.

7 4. In the alternative, that the State Board grant Shell's Request for Stay and hold this
8 Petition in abeyance pursuant to California Code of Regulations, Title 23 § 2020.5(d) to permit
9 the Regional Board, Shell and the other named parties to engage in discussions in an attempt to
10 informally resolve this matter.

11 5. Such other relief as the State Water Board may deem just and proper.

12 DATED: March 11, 2013

CALDWELL LESLIE & PROCTOR, PC
MICHAEL R. LESLIE
DAVID ZAFT

14 By

15 
DAVID ZAFT
16 Attorneys for Petitioner EQUILON ENTERPRISES
17 LLC dba SHELL OIL PRODUCTS US

DECLARATION OF GENE FREED

DECLARATION OF GENE FREED

I, Gene Freed, declare and state:

3 1. I am a Principal Program Manager employed by Equilon Enterprises LLC dba
4 Shell Oil Products US (“Equilon”). My duties include directing and managing environmental
5 investigations and remediation projects. Based on my involvement in Equilon’s activities
6 relating to the Dominguez Channel, I have personal knowledge of the facts stated herein, or I
7 have been informed of and believe such facts, and could and would testify competently thereto if
8 called as a witness in this matter.

9 2. Equilon's mailing address is 20945 South Wilmington Avenue, Carson,
10 California 90810.

11 3. Equilon (which, along with Chevron, coordinated its response through Resource
12 Environmental LLC (“RELLC”)) complied with the Section 13267 order issued by the Regional
13 Board with respect to this site and provided information regarding pipelines that it or its affiliates
14 owned or operated which were located within one mile of the intersection of Carson Street and
15 the Dominguez Channel.

16 4. On June 20, 2012, the Regional Board issued a draft Cleanup and Abatement
17 Order (“CAO”) and invited comments. In its draft CAO, the Regional Board stated that it
18 “considers all liquid petroleum pipelines at and near the site, even those without documented
19 products compatible with the naphtha-range and crude oil materials, to be *suspected* discharge
20 points.” In response to the draft CAO, Equilon submitted comments. Attached hereto as Exhibit
21 1 is a true and correct copy of the Regional Board’s Response to Comments that Equilon and
22 others submitted in response to the draft CAO. Equilon previously raised the issues discussed in
23 this Petition in the comments it submitted to the Regional Board.

24 5. On February 8, 2013, the California Regional Water Quality Control Board, Los
25 Angeles Region (the “Regional Board”) issued Cleanup and Abatement Order R4-2013-0007
26 (“CAO”) to Equilon and other parties. Attached hereto as Exhibit 2 is a true and correct copy of
27 the CAO.

1 6. In the CAO, the Regional Board directs Equilon, Chevron, Phillips and BP to take
2 certain steps to investigate, cleanup and abate the hydrocarbon contamination that has been
3 observed in the Dominguez Channel south of the Carson Street bridge in the City of Carson.
4 This contamination has included light non-aqueous phase liquid (“LNAPL”). While the LNAPL
5 samples have been analyzed to contain approximately 5% crude oil, the presence of crude oil has
6 been detected in greater proportions in soils indicating that crude oil plays a larger role in the
7 overall contamination than might be indicated by analysis of the LNAPL alone. As the Regional
8 Board states in the CAO, the work by RELLC in the Dominguez Channel has stopped the
9 appearance of the sheen. (CAO, p. 4.) In fact, Regional Board previously relied on the actions
10 taken by RELLC as the basis for its February 2012 rescission of a prior CAO issued to the Los
11 Angeles Flood Control District to address the contamination in the Dominguez Channel.

12 7. The source or sources for the contamination that is the subject of the CAO have
13 not yet been identified, and it is not known whether the contamination is related to any of the
14 area pipelines currently or previously operated by the parties named in the CAO and/or third
15 parties, or, if so, which pipelines.

16 8. The CAO requires Equilon and the other named parties to take numerous and
17 substantial steps to investigate and remediate the contamination in the Dominguez Channel,
18 including the submission of work plans to contain the waste in the Dominguez Channel and its
19 sub-drain systems, the submission of a master work plan, the submission of a Site Conceptual
20 Model, the development and implementation of both Interim and Final Remedial Action Plans,
21 and the submission of a groundwater monitoring work plan and groundwater monitoring reports.
22 The costs Equilon would incur to comply with the CAO's directives likely would exceed \$1
23 million.

24 I declare under penalty of perjury under the laws of the State of California that the
25 foregoing is true and correct, and that this Declaration was executed on March 11, 2013 in Los
26 Angeles, California.

JL Freed

GENE FREED

EXHIBIT 1

Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103

EXHIBIT 1

Submission	Author
1	Shell Oil Products US [Shell], July 12, 2012
2	City of Carson, August 14, 2012
3	Pillsbury Winthrop Shaw Pittman LLP (CEMC), August 17, 2012
4	ExxonMobil Pipeline Company (EMPCo), August 17, 2012
5	Atlantic Richfield Company (BP), August 17, 2012
6	Downey Brand Attorneys LLP (Plains), August 17, 2012

Author/ Comment No.	Comment	LARWQCB Response
Shell 1	First Page, Second Paragraph, Definition of Site: The definition of "Site" should reference the diagram on Figure 1 and be sufficiently precise and geographically limited for the CAO to be legally effective and efficiently administered. The "Site" description can be revised as necessary if and when release location(s) which have impacted the Dominguez Channel are discovered. The scope of this CAO should be limited to abating the impacts to the Dominguez Channel, rather than an area-wide pipeline investigation or groundwater cleanup.	The Regional Board's intent is that the waste constituents present in the Dominguez Channel, its infrastructure, and the surrounding area impacted by the same waste constituents are addressed by the CAO. We recognize that the full extent of impact is not yet defined, but definition of the plume extent is one of the goals of the CAO. The definition of "Site" has been revised in the second paragraph of the CAO.
Shell 2	Background: Paragraph 1: We understand that the Go Kart World is active, not a former business.	The scope of the CAO extends beyond simply abating the impacts to the Dominguez Channel, although the Regional Board considers the abatement of impacts to the Dominguez Channel to be a priority.
Shell 3	Background: Paragraph 2: It has yet to be determined that there has been a "discharge" from property or equipment owned or operated by Shell Oil Products US or Shell Oil Company; accordingly, SOPUS objects to the inclusion of Shell Oil Products US as a "Discharger" and the statement that it is a Responsible Party in this paragraph. For the same reason, there is no basis for the statement that Shell Oil Products US (as contained within the definition of "Dischargers") has "caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State" It would be more appropriate to say that the listed companies "may be" Dischargers and/or are "suspected to" have "caused or permitted to be discharged"	Comment noted. The information available to the Regional Board supports the conclusion that the named entities are responsible for at least some of the discharges of waste in the area of the Dominguez Channel.
Shell 4	Background: Paragraph 6: We understand that 26, not 27, pipelines have been identified. Pipelines 1 and 3 refer to the same line.	This paragraph has been revised to indicate that 26 pipelines exist, with a footnote modification to indicate that Pipelines URS #01 and URS #03 are believed to be the same pipeline.

Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103

Author/ Comment No.	Comment	LARWQCB Response
Shell 5	<p><u>Background:</u> Paragraph 6, Section on Shell Oil Products US: SOPUS requests the Board strike the first paragraph under 6, as it contains multiple allegations that are overbroad ("every type of hydrocarbon produced or used at its refinery"), have not been demonstrated, are not in the administrative record, and are inaccurate. The Board cites as support a law firm's legal pleading that consists of allegations relating to a contested matter. It is inappropriate to base provisions in this CAO on legal advocacy by Watson Land Company's lawyers (Bright & Best) in an unrelated matter currently subject of a legal appeal before the State Water Resources Board. The Watson Industrial Center South (WICS) site is not relevant to this matter nor "near" the Site; it is located approximately one-half mile from the sheen location. Shell did not operate units that would have generated cracked naphtha until after the pipelines in question were re-routed away from the Dominguez Channel. SOPUS is agreeable with inclusion of the second paragraph as it acknowledges the naphtha material is "suspected" and it is generally consistent with the URS Report. SOPUS suggests a wording change to the last paragraph to insert the words "Material resembling" before "naphtha-range refinery intermediates".</p>	<p>The first paragraph on Shell Oil Products US has been revised to restate the Regional Board's position that the Shell Oil Company inter-refinery pipelines that were located near the Dominguez Channel Site likely contained naphtha-range refinery intermediates like those detected at the Site. These same lines extend across the WICS site and their contents are documented in the WICS case. The Regional Board believes that the contents of these lines, as alleged in the WICS case, are relevant to the Dominguez Channel Site.</p> <p>This is an important point because the Shell Oil Company inter-refinery pipelines present at or near the Dominguez Channel Site are the most likely of all the pipelines subject to the CAO to have transported naphtha-range refinery intermediates, which are the dominant waste constituent at the Site.</p> <p>We note Shell's acceptance of the final paragraph of this section. The words "Material resembling" have been inserted within its final sentence.</p>
Shell 6	<p><u>Discharger Liability:</u> Paragraph 17: Because of the overbroad definition of "Site" these statements cannot be supported throughout the Site. For example, it has not been shown that the presence of waste "at the Site" as a whole constitutes a "nuisance".</p>	<p>The information available to the Regional Board indicates that the use of properties in the vicinity of the Site have been affected by the discharge, resulting in likely nuisance conditions. Among the reasons is that discharges of the waste to surface waters has resulted in odor complaints from Site neighbors.</p>
Shell 7	<p><u>Discharger Liability:</u> Paragraph 18: It has not been found that SOPUS has caused or permitted waste to be discharged or deposited as alleged in this Paragraph. No SOPUS pipeline release has been located to date. The record of the Regional Board does not support that SOPUS owned and/or operated pipelines in a manner that resulted in the discharges of waste to the Dominguez Channel and in nearby groundwater.</p>	<p>As described in CAO Finding Paragraph 6, the information available to the Regional Board supports the conclusion that Shell Oil Products has operated pipelines in the vicinity of the discharges and that the discharges of waste contain constituents transported by Shell in those pipelines.</p>
Shell 8	<p><u>Discharger Liability:</u> Paragraph 19: It has not been found, and the record does not support, that SOPUS has caused or permitted wastes to be discharged or deposited as described in this paragraph.</p>	<p>See Response to Shell Comment 7.</p>

Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103

Author/ Comment No.	Comment	LARWQCB Response
Shell 9	<p><u>Discharger Liability:</u> Paragraph 21: Substantial evidence does not indicate SOPUS caused or permitted waste to be discharged into waters of the state, nor is SOPUS appropriately named as a responsible party for this CAO. SOPUS supports the Board in adding additional parties if they have liability for work under appropriate state law. SOPUS reserves its rights against responsible parties.</p>	Comment noted. See Response to Shell Comment 7.
Shell 10	<p><u>Discharger Liability:</u> Paragraph 22: SOPUS is not responsible for the discharge of waste that has caused, or threatens to cause, pollution and nuisance.</p> <p><u>Required Actions:</u> Paragraph 3: SOPUS requests the Board replace the words "stop the discharge" with "minimize the discharge."</p>	Comment noted. See Response to Shell Comment 7.
Shell 11		<p>Comment noted. The Regional Board is required to oversee sites consistent with State Water Resources Control Board Resolution 92-49, <i>Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304</i>. Resolution 92-49 requires, among other things, that the cleanup be consistent with Resolution 68-16, <i>Statement of Policy with Respect to Maintaining High Quality of Waters in California</i>. Preventing degradation of water quality is the primary goal of Resolution 68-16. The CAO has been revised to require prevention of degradation of the surface water.</p>
Shell 12	<p><u>Required Actions:</u> Paragraph 4: SOPUS requests that the Order Respondents be permitted to submit one or multiple Site Conceptual Models as reflects different potential source areas within the Site, hydrogeological and geological settings, and different involved pipeline owner/operator Respondents.</p>	<p>Separate Site Conceptual Models (SCM) for separate source areas would be permissible. However, Responsible Parties should collectively submit only a single SCM for each source area. The Regional Board is not seeking separate SCMs from each Responsible Party for the same or related source areas.</p>

Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103

Author/ Comment No.	Comment	LARWQCB Response
Shell 13	<p><u>Required Actions Paragraphs 4, 5 & 7:</u> To be legally supportable and achieve timely abatement of Dominguez Channel sheens, the Site Conceptual Model and Delineation work should be focused on the suspected pipeline release sources that have impacted the Channel. Accordingly, it is overbroad to require an SCM for "lateral and vertical extent of each chemical of concern in groundwater" (4.a.iv); "Completely delineate the extent of petroleum hydrocarbons and other constituents of concern in soil, soil vapor and groundwater," (5); delineation of "full lateral (including off-Site) delineation and vertical delineation of waste constituents" (5.a.iii); or cleanup and abatement of "any remaining wastes in soil, soil vapor, and groundwater" (7). SOPUS suggests focusing these provisions by, e.g., inserting "As necessary to prevent future petroleum discharges to the Dominguez Channel" at the beginning of each paragraph. Additionally, Paragraph 5.a.iii should be revised as follows: "Delineation shall include full adequate lateral (including off Site) delineation and vertical delineation of waste constituents such that a complete 3-dimensional SCM of potential waste discharges to the Dominguez Channel at the Site can be generated."</p>	<p>See Response to Shell Comment No. 1. Specifically, note that "the scope of the CAO extends beyond simply abating the impacts to the Dominguez Channel, although the Regional Board considers the abatement of impacts to the Dominguez Channel to be a priority."</p> <p>Required Actions 1, 2, and 3 in the Dominguez Channel are intended to achieve timely abatement of the Dominguez Channel sheens, including requirements for work plans to (1) contain petroleum hydrocarbons and associated wastes discharging to the Dominguez channel, (2) remove and legally dispose of petroleum hydrocarbons and associated wastes within both channel sub-drain systems, and (3) provide an IRAP to stop the discharge of petroleum hydrocarbons and associated wastes to the surface waters of the Dominguez Channel.</p> <p>The additional Required Actions are part of the Regional Board's expectation of full assessment and remediation of the waste discharges which remain unassessed, but which may not be present only where Dominguez Channel waters are directly impacted.</p> <p>The language for Paragraph 5.a.iii has been reworded to make the intent more clear. Note that due to a typographic error, this item is now Paragraph 5.a.ii in the final CAO.</p>
Shell 14	<p><u>Required Actions, Paragraph 7:</u> SOPUS requests the Board insert the words "As necessary to prevent future petroleum discharges to the Dominguez Channel, the responsible Dischargers (Responsible Parties) shall" before "initiate a phased cleanup and abatement program" The Board only has legal authority to require cleanup and abatement from persons liable for such work under the California Water Code. Once the source(s) of the discharge(s) are identified, the appropriate Responsible Parties can be identified and should be responsible for implementing this section of the Order.</p>	<p>Resolution 92-49 and California Water Code §13304 require cleanup to background levels, or if not feasible, to an alternative level. Therefore, cleanup simply to prevent additional surface water discharge will not be sufficient without a demonstration of feasibility consistent with Resolution 92-49.</p> <p>If more specific information about the source(s) of discharge becomes available, the Regional Board will consider altering the Responsible Parties in the CAO.</p>
Shell 15	<p><u>Required Actions, Paragraph 9 and Exhibit D:</u> The attached time schedule is very accelerated. It may be achievable if the ordered Respondents use a single managing entity such as REILLC to respond. If multiple companies respond separately, more time would be necessary for the companies to coordinate separate work or to coordinate review and comment on plans and reports submitted by joint contractors; in particular additional time would be needed for a Master Work Plan (5a).</p>	<p>By issuing a single Order to multiple parties, it is the Regional Board's intent that all Responsible Parties will coordinate their efforts and respond as a single coordinated entity. The parties may choose to have one party conduct the work.</p> <p>The time schedule has been revised.</p>

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Shell 16	<p><u>Required Actions, Paragraph 11:</u> Respondents can only provide access and consent to photograph, sample or monitor with respect to property they own or control. SOPUS will provide the required access for its properties and records and will endeavor to obtain access for the Board from third parties from whom access is requested to implement the Work; however, Respondents should not be subject to enforcement for any denial of access by third parties.</p>	<p>Comment noted. The Regional Board expects that the responsible parties will notify the Regional Board if there are difficulties with obtaining access.</p>
Shell 17	<p><u>Required Actions, Paragraph 22:</u> This CAO is directed to multiple Respondents. Respondents should only be required to submit the requested statement for their own submittals (and will only have the knowledge necessary to certify for their own plans and reports). Accordingly, SOPUS requests the Board insert the words "by you" after "submitted" in the first sentence of this paragraph.</p>	<p>The words "by you" have been inserted. However, note the Regional Board's response to Shell Comment No. 15 indicating that it is our expectation that a single coordinated effort will be performed.</p>
Shell 18	<p><u>Exhibit B, Table: Basis for Naming Responsible Parties:</u> Shell Oil Products US, line 17. SOPUS information indicates gasoline was the product type for this line.</p>	<p>Comment noted.</p>
Shell 19	<p><u>Exhibit C, Map. General Area Around the Watson Center:</u> SOPUS objects to inclusion of this map, which appears to have been an exhibit in an unrelated contested litigation, and has not been attested as to accuracy or included in the administrative record in this matter.</p>	<p>Comment C has been removed.</p>
City of Carson 1	<p>The City of Carson adamantly supports the proposed Cleanup and Abatement Order No. R4-2012-0013 and is committed to facilitating a comprehensive assessment and remedy to the illicit discharges pursuant to California Water Code sections 13267 and 13304.</p>	<p>Comment noted.</p>
CEMC 1	<p><u>Footnote 1, Page 1: Chevron Environmental Management Company ("CEMC")</u> does not challenge the issuance of the Draft Order to it on behalf of Unocal, however, as a point of clarification, the Draft Order erroneously identifies CEMC as a successor to Union Oil Company of California. See Draft Order pp. 4-1.. CEMC is an independent company which manages certain historic liabilities, including the Unocal pipelines in issue. CEMC responds on behalf of Phillips 66 at Phillips' request.</p>	<p>The paragraph under Chevron Environmental Management Company within Item 6, Activities and Chemical Usage has been revised to more accurately describe Chevron's relationship.</p> <p>The Regional Board notes that CEMC is responding on behalf of Phillips 66 and, presumably, Chevron Corporation.</p>

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CEMC 2	<p><u>Page 2:</u> CEMC understands that actions taken by RELLC (which CEMC participated in funding) have largely eradicated the sheen on the Channel.</p>	<p>The RELLC actions and actions taken before them by the Los Angeles County Department of Public Works have largely eradicated the surface discharges through ongoing product recovery in the channel levees. If these actions were to cease, the sheen would likely return.</p>
CEMC 3	<p><u>Page 2:</u> Unocal owned two pipelines running north-south along Perry Street from the Dominguez well-field, and then northeasterly along the access road adjacent to the Dominguez Channel. Pipeline 01 may have carried crude oil. Pipeline 02 was a wastewater line. These pipelines did not carry refined product, nor would they have carried refined product because they ran from the well-field, rather than from a refinery.</p>	<p>Sheen appearing through the bottom of the channel has ceased for unconfirmed reasons, but are believed to be due to reduced head pressure in the B-zone confined (or semi-confined) aquifer present below the bottom of the Dominguez Channel. Regional Board staff are concerned that if heavy rains return, the sheen from the bottom of the Dominguez Channel may also return due to increased groundwater recharge creating increased head pressure in the B-zone. Note that heavy rains occurred in the weeks and months prior to the initial January 2011 sheen appearing.</p>
CEMC 4	<p><u>Page 2:</u> Pipeline 01 was sold to Tosco in 1997 and CEMC believes it was thereafter sold to Crimson California Pipeline in 2008.</p>	<p>Comment noted. However, one of the wastes identified in the CAO is crude oil.</p>
CEMC 5	<p><u>Footnote 2, Page 2:</u> The Regional Board has inexplicably failed to name Crimson in the Draft Order or to acknowledge that this line is not presently owned by any of the Chevron entities.</p>	<p>Crimson Pipeline, L.P. was intentionally not named in the Draft Order because its pipelines near the Dominguez Channel Site were never operated by them. Instead, the prior owners, who did operate the lines, and/or the successors of the prior owners are named.</p>
CEMC 6	<p><u>Pipelines 01 and 03 (using the UR5 numbering scheme) are the same pipeline.</u> Therefore, CEMC refers only to Pipeline 01.</p>	<p>See Response to Shell Comment No. 4.</p>
CEMC 7	<p><u>Page 3:</u> The hydrocarbon in the Channel and in monitoring wells nearby has been "determined to contain primarily naphtha-range hydrocarbons, with smaller fractions of crude oil (less than 5%)." The evidence demonstrates Pipelines 01 and 02 are not a source of the naphtha observed in the Dominguez Channel.</p>	<p>These lines carried crude oil, which has also been detected at the Dominguez Channel.</p>
CEMC 8	<p><u>Page 3:</u> In spring of 2011, potholing activities were performed at the Active RV property to daylight Pipelines 01 and 02. There was no significant hydrocarbon contamination observed in soil surrounding the daylighted lines.</p>	<p>The potholing was performed by USEPA to investigate whether LNAPL was traveling south along the pipeline corridor via abandoned pipelines or the pipeline trench backfill. The excavation provided a view of impacts at a single location. It did not investigate impacts below the pipelines nor at other locations along the pipeline run.</p>

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CEMC 9	<p><u>Page 3:</u> Data collected by URS at varying depth and locations in soil and groundwater in and around the Dominguez Channel demonstrate a consistent ratio of TPHg/TPHd. Naphtha-range hydrocarbons extend into both the TPHg and TPHd analytical limits, and a consistent TPHg/TPHd concentration ratio from samples collected over a large area indicates a single naphtha-range hydrocarbon source, suggesting a single pipeline source.</p>
CEMC 10	<p><u>Page 3:</u> Since Pipelines 01 and 03 did not carry refined product, they cannot be the single source of naphtha-range hydrocarbons observed in the subsurface.</p> <p>It isn't clear to the Regional Board that there is just one release point for the waste constituents at the Dominguez Channel Site.</p>
CEMC 11	<p><u>Page 3:</u> Basing a CAO on ownership or operation of a pipeline without some evidence of a discharge from that line during the period of the responsible party's ownership or operation is not envisioned by Water Code § 13304 and is inconsistent with State Water Board decisions on point. The Water Code requires that to issue a CAO, there must be "substantial evidence" that the named party has caused or permitted waste to be discharged into the waters of the State.</p>
CEMC 12	<p><u>Page 4:</u> The Draft Order expressly admits that the Regional Board lacks sufficient evidence of a discharge from these pipelines:</p> <p>[P]ipeline operations at the Site date back at least 100 years, to 1912. Given the century-long pipeline activities at the Site, it is likely that materials transported through the pipelines at and near the Site may have changed over time and that records of such changes and the use of certain products may not exist. Therefore, the Regional Board considers all liquid petroleum pipelines at and near the Site, even those without documented products compatible with the naphtha-range and crude oil materials, to be suspected discharge points.</p> <p>While the quoted paragraph states the Regional Board's rationale for suspecting all pipelines of being discharge points, this suspicion is not the basis for the Regional Board naming Responsible Parties and Dischargers. Item 11 in the CAO, Rationale for Naming Responsible Parties, presents the Regional Board's basis for naming Responsible Parties.</p> <p>However, note that the Regional Board still maintains a perspective that due to a lack of complete records back to 1912, any of the liquid petroleum pipelines are suspected discharge points. If credible evidence appears that indicates that additional Responsible Parties and Dischargers should be named, the Regional Board will consider revising the CAO.</p>

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CEMC 13	<p><u>Page 4:</u> The Board's issuance of the Draft Order based on a mere suspicion of discharge falls woefully short of the Water Code § 13304 requirement that there be "sufficient evidence" of discharge to order a cleanup:</p> <p>Generally speaking it is appropriate and responsible for a Regional Board to name all parties for which there is reasonable evidence of responsibility, even in cases of disputed responsibility. However, there must be a reasonable basis on which to name each party. There must be substantial evidence to support a finding of responsibility for each party named. This means credible and reasonable evidence which indicates the named party has responsibility.</p> <p><i>In re Exxon Company, et al., WQ 85-7, 1985 WL20026 (Cal.St.Wat.Res.Bd.) at *6 (emphasis added).</i> In rejecting a regional board's attempt to issue a CAO under Water Code § 13304 because there was insufficient evidence of ownership of the leaking tanks which caused the discharge, the State Board in Exxon expressly recognized that the regional board was placed in a tough predicament when trying to effectuate cleanups. But it nevertheless held the regional board to the standard imposed by Water Code § 13304 – there must be substantial evidence that the named party has caused or permitted a discharge.</p>	<p>The Regional Board disagrees with the comment. In this case, the Regional Board has evidence that Chevron or its predecessor owned and operated pipelines in the vicinity of the discharges of waste to the Dominquez Channel, that crude oil has been discharged at the Site, and that the pipelines owned by Chevron or its predecessor were used to transport crude oil. In the matter of Exxon Company, et. al., WQ 85-7, the State Board disagreed with the Regional Board's conclusion that Exxon actually owned the underground tanks that were the source of the discharge. In this case, Chevron or its predecessor owned the pipelines.</p> <p><u>Page 5:</u> The State Board has been consistent in upholding cleanup orders only where this is "substantial evidence" that the named party met Water Code § 13304 requirements of having caused or permitted the discharge. For example, it reasoned that if a party did not use or store contaminants in issue, it "obviously" could not have caused or permitted a discharge. <i>In re Sanmina Corporation</i>, WQ 93-14, 1993 WL 456494 (Cal. St. Wat. Res. Bd., 1993) (finding that "obviously if, as Sammina claims, Sammina did not use or store the VOCs, Sammina could not have caused or permitted their discharge, and therefore, would not be responsible for their cleanup."</p>
CEMC 14		

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CEMC 15	<p><u>Page 5:</u> In contrast, the State Board has upheld cleanup orders based on circumstantial evidence of discharge only when based on far more evidence than is present here. For example, a cleanup order was upheld where there was soil contamination of chemicals known to be stored at the site, the discharger was actively engaged in processes at the site, historic practices of waste handling supported the conclusion of a discharge, and there was testimony that spills occurred on the site. See <i>In re Stinnes-Western Chemical Corporation</i>, WQ 86-16, 1986 WL 25523 (Cal. St. Wat. Res. Bd.). Here, there is no direct evidence of release, and the circumstantial evidence does not point to a reasonable conclusion that any of the 26 pipelines identified by the Draft Order is a source.</p>	<p>The Regional Board agrees that circumstantial evidence may be used to support a determination to name responsible parties. In this matter, the Regional Board has found that Chevron or its predecessor owned and operated pipelines transporting crude oil, which has been found at the Site.</p>
CEMC 16	<p><u>Page 5, Footnote 4:</u> The Draft Order identified 27 pipelines, but as stated in note 2, URS has concluded that Pipeline 01 and 02 are the same.</p>	<p>See Response to Shell Comment No. 4.</p>
CEMC 17	<p><u>Page 5:</u> The Regional Board named CEMC (on behalf of Unocal) and Phillips in the Draft Order based on the ownership of inactive pipelines that formerly carried crude oil despite the facts that (1) there are numerous other potential sources, (2) Pipeline 01 and 02 did not carry naphtha-range hydrocarbons, and (3) the evidence points to the conclusion that there has not been a release from Pipelines 01 and 02, let alone during Unocal's or Phillips' ownership.</p>	<p>The Regional Board agrees that there are multiple potential sources. As noted in Regional Board response to CEMC Comment No. 3, the Unocal line(s) carried crude oil, which is a Site contaminant. The Regional Board has not ruled out URS Nos. 01 and 02 as sources.</p>
CEMC 18	<p><u>Page 6:</u> The Draft Order is directed at remediating petroleum contamination in the Dominguez Channel. It defines the remedial area as the "Site", but uses differing vague definitions for the term which are not appropriately tailored to the contamination which the Order is directed.</p>	<p>See Response to Shell Comment No. 1.</p>
CEMC 19	<p><u>Page 6:</u> The scope of the cleanup directed in the Draft Order is not sufficiently tailored to the discharge in the Dominguez Channel; it overreaches by including the remediation over a geographic scope that is undefined and overly broad given the failure to identify a source of the release.</p>	<p>See Response to Shell Comment No. 1 and Shell Comment No. 13.</p>

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CEMC 20	<p><u>Page 6:</u> The Draft Order requires the named parties to cleanup properties which they do not own, and to which they do not have access, in an undefined radius from the actual release, which may be impacted by other unrelated historical releases. It is inappropriate to order a regional cleanup for a localized problem, especially when the source has not been identified.</p>	<p>State Water Board Resolution 92-49 is the applicable policy the Regional Board implements to oversee investigation and cleanup of sites. Consistent with Resolution 92-49, the Regional Board requires in the CAO that it is appropriate to order the full assessment and remediation of waste constituents in the subsurface resulting in surface water discharge and public nuisance. The Regional Board routinely assists in obtaining property access requests for offsite assessment and remediation and can order a third-party property owner to perform these tasks if they deny access to you. The Regional Board expects the parties to inform the Regional Board in the case of issues regarding access.</p>	<p>If additional, unrelated, historical (or current) discharges are identified, the Regional Board will consider revising the CAO or issuing a new order to address the additional discharges.</p>			
CEMC 21	<p><u>Page 6:</u> The Draft Order likewise overreaches by including groundwater within its scope. The Draft Order was issued to address contamination from releases in the Dominguez Channel. That is what has been investigated and is what is properly to be addressed by the Draft Order.</p>	<p>The scope of the CAO intentionally includes remediation of wastes in groundwater because the groundwater assessment performed so far has indicated that groundwater is impacted. See Response to Shell Comment No. 13.</p>				
CEMC 22	<p><u>Page 7:</u> The Draft Order includes evidence of di-isopropyl ether (DPE) detections in groundwater up to 1,400 ug/L as justification for requiring groundwater remediation. Because no evidence exists that refined product that may have contained DPE was transported through Pipelines 01 and 02, there is no justification for including groundwater cleanup within the scope of any order directed at CEMC (on behalf of Unocal) or Phillips.</p>	<p>Pipeline URS No. 01 (aka URS No. 03) carried crude oil, which has also been detected at the Dominguez Channel. Note that it is not our working model that all of the substances at the Site resulted from a single discharge.</p>				
EMPCo 1	<p><u>Page 1:</u> The name used in the Draft CAO – “ExxonMobil Corporation” is not the correct name of the corporation, nor the proper name of the ExxonMobil entity for this matter. Rather, the ExxonMobil entity for purposes of this matter is ExxonMobil Pipeline Company (EMPCo).</p>	<p>Comment noted. The CAO has been revised to address the comment.</p>				
EMPCo 2	<p><u>Page 3 (Item A):</u> LARWQCB named EMPCo as a Responsible Party based on Mobil/General Petroleum’s former ownership of the pipelines that carried only amine, not evidence of any release of naptha range hydrocarbons or crude oil.</p>	<p>Comment noted.</p>				
EMPCo 3	<p><u>Page 3 (Item B):</u> A Regional Board order requires “Substantial Evidence” as to each named discharger.</p>	<p>ExxonMobil Corporation has been removed from the CAO since evidence indicates the ExxonMobil pipelines did not transport crude oil or naphtha-range petroleum.</p>				
EMPCo 4	<p><u>Page 3 (Item C):</u> The evidence demonstrates that ExxonMobil entities owned only two, not four, of the pipelines identified in the Draft CAO.</p>	<p>Comment noted.</p>				

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EMPCo 5	<p><u>Page 6:</u> It is apparent that Shell Oil Company bought two amine pipelines from Mobil (the two lines are identified as URS #18), renumbered one as Owner ID “#22 Line” and the other as Owner ID “#21 Line”, cut the Owner ID “#21 Line” into two segments (which it designated Owner ID “#21 Line” and Owner ID “#29 Line”, and sold the Owner ID “#21 Line” to Tesoro.</p>	Comment noted.
EMPCo 5	<p><u>Page 7:</u> The Draft CAO and its Exhibit B incorrectly identify EMPCo as having historical ownership of 4 pipelines (URS #18 [two lines], URS #19, and URS #20). However, Mobil only owned two 8-inch pipelines in the vicinity of the Site (URS #18), and it quitclaimed them to Shell Oil Company in 1975. The lines were proprietary and carried amine – which is not a liquid petroleum product – in a loop between Mobil’s Torrance refinery and Stauffer/Hancock Chemical, a regeneration facility.</p>	Comment noted.
EMPCo 6	<p><u>Page 7 (Item D):</u> No credible and reasonable evidence supports the speculation in the Draft CAO that Mobil’s former amine lines could possibly have transported and leaked naphtha-range hydrocarbons or crude oil.</p>	<p>The Regional Board has opted to omit ExxonMobil Corporation/ExxonMobil Pipeline Company from the CAO.</p>
BP 1	<p><u>Pages 3 and 4 (Items 1 through 7):</u> BP pipelines in Recreation Road do not appear to be the source of LNAPL in the Dominguez Channel. Contaminants within Recreation Road are predominantly diesel fuel no. 2 with some kerosene and gasoline product, without oil-range organics (ORO). These products are inconsistent with current and historical BP pipeline usage (of crude oil). These products are also inconsistent with the naphtha-range and crude oil hydrocarbons detected in the Dominguez Channel.</p>	<p>The lines within Recreation Road have been removed as a basis for naming BP entities in the CAO.</p>
BP 2	<p><u>Page 4 (Item 8):</u> The prevalence of di-isopropyl ether (DIP-E) in groundwater samples in the vicinity of the release area indicates that DIP-E presence in BP monitoring well samples is likely due to an area-wide plume and is not a localized release.</p>	<p>The Regional Board concurs.</p>
BP 3	<p><u>Page 5:</u> “AECOM [on behalf of BP] concluded that a minimum of three types of petroleum hydrocarbons comprise Dominguez Channel release are a product: (1) gasoline-range hydrocarbons, (2) ‘Crude Oil A’, and (3) a likely lubricant (identified by Zymax as ‘Crude Oil B’). Furthermore, ARC soil samples collected adjacent to the BP-owned pipelines in the near vicinity of the release area contained no forensic evidence of crude oil.”</p>	<p>None of the ARC soil samples referenced were collected within the Dominguez Channel. Sampling performed near Pipeline 93D (IRS ID #15), which underlies the Dominguez Channel and was previously owned and operated by ARCO (a BP entity), did indicate the presence of crude oil.</p>

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BP 4	<p><u>Page 6, first bullet:</u> BP owned Line 93D from 1957 to 1999 and sold it to Plains in 1999. There are indicators that the line passed hydrotests in 1982 and 1993. The LARWQCB confirmed in an April 4, 2012, e-mail that Line 93D has no integrity test failures, based upon a Plains pipeline summary provided to BP by the LARWQCB.</p>	<p>There are no integrity test results submitted to the Regional Board for the 25-year period of ARCO's operation of Line 93D prior to 1982. There are no reports of integrity tests in the 11 years from 1982 to 1993. It is unclear what the status of the pipeline integrity was during these 36 years of Line 93D's operation by ARCO without reported integrity test results.</p> <p>The Regional Board did not confirm in April 4, 2012, correspondence to BP that there have been no integrity test failures on Line 93D. Instead, the Regional Board forwarded a pipeline information table to BP with questions about BP's omission of their ownership of Line 93D in prior pipeline information submittals to the Regional Board. The forwarded table, prepared by Plains, stated that there had not been an integrity test failure on Line 93D (presumably since they took ownership in 1999); however, the Regional Board never confirmed its accuracy.</p> <p>The Regional Board believes that ARCO's transport of crude oil in a pipeline for 42 years directly below where crude oil has been detected in the subsurface is a reasonable basis for naming BP (ARCO's successor company) as a Discharger.</p> <p>The "Pipeline Status" column in URS Tables 1 and 2 both clearly identify the status of the pipeline as being abandoned. The "Notes" column of Table 1 clarifies which pipeline is referenced.</p> <p>The Regional Board did not rely upon the report of "drained/water" in naming BP as a discharger. We note BP's transport of crude oil in the line, which is one of the wastes identified in the CAO as a basis for naming BP.</p> <p>The line began operation in 1960. The Regional Board has no records of integrity tests being performed between 1960 and 1983. It is not clear from BP's submittal that Line 211 passed the hydrotests "performed from 1983 through 1999".</p> <p>We note that Hydrotests and other integrity tests represent the pipeline condition on the date and specific time when the test was being performed and not at any other time.</p> <p>The "Pipeline ID Used in Reference Materials" column in URS Table 1 identifies the referenced pipelines.</p>
BP 5	<p><u>Page 6, first bullet:</u> BP disagrees that the transport of crude oil in Line 93D is sufficient evidence for the Regional Board to name BP as a Discharger.</p>	
BP 6	<p><u>Page 6, second bullet:</u> BP requests that LARWQCB clarify which of BP's lines is intended to be included as URS #21. The URS tables and map should be updated to accurately indicate that the line is abandoned.</p>	
BP 7	<p><u>Page 6, third bullet:</u> URS Table 1 incorrectly lists BP Line 6 (a.k.a. Line R266-6; URS ID #22) as containing "drained/water". BP records indicate that the line was a crude oil line that was abandoned in 1963.</p>	
BP 8	<p><u>Pages 6 and 7:</u> BP records identify Line 211 (URS ID #23) as a 12-inch diameter natural gas line that was formerly used for crude oil transport until 1994. The line was idle from 1994 to 1999 and placed in service for natural gas transport in 1999.</p>	
BP 9	<p>Hydrotests were conducted from 1983 through 1999 with a passed internal line inspection in 2007.</p>	<p><u>Page 7, first bullet:</u> URS Line ID #24 may be a 10-inch line formerly used for the transport of crude oil, identified in BP records as Line 1 (a.k.a. Line 266-1). BP requests that LARWQCB clarify which of BP's lines is intended to be included as URS #24.</p>
BP 10	<p><u>Page 7, second bullet:</u> BP requests clarification from the LARWQCB, as URS ID #25 (BP Line 6) appears to duplicate URS ID #22.</p>	<p>URS Table 1 identifies ID #25 as representing a segment of Line 6 that was abandoned below the Dominguez Channel. See the "Pipeline Status" column of Table 1 for both ID #22 and ID #25.</p>

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BP 11	<p><u>Page 7, Item 2:</u> Chromatogram patterns of the gasoline-range hydrocarbons in RELLC samples vary, but they appear to be [the] same or similar type of product with dissimilarities likely the result of different degrees of alteration. Also noted is an absence of lead. Of the refined product in the channel, the predominant hydrocarbons are likely an intermediate product stream, such as naphtha.</p>	<p>This is consistent with other interpretations presented to the Regional Board. Also noteworthy is the presence of crude oil in many samples, which BP transported.</p>
BP 12	<p><u>Pages 7 to 8, Item 2:</u> The presence of DiPE and iso-octane in some of the samples (MW-9C-23, in particular) suggests that finished oxygenated gasoline is a minor hydrocarbon component of the refined product in the channel. Therefore, the gasoline-range hydrocarbons are likely a mixture of predominantly gasoline-range refinery intermediate stream product and minor finished oxygenated gasoline. Releases from former underground storage tanks or other non-pipeline sources, in addition to pipeline releases, could represent a contribution to the release.</p>	<p>Regional Board staff reviewed data associated with nearby UST locations (specifically the former Texaco at 1209 E. Carson Street, Unocal at 1025 E. Carson Street, and former Humble Oil at 1216 E. Carson Street, all in Carson, California). No track to an A-Zone shallow source was identified. However, the Regional Board will consider adding additional Responsible Parties if convincing data emerges that identifies them as a source of the oxygenated gasoline.</p>
BP 13	<p><u>Page 8, Item 3:</u> An “unaltered” pattern of biodegradation-sensitive compounds (i.e., normal paraffins) are observed in the intermediate stream product chromatograms of several samples, potentially indicating a relatively recent release.</p>	<p>Comment noted regarding the <u>potential timing</u> of a release. Note that, particularly if this pattern is observed in only “several samples” from the sample population, making an interpretation of the release age based upon this data would be inconclusive. Also note that it is possible that multiple discharges occurred at different times. It is the Regional Board’s working model that the discharges to the Site are historic, on the order of decades old, rather than “relatively” recent.</p>
		<p>See Plains Comment No. 12.</p>
BP 14	<p><u>Page 8, Item 4:</u> BP questions the finding in Page 8, Item 19 of the draft CAO with regard to deposited wastes probably posing a potential human health threat. BP cites a June 26, 2012, RELLC/JURS report on subslab sampling performed at the Active RV site that had evaluated these risks.</p>	<p>The Regional Board notes that the extent of the plume is undefined and, therefore, the potential human health threat has not yet been determined. Relying upon subslab data for one building within the footprint of contamination is not likely to be representative of risks at all possible locations.</p>
BP 15	<p>BP requests detailed information from the LARWQCB to support the position that Hydrocarbons <u>are</u> posing a potential human health threat to building occupants.</p>	<p>The cited RELLC/JURS report did not conclude that cancer health risks under a residential scenario are acceptable.</p>

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Author/ Comment No.	Comment	LARWQCB Response
BP 16	<p><u>Page 8, Item 6:</u> BP requests that the LARWQCB clarify the following sentence within Item 9C on page 5 of the draft CAO to clearly indicate whether the reported crude oil portion of the “LNAPL observed is an intermediate blending stock used in the refining process”.</p>	<p>It is the Regional Board's position that the crude oil portion of hydrocarbons detected in the Dominguez Channel likely originated from a different source than the naptha-range intermediate blending stock. With revisions made to the final CAO, BP is named solely on the basis of its former operation of a crude oil pipeline located beneath the Dominguez Channel.</p>
BP 17	<p><u>Page 9, Item 7:</u> We urge the Regional Board to remove BP from the Order altogether. Alternatively, we urge the board to delay issuance of the order until the State Board issues a decision on pending petitions to prior Regional Board orders.</p>	<p>The Regional Board has no control over when the State Water Board will act on pending petitions and does not think it is appropriate to wait while the discharges of petroleum hydrocarbons continue. The Regional Board intends to keep BP in the final Order, but has revised the basis for doing so. See Response to BP Comment No. 1, 18, and 19.</p>
BP 18	<p><u>Page 9, Item 7, Bullet 1:</u> The draft CAO repeats evidentiary and legal flaws associated with the first three orders. There was and continues to be a lack of evidence that a BP line discharged products in the vicinity of the Site and there is strong evidence to the contrary.</p>	<p>The Regional Board disagrees with the comment. The evidence in the record indicates that ARCO, BP's predecessor, owned and operated pipelines in the vicinity of the discharges of waste to the Dominguez Channel, that those pipelines were used to transport petroleum hydrocarbons, and that the type of petroleum hydrocarbons transported in those pipelines has been found at the Site. Naming BP is consistent with State Water Board orders interpreting Water Code section 13304, including State Water Board Order WQ 89-13 (In the Matter of the BOC Group, Inc.), which found a former owner and operator of a site that contained an underground storage tank because the tank contained volatile organic chemicals of the type found at the site and that the existence of the tank caused or threatened to cause pollution or nuisance. In this case, the existence of the pipeline (URS ID 15) in the vicinity of the discharge and the nature of the discharge supports the conclusion that the pipeline is either the cause of the discharge or threatened to cause the discharge resulting in pollution or nuisance.</p>
BP 19	<p><u>Page 9, Item 7, Bullet 2:</u> Section 13304 liability attaches only where a party “took affirmative steps directed toward the improper discharge” of waste or has either directly spilled or released the contaminants into the environment or affirmatively and knowingly caused or permitted the contamination to migrate. <i>Redevelopment Agency of the City of Stockton v. BNSF Railway Co.</i>, 643 F.3d 668, 674-674, 678 (9th Cir. 2011) (applying the law of nuisance to Water Code 13304). Here there is no evidence that a BP line in the vicinity of the Site “caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited”.</p>	<p>The Regional Board disagrees that the cited case controls the situation in this matter. The evidence in the Regional Board's record is that ARCO, BP's predecessor, owned and operated the pipelines that are in the vicinity of the discharges and that those pipelines were used to transport waste of the type found at the site. In the case cited, the railroad was found not to be a source of the waste, but rather redirected it and, therefore, was not the cause of the nuisance. In addition, that case addressed nuisance, but not whether an owner/operator of a facility has caused or permitted a discharge of waste that threatens to cause pollution or nuisance under Water Code section 13304. Pursuant to State Water Board Resolution 92-49, the Regional Board considers all evidence in determining whether to require actions under Water Code section 13304, including circumstantial evidence, to establish the sources of discharges of waste.</p>

Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103

Author/ Comment No.	LARWQCB Response
BP 20	<p><u>Page 9, Item 7, Bullet 3:</u> Based on the foregoing, neither BP nor ARCO can be named in a cleanup and abatement order.</p> <p><u>Page 9, Item 7, Bullet 3:</u> The draft CAO names BP p.l.c., which is also incorrect.</p>
BP 21	<p><u>Page 9, Item 7, Bullet 4:</u> We disagree with page 5 of the draft CAO, which states “The Regional Board considers all liquid petroleum pipelines at and near the Site, even those without documented products compatible with the naphtha-range and crude oil materials detected, to be suspected discharge points.” This finding is contrary to Water Code 13304 and technical data.</p>
BP 22	<p><u>Page 9, Item 7, Bullet 5:</u> Resolution 92-49 requires that the LARWQCB use the most cost-effective methods for detecting contamination or pollution and ensuring cleanup. The draft CAO is not a cost-effective means for many of the same reasons described in our petition. It imposes unreasonable costs on BP where the evidence supports that parties other than BP should bear those costs.</p>
BP 23	<p><u>Page 9, Item 7, Bullet 5:</u> Resolution 92-49 sets forth policy and procedures that the Regional Board implements in overseeing sites. Pursuant to the Policy, the Regional Board requires dischargers to investigate sites in a phased manner, to develop work plans, and to propose cleanup actions. The dischargers have the flexibility to conduct these actions in the most cost-effective way so long as the efforts are adequate and have a likelihood of achieving compliance within a reasonable time period. The CAO is a legal document used to compel responsible parties to conduct investigations, submit work plans, and propose and implement cleanup actions. The Regional Board will review and concur with those actions that are adequate and have a reasonable likelihood of achieving compliance.</p>
BP 24	<p><u>Page 10:</u> We urge the Regional Board to omit BP from the draft CAO. We also urge the Regional Board to delay issuance of the order until the State Board issues a decision on the pending petition.</p>
Plains 1	<p><u>Page 2, Item A:</u> The release was discovered in January 2011 and response actions and investigations have taken place. Plains conducted several pressure tests, a nitrogen test, a dye-test, and a hydrostatic test of the pipeline (Plains Line 93), which all demonstrated that the pipeline was holding pressure and had not been compromised.</p>
	<p>The Regional Board will not address what share of the costs associated with complying with the CAO should be borne by BP versus the other Responsible Parties. This is a matter for the Responsible Parties to settle among themselves.</p> <p>See Response to BP Comment Nos. 1, 17, and 20. The issuance of the CAO is not being delayed until the State Board issues a decision on pending petitions.</p> <p>The Regional Board appreciates the prompt response by Plains to perform these tests when notified of the presence of the sheen near Plains Line 93.</p> <p>We note that the results of these tests are indicative of the condition of Line 93 on the dates they were performed and are not indicative of Line 93's state at any other time.</p>

Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103

Author/ Comment No.	Comment	LARWQCB Response
Plains 2	<u>Page 2 to 3, Item A:</u> DPW took over operations of containment in the channel after Plains conducted pipeline tests and was released by USEPA from responsibility for any active release or further response actions. The Regional Board issued investigative orders to non-Plains parties stating that petroleum containing primarily gasoline-range hydrocarbons entered the channel through sediments in the channel bottom.	Note that information learned as a result of these investigative orders have identified primarily naphtha-range hydrocarbons with some crude oil and refined product.
Plains 3	<u>Pages 3 to 4, Item B:</u> With reference to <i>In the Matter of the Petition of Exxon Company, USA et al., WQO No. 85-7 at 11-12 and In the Matter of the Petition of Stinnes-Western Chemical Corporation</i> , WQO No. 86-16 at 11-12, the Regional Board's decision to designate Plains as a responsible party under the CAO must be based upon substantial, reasonable, and credible evidence.	The Regional Board has opted to omit Plains from the CAO.
Plains 4	<u>Page 4, Item C:</u> The evidence points to a release from an idle pipeline in the immediate vicinity of monitoring well R-MW-6. The consistent combination of refinery intermediate and crude oil suggests that a single pipeline that transported refinery intermediate, crude oil, and refined product is the source of the contamination.	The Regional Board concurs that a discharge likely occurred near R-MW-6 (which is near HA-2). However, it is our position that additional source areas exist and that the discharges are not necessarily only from an individual pipeline. Reference the Regional Board response to Plains Comment No. 11.
Plains 5	<u>Page 4, Item C:</u> The one known source that has been identified is located in the immediate vicinity of monitoring well R-MW-6 near the western levee, with free product observed in the subsurface near R-MW-6 at up to 6 feet thick. The amount of petroleum contamination decreases away from R-MW-6.	See Response to Plains Comment Nos. 4 and 11
Plains 6	<u>Page 5, Item C:</u> Of the 27 pipelines in the general vicinity of the Site, six reportedly transported some combination of refinery intermediate, crude oil, and refined product (URS Nos. 4, 5, 6, 8, 11, and 14). This combination of transported materials corresponds to the contaminants found in the subsurface at the Site.	The suggestion that six pipelines were required to result in the combination of materials present at the Site appears to counter the claim in Plains Comment No. 4 that suggests a single pipeline source.
	Other pipelines may have also carried this combination or a similar combination of products. This hypothesis could apply to pipelines in the area of R-MW-6 (URS Nos. 18, 19, 20, and 27); however, this is unclear because the history of these pipelines could not be fully determined.	The Regional Board recognizes that the referenced combination of pipelines could be responsible for the Dominguez Channel impacts, but these are not the only combination of pipelines that could have had the same result. The Regional Board accepts that the history of many of the pipelines, including URS Nos. 18, 19, 20, and 27, is unclear.

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Author/ Comment No.	Comment	LARWQCB Response
Plains 7	<p><u>Page 5, Item C:</u> The URS Supplemental Site Assessment Report (SSA Report) dated April 30, 2012, concluded that the likely source(s) of the released petroleum beneath the Dominguez Channel is a historical release from an inactive, idle, or abandoned pipeline.</p> <p>The pipelines that reportedly transported a combination of refinery intermediate, crude oil, and refined product (URS Nos. 4, 5, 6, 8, 11, and 14) are all inactive, idle, or abandoned. Furthermore, two pipelines operated in the immediate vicinity of R-MW-6 (URS Nos. 19 and 20) are also apparently inactive, idle, or abandoned.</p>	<p>The SSA report suggested that the LNAPL at the Dominguez Channel likely resulted from one or more historic discharges from one or more inactive/idle or abandoned pipelines. This interpretation referred to the naphtha-range hydrocarbons, and not the crude oil, since documentation of a pipeline transporting naphtha-range hydrocarbons was not identified by URS.</p> <p>URS Nos. 19 and 20 are included in the CAO. See Response to Plains Comment Nos. 4 and 11 stating that the Regional Board does not consider the immediate vicinity near R-MW-6 to be the only source area.</p>
Plains 8	<p><u>Page 5, Item D:</u> There is no evidence that a Plains pipeline contributed to the release. The two Plains lines (Line 6 [an inactive crude oil line] and Line 93 [an active crude oil line]) are both at least 100 feet away from R-MW-6.</p>	<p>Sample results show free product only in the vicinity of R-MW-6.</p> <p>Petroleum concentrations decrease from R-MW-6 toward Plains Line 93.</p>
Plains 9	<p><u>Page 6, Item D:</u> Line 93 has carried crude oil continuously since Plains acquired it in 1999. Line 6 has been inactive for over 8 years and was exclusively in crude oil service since Plains acquired it. Neither Line 93 nor Line 6 have transported refinery intermediate, which is the principal component of the petroleum contaminant beneath the Dominguez Channel.</p>	<p>The Regional Board notes that both Line 6 and Line 93 carried crude oil, which is a minor component of the waste present at the Dominguez Channel site.</p>
Plains 10	<p><u>Page 6, Item D:</u> The consistent combination of refinery intermediate and crude oil, the amount of which varies as a function of weathering, indicates a single source of contamination. This points to a single pipeline source that transported refinery intermediate, crude oil, and refined product; it does not support separate pipeline sources for the crude oil portion, the refinery intermediate portion, and the refined product portion of the contamination.</p>	<p>See Response to CEMC Comment No. 9.</p>
		<p>Since the Plains pipelines carried only crude oil, they cannot be the source of the contamination.</p>

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Author/ Comment No.	Comment	LARWQCB Response
Plains 11	<p><u>Page 7, Item D:</u> The SSA Report concluded that petroleum contamination may be associated with historical releases from pipelines extending along the western levee, but are not from pipelines crossing the Channel near boring HA-2. Plains Line 93 is one of the pipelines that cross the Channel near HA-2. This conclusion rules out Line 93 as a potential source of the contamination.</p>	<p>The Regional Board agrees that the lines in the western levee, near HA-2, likely are a source. However, we don't consider this area to be the only source area.</p>
Plains 12	<p><u>Page 7, Item D:</u> The time period of the release is not specified in the SSA Report; however, it is implied to be decades old. The weathered nature of the petroleum contamination also indicates that the release is not of recent origin. It is important to remember in this context that Plains began operations in the area in 1999. This chronology further supports that Plains did not contribute to the petroleum contamination.</p>	<p>See Response to BP Comment No. 13. Based upon the model that the discharges at the Site are historic, on the order of decades old, rather than "relatively" recent in the context of Plains ownership and operation of their pipelines in the Site vicinity beginning in 1999 (12 years prior to the surface discharge observed in 2011), the Regional Board concurs that Plains All American Pipelines, L.P. likely did not contribute to the petroleum discharges at the Site.</p>
Plains 13	<p><u>Page 8, Item E:</u> The only evidence cited in the Draft CAO with respect to Plains is that Plains has operated crude oil pipelines in the general vicinity of the contamination. This circumstantial evidence does not constitute substantial evidence that Plains is responsible for the contamination or a portion of it. When the mere proximity of the Plains pipelines is weighed against the totality of the other Plains comments, the substantial weight of evidence demonstrates that Plains is not a responsible party.</p>	<p>Based on the information included in the Regional Board's record, the Regional Board has opted to omit Plains All American Pipelines, L.P. from the CAO.</p>
Plains 14	<p><u>Pages 8 to 9:</u> If substantial, reasonable, and credible evidence that Plains is a responsible party were to come to light, the Regional Board could add Plains to the Order at that time.</p>	<p>Comment noted</p>

EXHIBIT 2

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-2013-0007
REQUIRING

BP;
CHEVRON CORPORATION;
PHILLIPS 66; AND
SHELL OIL PRODUCTS US

TO ASSESS, CLEANUP, AND ABATE
WASTE DISCHARGED TO WATERS OF THE STATE
PURSUANT TO CALIFORNIA WATER CODE SECTIONS 13267 AND 13304

AT THE DOMINGUEZ CHANNEL
CARSON, CALIFORNIA

(CASE NO. 1264; FILE NO. 11-184)

This Cleanup and Abatement Order No. R4-2013-0007 (Order) is issued to BP; Chevron Corporation; Phillips 66; and Shell Oil Products US (hereinafter, the "Dischargers") based on provisions of California Water Code sections 13304 and 13267, which authorizes the Regional Water Quality Control Board, Los Angeles Region (Regional Board) to issue a Cleanup and Abatement Order and require the submittal of technical and monitoring reports.

This Order requires the Dischargers to cleanup waste and abate the effects of the discharges of waste, specifically petroleum hydrocarbons, to the Dominguez Channel and observed within the sub-drain pipe system located in the Dominguez Channel levees located southeast of East Carson Street in Carson, California and of petroleum hydrocarbons within soil, soil gas, and groundwater near the Dominguez Channel (the Dominguez Channel and impacted areas near it are collectively referred to as the "Site").

The Regional Board herein finds:

BACKGROUND

1. **Location:** Petroleum hydrocarbons have discharged since at least January 2011, and continue to discharge, into a segment of the Dominguez Channel in Carson, California, approximately 400 feet south of East Carson Street, east of Recreation Road (adjacent to the Go Kart World business at 21830 Recreation Road), and west of the former Active RV business (located at 1152 East Carson Street). The Site location is depicted on Figure 1 within Exhibit A.
2. **Dischargers:** BP p.l.c., BP Pipelines (North America) Inc., and/or other BP entity (BP); Chevron Corporation; Phillips 66; and Shell Oil Products US [hereinafter collectively called Dischargers or individually called Discharger] are Responsible Parties (RPs) based upon their operation of petroleum pipelines in the vicinity of the Site.

As detailed in this Order, the Dischargers have caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State which creates, or threatens to create, a condition of pollution or nuisance.

3. **Groundwater Basin:** The Site is located on the Torrance Plain of the West Coast Groundwater Basin (Basin), in the southwestern part of the Coastal Plain of Los Angeles County. Beneath the Site, the first encountered groundwater is at approximately 5 feet below ground surface (bgs). As described in the Basin Plan, the Basin is underlain by a series of aquifers, the deeper of which are used for drinking water production. These aquifers are with increasing depth, the Gage aquifer, Lynwood aquifer, Silverado aquifer, and Sunnyside aquifer.

As set forth in the *Water Quality Control Plan* for the Los Angeles Region (Basin Plan), which was adopted on June 13, 1994, the Regional Board has designated beneficial uses for groundwater, which include municipal, industrial, process, and agricultural supply uses in the Site area, and has established water quality objectives for the protection of these beneficial uses.

4. **Surface Water Basin:** This Site is located in the Dominguez Channel, which is a surface water of the state and of the United States that flows to the Port of Los Angeles and the Pacific Ocean. The designated beneficial uses of the Dominguez Channel as set forth in the Basin Plan include contact and non-contact recreation and estuarine, marine, wildlife, and rare and endangered species habitat.
5. **Site Description:** The Site is a section of the Dominguez Channel, approximately 400 feet south of the Carson Street bridge in Carson, California, and the surrounding area where discharges of petroleum hydrocarbons in the subsurface have occurred. The constituents found include light non-aqueous phase liquid (LNAPL) petroleum and dissolved phase petroleum which appear to have originated from petroleum pipelines in the vicinity of the Dominguez Channel.
6. **Activities and Chemical Usage:** The LNAPL petroleum hydrocarbons discharging at the Dominguez Channel have been characterized as a mixture of (1) a refinery intermediate (partially-refined petroleum product) in the naptha range and (2) crude oil, with crude oil representing less than 5 percent in the least weathered samples (URS Corporation, 2012). Based upon its composition, the discharging LNAPL product appears to originate from one or more petroleum pipelines. Twenty-six (26) pipelines have been identified in the vicinity of the Dominguez Channel. A summary of the ownership and operational history of these pipelines is presented within *Pipeline Assessment Update*¹ by URS Corporation (2012); a copy of this report is included as Exhibit A.

¹ *Pipeline Assessment Update* uses a numbering system ("URS ID") sequentially from 1 to 27 to identify each identified pipeline. This Cleanup and Abatement Order references pipelines using the "URS ID" number defined in the *Pipeline Assessment Update* report. While *Pipeline Assessment Update* references pipelines URS #01 through URS #27, Pipelines URS #01 and URS #03 are believed to be the same pipeline.

The pipeline-related activities associated with each Discharger are summarized as follows.

BP

BP p.l.c., BP Pipelines (North America) Inc., and/or other BP entity (BP) and/or its predecessor companies own(ed) and operate(d) pipelines in the vicinity of the Site. The pipeline for which BP is named as a Discharger and Responsible Party and its contents is identified in Exhibit B. BP's pipeline reportedly transported crude oil. Crude oil has been identified at the Site.

Chevron Corporation

Chevron Corporation's (Chevron's) predecessor companies owned and operated pipelines in the vicinity of the Site. These pipelines and their contents are identified in Exhibit B. Chevron's pipelines reportedly transported crude oil and wastewater. Crude oil has been identified at the Site.

Phillips 66

Phillips 66's predecessor companies owned and operated pipelines in the vicinity of the Site. These pipelines and their contents are identified in Exhibit B. Phillips 66's pipelines reportedly transported crude oil. Crude oil has been identified at the Site.

Shell Oil Products US

Shell Oil Company operated a split refinery that consisted of two properties: a Wilmington Unit to the south of the Site and a Dominguez Unit to the north of the Site, approximately 3 miles apart. The split refinery properties were connected by multiple corridors of pipelines, some of which are adjacent to and crossed the Dominguez Channel near the Site. Because these lines connected a split refinery, they likely transported refinery intermediates, including the naptha-range LNAPL detected at the Site.

Shell Oil Products US (Shell) and its predecessor companies own(ed) and operate(d) pipelines in the vicinity of the Site. These pipelines and their contents are identified in Exhibit B. In addition to the suspected naptha-range LNAPL, Shell's pipelines reportedly transported gasoline, crude oil, hot oil, amine, diethanolamine (DEA), and water. Material resembling naptha-range refinery intermediates and crude oil have been identified at the Site.

EVIDENCE OF DISCHARGES OF WASTE AND BASIS FOR ORDER

7. **Waste Discharges:** Since January 2011, LNAPL has been appearing within the Dominguez Channel in Carson, California, approximately 400 feet south of East Carson Street. The LNAPL has been observed (1) entering into channel waters from sediments within the bottom of the channel and (2) within horizontal, perforated sub-drain pipe systems installed within both the west and east channel levees. The LNAPL within the sub-drain pipe systems has been observed discharging into the channel waters. The discharges occur primarily during low tides.

Samples of petroleum hydrocarbons entering channel waters from sediments below the bottom of the Dominguez Channel and from groundwater monitoring wells near the Dominguez Channel have been determined to contain primarily naphtha-range hydrocarbons, with smaller fractions of crude oil (less than 5%). LNAPL has been observed within discharges from the bottom of the Dominguez Channel, in discharges from levee subdrains to the Dominguez Channel, and in groundwater monitoring wells adjacent to the Dominguez Channel.

8. **Source Elimination and Remediation Status:** LNAPL removal from subdrains within the levees of the Dominguez Channel has been occurring on an interim basis. LNAPL removal has also been occurring from one groundwater monitoring well located within the western levee of the Dominguez Channel. The combination of these efforts has been preventing additional LNAPL discharge to the surface of the Dominguez Channel; however, a more permanent and thorough recovery effort is needed to extract additional LNAPL to permanently eliminate the discharge. In addition, absorbent booms are installed across the Dominguez Channel to intercept any LNAPL discharges to the Dominguez Channel should they resume. These activities were previously performed by the Los Angeles County Flood Control District, which owns and operates the Dominguez Channel. They are now performed by Resource Environmental, LLC (RELLC).

9. **Summary of Findings from Subsurface Investigations:** Technical reports submitted by the Prowell Family Trust (Stechmann Geoscience, Inc., 2011), Tesoro Refining and Marketing Company (Orion Environmental, Inc., 2011), BP Pipelines (AECOM Environment, 2011), and RELLC (URS Corporation, 2011) (URS Corporation, 2012) indicate the following subsurface conditions:

- a. Three separate water-bearing zones have been encountered in the shallow subsurface near the Site during project investigations:

Zone	Top Depth (feet bgs)	Thickness (feet)	Composition	Flow Direction
A-Zone	0	35	Clays and silts with trace fine-grained sand	Toward channel (northeast or southwest)
B-Zone	35	15	Silty fine sands and silts with some interbedded clays	South
C-Zone	70	Unknown	Silty sands	Northwest

bgs – below the ground surface

Depths and thicknesses are approximate and generalized.

Between the C-Zone and the B-Zone, from approximately 50 to 70 feet bgs are interbedded sands, silts, and clays. Based upon flow directions, the A-Zone and B-Zone appear to be hydraulically connected to the Dominguez Channel. Of these zones, the B-Zone is the most laterally continuous and, therefore, appears to have the highest potential for fluid migration directly affecting the Dominguez Channel. All three of these zones are present within the Bellflower aquitard.

- b. The bed of the Dominguez Channel is constructed with a 5-foot-thick engineered clay layer that is believed to be native soil that was excavated, replaced, and compacted when the Dominguez Channel was deepened. The silty fine sands of the B-Zone are present beneath the clay layer.
 - c. The LNAPL seeping into the Dominguez Channel is comprised primarily of intermediate hydrocarbon compounds predominantly in the naptha-range (with less than 5% crude oil mixed in), suggesting that the LNAPL observed is an intermediate blending stock used in the refining process with a small fraction of crude oil.
 - d. Detections of gasoline constituents, including di-isopropyl ether (DIPE), have been detected in the B-Zone wells, with relatively lower and less-frequent DIPE concentrations detected in the A- and C-Zone wells. DIPE was detected in groundwater at concentrations up to 1,400 µg/L.
10. **Regulatory Status:** Under orders from the Regional Board, site investigation work has been performed by the Prowell Family Trust, Tesoro Refining and Marketing Company, BP Pipelines, and Resource Environmental, LLC (RELLC). RELLCC is serving as an agent for both Chevron Corporation and Shell Oil Products US. Chevron Corporation was representing itself and ConocoPhillips Company (now Phillips 66); therefore, by extension through Chevron Corporation, RELLCC has also been representing Phillips 66. Crimson Pipeline, L.P., was also issued an order from this Regional Board to perform work; to date Crimson Pipeline, L.P., has not complied with any of the requirements to perform site investigation work.
11. **Rationale for Naming Responsible Parties:** The transport of refinery intermediate and/or crude oil petroleum products documented to have been transported through the Responsible Parties' pipelines is the basis for naming the Responsible Parties. These same materials have been detected at the Site.
12. **Sources of Information:** The sources for the evidence summarized herein include but are not limited to: reports and other documentation in Regional Board files; telephone calls and e-mail communication with Responsible Parties, their attorneys and consultants; and Site visits.

AUTHORITY – LEGAL REQUIREMENTS

13. Section 13304(a) of the California Water Code provides that:

"Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

14. Section 13304(c)(1) of the California Water Code provides that:

". . . the person or persons who discharged the waste, discharges the waste, or threatened to cause or permit the discharge of the waste within the meaning of subdivision (a), are liable to that government agency to the extent of the reasonable costs actually incurred in cleaning up the waste, abating the effects of the waste, supervising cleanup or abatement activities, or taking other remedial actions. . ."

15. Section 13267(b)(1) of the California Water Code provides that:

"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

16. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement*

of Discharges Under Water Code Section 13304. This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Board Resolution 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, California Code of Regulations (CCR) Section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Board.

DISCHARGER LIABILITY

17. The constituents found at the Site as described in Findings 7 and 9 constitute "waste" as defined in Water Code section 13050(d). The Basin Plan states that "Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses". The discharge of petroleum hydrocarbons has caused a visible film or coating on the surface of the water and has resulted in the presence of odors. The discharge of waste has resulted in pollution, as defined in Water Code section 13050(l). The presence of petroleum hydrocarbons in the Dominguez Channel exceeds Water Quality Objectives for Inland Surface Waters in the Basin Plan, including the water quality objective for oil and grease. The concentration of waste constituents in soil and groundwater exceed water quality objectives contained in the Basin Plan, including maximum contaminant levels (MCLs). The presence of petroleum hydrocarbons is harmful to aquatic life and human health, resulting in impacts to the designated beneficial uses and pollution.

Multiple residents and other individuals in the vicinity of the Dominguez Channel have observed odors and other impacts due to the discharge of waste; therefore, the discharge to the Dominguez Channel may have resulted in a nuisance by impacting the use of the properties in the vicinity of the Dominguez Channel. The presence of waste at the Site constitutes a "nuisance" as defined in Water Code section 13050(m). The waste is present at concentrations and locations that *"is injurious to health, or is Indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property . . . and affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal."*

18. **Pollution of Waters of the State:** As described in Findings of this Order, the Dischargers are subject to an order pursuant to Water Code section 13304 because the Dischargers have caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance. The condition of pollution is a priority violation and issuance or adoption of a

cleanup or abatement order pursuant to Water Code Section 13304 is appropriate and consistent with policies of the Regional Board.

As described in Findings in this Order, the Dischargers are subject to an order pursuant to Water Code section 13267 to submit technical reports because existing data and information about the Site indicate that waste has been discharged, is discharging, or is suspected of discharging, at the Site. The technical reports required by this Order are necessary to assure compliance with Section 13304 of the Water Code and State Water Board Resolution 92-49, including to adequately investigate and cleanup the Site to protect the beneficial uses of waters of the state, to protect against nuisance, and to protect human health and the environment.

As described in this Order and the record of the Regional Board, the Dischargers owned and/or operated pipelines in a manner that resulted in the discharges of waste to the Dominguez Channel and in nearby groundwater.

19. Due to the activities described in this Order, the Dischargers have caused or permitted wastes, including naptha-range petroleum hydrocarbons, crude oil, and other hydrocarbons, to be discharged or deposited where the wastes are, or probably will be discharged into the waters of the State which creates a condition of pollution or nuisance. The Dischargers have caused or permitted naptha-range petroleum hydrocarbons, crude oil, and other hydrocarbons, to be discharged or deposited where the wastes are or probably will pose a potential human health threat to occupants of the building onsite through direct contact exposure to contaminated soil and/or groundwater or through vapor intrusion into indoor air. The Dischargers, as the current owners and/or operators or former owners and/or operators of facilities at and near the Site, are responsible for complying with this Order.
20. This Order requires investigation and cleanup of the site in compliance with the Water Code, the applicable Basin Plan, State Water Board Resolution 92-49, and other applicable plans, policies, and regulations.
21. The Regional Board is declining to name additional potentially responsible parties (PRPs) for the Site in this Order at this time. Substantial evidence indicates that the Dischargers caused or permitted waste to be discharged into waters of the state and are therefore appropriately named as responsible parties in this Order. The Regional Board will continue to investigate whether additional PRPs caused or permitted the discharge of waste at the Site and whether these or other persons should be named as additional responsible parties to this Order. The Regional Board may amend this Order or issue a separate order or orders in the future as a result of this investigation and as more information becomes available. Although investigation concerning additional PRPs is ongoing, the Regional Board desires to issue this Order as waiting will only delay remediation of the Site.
22. **Need for Technical Reports:** This Order requires the submittal of technical or monitoring reports pursuant to Water Code section 13267². The Dischargers are required to submit the

² Water Code section 13267 authorized the Regional Board to require any person who has discharged, discharges, or is suspected of having discharged or discharging, waste to submit technical or monitoring program reports.

reports because, as described in the Findings in this Order, the Dischargers are responsible for the discharge of waste that has caused, or threatens to cause, pollution and nuisance. The reports are necessary to evaluate the extent of the impacts on water quality and public health and to determine the scope of the remedy.

CONCLUSION

23. Issuance of this Order is taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) in accordance with California Code of Regulations, title 14, sections 15061(b)(3), 15306, 15307, 15308, and 15321. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup activities at the Site. Mere submittal of plans is exempt from CEQA as submittal will not cause a direct or indirect physical change in the environment and/or is an activity that cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is simply not enough information concerning the Dischargers' proposed remedial activities and possible associated environmental impacts. If the Regional Board determines that implementation of any plan required by this Order will have a significant effect on the environment, the Regional Board will conduct the necessary and appropriate environmental review prior to Executive Officer approval of the applicable plan.
24. Pursuant to Water Code section 13304, the Regional Board may seek reimbursement for all reasonable costs to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action.
25. Any person aggrieved by this action of the Regional Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

This Order is issued by the Executive Officer pursuant to authority delegated by the Regional Board. The Dischargers may seek reconsideration by the Regional Board. Note, however, that if the Dischargers fail to file a petition within 30 days, in accordance with the State Water Board regulations, the Dischargers will lose their right to review of this Order by the State Water Board.

REQUIRED ACTIONS

THEREFORE, IT IS HEREBY ORDERED, pursuant to California Water Code sections 13304 and 13267, that the Dischargers shall cleanup the waste and abate the effects of the discharge of waste forthwith discharging at, from, and associated with the Site. "Forthwith" means as soon as reasonably possible but in any event no later than the compliance dates presented in the following sections. More specifically, the Dischargers shall:

1. Submit a work plan for the containment of petroleum hydrocarbons and associated wastes discharging into the Dominguez Channel³. The work plan shall provide a description of petroleum hydrocarbon containment activities at the channel surface. The work plan shall propose a schedule for submitting status reports on the operation of the containment systems to the Regional Board.

After approval by the Regional Board Executive Officer, implement the work plan and report results in accordance with the approved work plan schedule.

2. Submit a work plan to remove and legally dispose of petroleum hydrocarbons and associated wastes within both channel sub-drain systems⁴. The work plan shall be prepared with the goals of (a) preventing petroleum hydrocarbons within the sub-drain piping from entering the channel and (b) preventing migration of product within the sub-drain piping to other locations. The work plan shall include:

- a. a map indicating where petroleum hydrocarbons have been detected within the sub-drains;
- b. a map showing planned extraction locations;
- c. a description of how extraction will be performed; and
- d. a proposed schedule for periodic status report submittals to this Regional Board describing the sub-drain extraction activities.

After approval by the Regional Board Executive Officer, implement the work plan and report results in accordance with the approved work plan schedule.

At your discretion, a single work plan for Items 1 and 2 may be prepared or they may be prepared as separate work plans.

3. Submit an Interim Remedial Action Plan (IRAP) to control the discharge of petroleum hydrocarbons and associated wastes to prevent any degradation of the surface waters of the Dominguez Channel. The work plan shall include a proposed schedule for implementation of the proposed tasks and for submittal of reports for these tasks to the Regional Board. It shall also include a plan for compliance with the public participation requirements of CWC section 13307.5.

³ Containment booms on the channel surface are currently being operated by Resource Environmental, LLC. Pursuant to this CAO, this will be the collective responsibility of the Dischargers.

⁴ Absorbent materials for LNAPL recovery within the levee sub-drain systems are currently being maintained by Resource Environmental, LLC. Pursuant to this CAO, this will be the collective responsibility of the Dischargers.

After approval by the Regional Board Executive Officer, implement the work plan and report results in accordance with the approved work plan schedule.

4. **Develop and Update a Site Conceptual Model:** Submit a revised 3-dimensional illustration constituting a Site Conceptual Model (SCM). The SCM shall include a written presentation with graphic illustrations of the release scenario(s) and the distribution of wastes from the Site and vicinity. The SCM shall be constructed based upon actual data collected from the Site and any other relevant nearby sites that add to the accuracy of the SCM.
 - a. SCMs shall be submitted using existing data. At minimum, a SCM shall include information about:
 - i. The Site-specific hydrogeology and hydrostratigraphy with verified field data;
 - ii. The current groundwater monitoring network with screened intervals;
 - iii. The location of all water supply wells within one mile of the Site as well as other receptors that may be affected by the discharge and migration of waste constituents to the subsurface environment; and
 - iv. The lateral and vertical extent of each chemical of concern in groundwater.
 - b. The SCM shall be updated periodically as new information becomes available. Updates to the SCM shall be included in all future technical reports submitted.
5. **Complete Delineation of Wastes:** Completely delineate the extent of petroleum hydrocarbons and other constituents of concern in soil, soil vapor, and groundwater discharged at or from the Site.
 - a. A Master Work Plan shall be submitted to the Regional Board to provide for full assessment.
 - i. The initial Work Plan shall be a Master Work Plan that describes proposed general assessment techniques and initial sampling locations.
 1. Subsequent work plans, if necessary, may propose additional sampling locations, referencing the methodologies within the Master Work Plan. This structure is intended to streamline work plan preparation and review efforts.
 2. The Master Work Plan and any subsequent work plans shall include a proposed schedule for completing proposed work.
 3. Proposed initial sampling locations shall be provided with the Master Work Plan.
 - ii. Delineation shall include adequate lateral (including off-Site) delineation and vertical delineation of waste constituents such that a complete 3-dimensional SCM

can be generated for impacts to the Dominguez Channel and additional areas where the wastes have impacted the surface or subsurface.

- b. Additional work plans may be required if delineation efforts result in multiple iterations of work being necessary to complete full delineation.

After approval by the Regional Board Executive Officer, implement the Work Plan and report results in accordance with the approved work plan schedule.

6. **Prepare a Human Health Risk Assessment:** If requested by the Regional Board, prepare a human health risk assessment (HHRA), and if applicable an ecological risk assessment, considering all waste constituents in the soil matrix, soil gas, and groundwater, all exposure pathways and sensitive receptors and applying existing regulatory human health and ecological screening levels and/or acceptable risk assessment models. The due date for any HHRA reports will be provided if and when an HHRA is requested by the Regional Board.
7. **Conduct Remedial Action:** Initiate a phased cleanup and abatement program for the cleanup of any remaining wastes in soil, soil vapor, and groundwater, and the abatement of threats to beneficial uses of water and removal of sources of waste as highest priority. Specifically, you shall:
 - a. Develop a comprehensive Remedial Action Plan (RAP) for cleanup of waste in soil, groundwater, and soil vapor originating from the Site and submit it for Regional Board review and approval. The RAP shall include, at a minimum:
 - i. A description and evaluation of the effectiveness of proposed and alternative remediation options.
 - ii. A description of any pilot projects intended to be implemented.
 - iii. A program for preventing the spread of existing waste constituents in groundwater.
 - iv. A program to initiate remediation of off-site impact of petroleum constituents, if applicable.
 - v. Proposed cleanup goals with a protocol and schedule to reach them. The following information shall be considered when establishing preliminary cleanup goals.
 1. Preliminary cleanup goals for soil and groundwater shall be in compliance with State Water Board Resolution 92-49 (*"Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304"*). Resolution 92-49, Section III.G. requires cleanup to background, unless that is not reasonable. Alternative cleanup levels to background must comply with California Code of Regulations, Title 23, sections 2550.4, and be consistent with maximum benefit to the people of the state, protect beneficial uses, and result in compliance with the Basin Plan. Alternative cleanup levels for groundwater shall not exceed water quality objectives in the Basin Plan, including California's

MCLs and Notification Levels for drinking water as established by the State Department of Public Health. Alternative cleanup levels for soil and soil vapor shall not exceed levels that will result in groundwater exceeding water quality objectives in the Basin Plan, including California's MCLs and Notification Levels for drinking water as established by the State Department of Public Health.

2. Soil cleanup levels set forth in the Regional Board's Interim Site Assessment and Cleanup Guidebook, May 1996.
 3. Human health protection levels set forth in the current USEPA Region IX's RSLs.
 4. Protection from vapor intrusion and protection of indoor air quality based on the California EPA's January 2005 (or later version) Use of Human Health Screening Levels (CHHSLS) in Evaluation of Contaminated Properties. Soil vapor sampling requirements are stated in the Department of Toxic Substances Control (DTSC) and Regional Board April 2012 Advisory - *Active Soil Gas Investigations*, and the DTSC October 2011 *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*.
 5. Groundwater cleanup goals shall not exceed applicable water quality objectives or criteria necessary to protect the beneficial uses, including the Regional Board's Basin Plan water quality objectives (e.g., California's MCLs), Notification Levels for drinking water as established by the State Department of Public Health, State Water Board Ocean Plan water quality objectives, and the California Toxic Rule water quality criteria, at a point of compliance approved by the Regional Board.
 - vi. A plan for compliance with the public participation requirements of CWC section 13307.5.
- b. Submit quarterly remediation progress reports to this Regional Board. The remediation progress reports shall document all performance data associated with remediation systems. Following one year of remediation activities, a request may be submitted to the Regional Board to reduce the reporting frequency to a semi-annual schedule.
 - i. Reports shall meet the requirements set forth in the Monitoring and Reporting Program (Exhibit C).
 - c. After approval by the Regional Board Executive Officer, implement the RAP and report results in accordance with the approved work plan schedule.
 - d. Revisions to the RAP or additional RAPs may be required by the Regional Board if the implemented measure does not completely achieve all Site cleanup goals.

The Regional Board will establish due dates for the RAP and remediation progress reports after sufficient assessment has been performed to enable a RAP to be prepared.

8. **Conduct Groundwater Monitoring:** Initiate a groundwater monitoring program as set forth in the Monitoring and Reporting Program (Exhibit C).
9. **Time Schedule:** The Dischargers shall submit all required work plans and reports and complete work within the schedule in any approved work plan or RAP and the time schedule listed in Exhibit D attached hereto and incorporated herein by reference, which may be revised by the Executive Officer without revising this Order.
10. This Cleanup and Abatement Order applies only to impacts defined herein as the A-Zone and the B-Zone. C-Zone impacts, which appear to be from a gasoline origin, are recognized as having originated separate from the products in the A- and B-Zones. Therefore, investigation and remediation of the C-Zone (and deeper zones) is exempt under the Order, unless further investigation indicates that that A- and B-Zone impacts actually do impact the C-Zone or deeper intervals.
11. The Regional Board's authorized representative(s) shall be allowed:
 - a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are stored, under the conditions of this Order;
 - b. Access to copy any records that are maintained under the conditions of this Order;
 - c. Access to inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - d. The right to photograph, sample, and monitor the Site for the purpose of ensuring compliance with this Order, or as otherwise authorized by the California Water Code.
12. **Contractor/Consultant Qualification:** As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California registered professional engineer or geologist and signed by the registered professional. All technical reports submitted by the Discharger shall include a statement signed by the authorized representative certifying under penalty of law that the representative has examined and is familiar with the report and that to his knowledge, the report is true, complete, and accurate. All technical documents shall be signed by and stamped with the seal of the above-mentioned qualified professionals that reflects a license expiration date.
13. The Dischargers shall submit a 30-day advance notice to the Regional Board of any planned changes in name, ownership, or control of the Site and shall provide a 30-day advance notice of any planned physical changes to the Site that may affect compliance with this Order. In the event of a change in ownership or operator, the Dischargers also shall provide a 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this Order, and shall submit a copy of this advance notice to the Regional Board.
14. Abandonment of any groundwater well(s) at the Site must be approved by and reported to the Regional Board at least 30 days in advance. Any groundwater wells removed must be replaced within a reasonable time, at a location approved by the Regional Board. With written justification, the Regional Board may approve the abandonment of groundwater wells

without replacement. When a well is removed, all work shall be completed in accordance with California Department of Water Resources Bulletin 74-90, "California Well Standards," Monitoring Well Standards Chapter, Part III, Sections 16-19.

15. In the event compliance cannot be achieved within the terms of this Order, the Discharger has the opportunity to request, in writing, an extension of the time specified. The extension request shall include an explanation why the specified date could not or will not be met and justification for the requested period of extension. Any extension request shall be submitted as soon as the situation is recognized and no later than the compliance date. Extension requests not approved in writing with reference to this Order are denied.
16. Reference herein to determinations and considerations to be made by the Regional Board regarding the terms of the Order shall be made by the Executive Officer or his/her designee. Decisions and directives made by the Executive Officer in regards to this Order shall be as if made by the Regional Board.
17. The Regional Board, through its Executive Officer or other delegate, may revise this Order as additional information becomes available. Upon request by the Discharger, and for good cause shown, the Executive Officer may defer, delete or extend the date of compliance for any action required of the Discharger under this Order. The authority of the Regional Board, as contained in the California Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.
18. This Order is not intended to permit or allow the Dischargers to cease any work required by any other Order issued by this Regional Board, nor shall it be used as a reason to stop or redirect any investigation or cleanup or remediation programs ordered by this Regional Board or any other agency. Furthermore, this Order does not exempt the Discharger from compliance with any other laws, regulations, or ordinances which may be applicable, nor does it legalize these waste treatment and disposal facilities, and it leaves unaffected any further restrictions on those facilities which may be contained in other statutes or required by other agencies. Continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished and this Order has been rescinded.
19. Consistent with Water Code sections 13304 and 13365, reimburse the Regional Board for reasonable costs associated with oversight of the investigation and cleanup of the waste at or emanating from the Site. Provide the Regional Board with the name or names and contact information for the person(s) to be provided billing statements from the State Water Resources Control Board.
20. A Public Participation Plan shall be prepared and/or updated when directed by the Executive Officer as necessary to reflect the degree of public interest in the investigation and cleanup process.
21. The State Water Board adopted regulations requiring the electronic submittals of information over the Internet using the State Water Board GeoTracker data management system. You are required not only to submit the reports required in this Order, but also to comply by uploading

all reports and correspondence prepared to date and additional required data formats to the GeoTracker system if they have not already been uploaded. Information about GeoTracker submittals, including links to text of the governing regulations, can be found on the Internet at the following link:

http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal

22. The Regional Board, under the authority given by Water Code section 13267(b)(1), requires you to include a perjury statement in all reports submitted by you under this Order. The perjury statement shall be signed by a senior authorized representative (not by a consultant). The perjury statement shall be in the following format:

"I, [NAME], certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

23. Failure to comply with the terms or conditions of this Order may result in imposition of civil liabilities, imposed either administratively by the Regional Board or judicially by the Superior Court in accordance with Sections 13268, 13308, and/or 13350, of the California Water Code, and/or referral to the Attorney General of the State of California.
24. None of the obligations imposed by this Order on the Dischargers are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of California intended to protect the public health, safety, welfare, and environment.

Ordered by: Samuel Unger

Samuel Unger, P.E.
Executive Officer

Date: February 8, 2013

WORKS CITED

- AECOM Environment. (2011, October 20). BP Pipelines (North America) Inc. Subsurface Investigation Report Dominguez Channel (approximately 400 feet south of Carson Street) Carson, California.
- Orion Environmental, Inc. (2011, October 20). Technical Report of Soil and Groundwater Investigation.
- Stechmann Geoscience, Inc. (2011, June 11). Additional Limited Phase II Environmental Site Assessment: 1152, 1202, and 1220 E. Carson Street.
- URS Corporation. (2011, October 20). Light Non-Aqueous Phase Liquid Release Assessment Report, Dominguez Channel South of Carson Street, Carson, California.
- URS Corporation. (2012, April 12). Pipeline Assessment Update, Dominguez Channel South of Carson Street, Carson, California.
- URS Corporation. (2012, April 30). Supplemental Site Assessment, Dominguez Channel South of Carson Street, Carson, California.

R E P O R T

**PIPELINE ASSESSMENT UPDATE
DOMINGUEZ CHANNEL
SOUTH OF CARSON STREET
CARSON, CALIFORNIA**

Prepared for

Resource Environmental LLC
4700 LA Highway 22, Suite 520
Mandeville, Louisiana 70471

URS Project No. 29868904

April 12, 2012

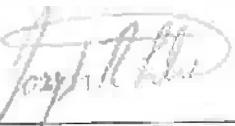
URS

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**PIPELINE ASSESSMENT UPDATE REPORT
DOMINGUEZ CHANNEL SOUTH OF CARSON STREET
CARSON, CALIFORNIA**

This Pipeline Assessment Update Report for the Dominguez Channel south of E. Carson Street in Carson, California, was prepared by URS Corporation on behalf of Resource Environmental LLC in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, geologists, and environmental scientists. This report was prepared under the technical direction of the undersigned.

URS CORPORATION



Joseph R. Liles, PG, CHG
Project Manager

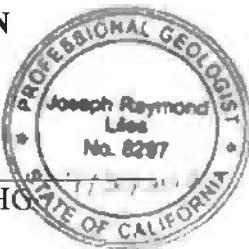


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List of Acronyms

aka	also known as
APCI	Air Products and Chemicals, Inc.
ARCO	Atlantic Richfield Company
BP	BP Pipelines (North America), Inc.
CDWR	California Department of Water Resources
Chevron	Chevron Corporation
Chevron EMC	Chevron Environmental Management Company
Conoco	Conoco Inc.
ConocoPhillips	ConocoPhillips Company
Crimson	Crimson Pipeline, L.P.
dba	doing business as
DEA	diethanolamine
DOGGR	California Department of Conservation, Division of Oil, Gas & Geothermal Resources
DOT	U.S. Department of Transportation
ExxonMobil	ExxonMobil Pipeline Company
LACDPW	Los Angeles County Department of Public Works
LACDR	Los Angeles County Department of Roads
LACFCD	Los Angeles County Flood Control District
LARWQCB	California Regional Water Quality Control Board, Los Angeles Region
LNAPL	light non-aqueous phase liquid
Mobil	ExxonMobil Corporation
NPMS	National Pipeline Mapping System
OSFM	California Department of Forestry and Fire Protection, Office of the State Fire Marshal
PE	Professional Engineer
PG	Professional Geologist
Phillips Petroleum	Phillips Petroleum Company
Plains	Plains All American Pipeline, L.P.
PHMSA	U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration
RELLC	Resource Environmental, L.L.C.
Shell	Shell Oil Products US
SWRCB	California Environmental Protection Agency, State Water Resources Control Board
Tesoro	Tesoro Corporation/Tesoro Refining and Marketing Company
Tosco	Tosco Corporation
Unocal	Union Oil of California
URS	URS Corporation
WOGA	Western Oil & Gas Association

Presented in this document are the updated results and findings of an assessment of historical and existing pipelines in the vicinity of the Dominguez Channel just south of the E. Carson Street Bridge in Carson, California. Light non-aqueous phase liquid (LNAPL) has been appearing within the Dominguez Channel approximately 400 feet south of E. Carson Street since January 2011. The release area is within a Los Angeles County Flood Control District (LACFCD) channel with multiple potential sources and preferential pathways. The California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) has been working in collaboration with other agencies, under U.S. Environmental Protection Agency (USEPA) lead, to facilitate the assessment and remedy of the release.

A Pipeline Assessment Interim Report dated December 8, 2011, providing detailed information regarding historical and existing pipelines in the area that may be potential sources for the LNAPL, was prepared by URS Corporation (URS) on behalf of Resource Environmental LLC (RELLC) and submitted to the LARWQCB. Following submittal of the Interim Report, the LARWQCB issued Orders to the pipeline owners and operators in the vicinity of the channel on December 13, 2011, requiring submittals of information about pipeline operations due on January 31, 2012. The LARWQCB subsequently extended the deadline to February 15, 2012. The new information presented in this Pipeline Assessment Update Report incorporates the additional materials received from the pipeline owners and operators with respect to the area of investigation initially addressed in the Interim Report. Information submitted for pipelines outside the area of investigation are not included in this report.

1.1 OBJECTIVES

Overall objectives of the pipeline assessment are as follows:

- Identify all pipelines near the LNAPL release observed in the channel
- Identify the current and historical ownership of the pipelines, and
- Identify the status (i.e., abandoned, removed, idle, or in-service) and contents of the pipelines.
- Identify the service history (e.g., historical contents, integrity testing, modifications, and repairs) of the pipelines.

1.2 SCOPE OF WORK

The ongoing scope of work implemented for this assessment included:

- Reviewing publicly available agency and facility maps and plans and other available documents and secondary resources
- Contacting and interviewing agencies for knowledge of any pipeline information adjacent to the LNAPL release
- Compiling and reviewing information provided by the pipeline companies to the LARWQCB
- Reassessment of the Pipeline Assessment Interim Report dated December 8, 2011
- Preparing an update report including an updated pipeline information matrix.

1.3 REPORT FORMAT

This Pipeline Assessment Update Report contains the following sections:

- Section 1 presents an Introduction and summary of the Objectives, Scope of Work, and Report Format
- Section 2 presents a Site Description and Background Information
- Section 3 presents a discussion of the Investigative Methods
- Section 4 presents a discussion of the Interim Pipeline Assessment Results
- Section 5 presents a discussion of the company submittals for this Pipeline Assessment Update
- Section 6 presents a Summary of Findings
- Section 7 describes the Limitations to this assessment
- Section 8 lists References cited in the document.

2.1 SITE DESCRIPTION

The observed LNAPL release area is located in the Dominguez Channel approximately 400 feet south of the E. Carson Street Bridge in Carson, California (Figure 1). The assessment area and identified pipelines within the vicinity are shown on Figures 2 and 3.

2.2 BACKGROUND

The LARWQCB has issued Orders pursuant to section 13267 of the Clean Water Act that requires potential responsible parties to complete assessments of the contaminants of concern impacting soil, soil vapor, and groundwater at the Dominguez Channel and determine the extent to which their facilities may have contributed to the release. The Investigative Orders dated May 26, 2011, were issued to ConocoPhillips Company (ConocoPhillips), Crimson Pipeline, L.P. (Crimson), Shell Oil Products US (Shell), Tesoro Corporation, Prowell Family Trust, Chevron Environmental Management Company (Chevron EMC) and Chevron Pipeline (Chevron-Pipeline), and BP Pipelines. In an effort to respond to the LARWQCB with a regional approach, rather than in potential source-specific manner, RELLC contacted all of the parties identified in the respective Orders, and has been authorized by Chevron and Shell to act on their behalf in all future matters before regulatory agencies with regard to this effort.

According to the information provided in the 13267 Orders issued by the LARWQCB, LNAPL has been appearing within the Dominguez Channel in Carson, California, approximately 400 feet south of Carson Street since January 2011. The LNAPL suspected to be of petroleum origin has been observed (1) entering into channel waters from sediments within the bottom of the channel and (2) within horizontal, perforated sub-drain pipe systems installed within both the west and east channel levees. As the channel operator, the LACDPW initially performed containment operations using booms and absorbent pads in the channel. RELLC has assumed the containment operations since January 2012. In addition to the recovery of LNAPL from channel waters, RELLC has been removing LNAPL from the sub-drain system (using product socks) on both sides of the channel and off the groundwater table (product skimming of Well R-MW-6 installed along the western levee).

The LARWQCB has reported that samples of LNAPL entering channel waters from sediments in the bottom of the channel contain primarily gasoline-range hydrocarbons, with smaller fractions of heavier-end diesel and oil-range hydrocarbons. LNAPL examined from the western sub-drain system was observed to be approximately 0.25 inch thick on one occasion with a clear and colorless appearance. LNAPL examined from the eastern sub-drain system was observed to be dark-brown to black and translucent. Based upon the variation in the visual appearance of the LNAPL, the LARWQCB suspects that multiple releases of petroleum may be involved.

Additional investigations performed by URS (2011) have indicated that LNAPL collected off groundwater near the Dominguez Channel is an intermediate naphtha mixed with some crude oil (less than 5%) likely associated with pipelines. It did not appear that there were major components of gasoline, diesel, or jet fuel in any of the product samples collected for forensic analysis near the channel. The sources of the release have yet to be identified, but appear to be associated with locally active or abandoned underground petroleum pipelines.

The following sections describe the investigative methods and available resources used to implement the ongoing pipeline assessment. Section 3.1 includes a description of resources reviewed in preparing the Pipeline Assessment Interim Report dated December 8, 2011, and Section 3.2 summarizes documents reviewed that were submitted in response to the LARWQCB December 13, 2012 Oder and incorporated into this Pipeline Assessment Update.

3.1 INTERIM PIPELINE ASSESSMENT (DECEMBER 8, 2011)

Documents and other resources reviewed for the Pipeline Assessment Interim Report dated December 8, 2011 are summarized below.

3.1.1 Maps and Plans

For purposes of assessing pipelines in the vicinity of the LNAPL release, publicly available agency and facility maps and plans were reviewed. The pipeline information was cross referenced between the various maps and plans to determine the size, alignment, status, and ownership of the pipeline.

3.1.1.1 Agency Maps and Plans

The following agency maps and plans associated with the pipeline assessment were reviewed:

- Land Records Substructure Map No. W-222 was obtained from the LACDPW. The map identifies various utility pipelines, their size, ownership, and in some cases, a date of abandonment. The last correction date on the map was April 20, 1960.
- Levee Side Subdrain System Dominguez Channel, Carson, California Figures 2-5 were obtained from the Geology Investigations Unit of the LACDPW Geotechnical and Materials Engineering Division. The maps were used for identifying various sampling locations along the Dominguez Channel. However, various utilities within the Dominguez Channel and its berms from Sta. 318+68.78 to 359+00 were identified. A date of June 2011 appeared in the title block of the plan.
- Dominguez Channel Wilmington Ave. to Avalon Blvd. Channel Excavation, Clay Lining and Stone Revetment Plan and Profile Sheets 4-6 were obtained from LACFCD. The plans of the channel were identical to the Levee Side Subdrain System Dominguez Channel described above. The stationing of the plans was from Sta. 318+68.78 to 348+00 and the date of May 1963 appeared in the title block of the plan.
- Pipeline Map No. W-222 was obtained from the City of Carson Engineering Department. The map was a replica of the Land Records Substructure Map No. W-222 described above.
- The National Pipeline Mapping System (NPMS), Public Map Viewer of the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) was observed online. The NPMS, Public Map Viewer provided general information and location of gas and hazardous liquid transmission pipelines under PHMSA jurisdiction. However, due to PHMSA's security policy, the view of the public map is limited to a 1:24,000 scale (approximately 0.2 miles). In addition, pipelines status

shown for the investigation area is limited to in-service or idle pipelines. The abandoned or removed pipelines were not identified in the public map.

3.1.1.2 Facility Maps and Plans

The following facility maps and plans associated with the investigative activities were reviewed:

- Long Beach – Wilmington Harbor Area Oil Handling Facility Map was produced by Western Oil & Gas Association (WOGA). The map is no longer produced and the last revision date on the map was January 1973. The map identifies various pipelines, its owner, size, and commodity carried (oil, natural gasoline, or refined product).
- Dominguez Hill Crude Trunk Line Drawing Y-1413 was obtained from Shell. The map identifies the 6" Dominguez Hill Crude Line from Perry Street to Edgar Street. The last revision date on the map was November 27, 1968.
- Abandoned Inter-Refinery Pipelines Wilmington & Dominguez Refineries Drawings Y-5166-H, Y-5166-J, and Y-5166-K were obtained from Shell. The three maps identify the (12") No. 15 Line (URS#06), (12") No. 17 Line (URS#05), (10") No. 2 Line (URS#14), and (8") No. 1 Line (URS#04) from Perry Street to Edgar Street. The last revision dates on the maps were July 1977 (for Y-5166-H), February 1994 (for Y-5166-J), and February 1975 (for Y-5166-K).
- Ventura Product Line Drawings Y-3080 (Key Map) and Y-4023 were obtained from Shell. The maps identify the 4" Ventura Gas Line from Perry Street to Edgar Street (URS#13). The last revision dates on the maps were June 1997 (for Y-3080) and November 1968 (for Y-4023).
- Carson-Van Nuys PDX Line, 6" Product Line D.W.P. R/W Alignment Drawing Y-3085 was obtained from Shell. The map identifies product lines crossing the Dominguez Channel near 213th Street and the (8") Lines 21 (URS#19) and 22 (URS#20) along the western levee of the Dominguez Channel. The last revision date on the map was January 30, 2006.
- Mobil Torrance Pipeline Project 10" H₂ Pipeline Alignment Drawings 2137-A-112 and 113 were obtained from Air Products and Chemicals. The map identifies the 10" H₂ Pipeline (URS#27) along the western levee of the Dominguez Channel. The stationing of the plans was from Sta. 98+00 to 121+00, and the last revision date on the map was July 15, 2002.

3.1.2 Documents and Secondary Resources

Available documentation was reviewed for historical descriptions, status, and ownership of the pipeline.

3.1.2.1 Work Plans, Response Letters, Report, Site Assessment, and Quitclaim

The following documentations were collected and reviewed as part of the pipeline assessment:

- Well Installation Work Plan (for Chevron Texaco Heritage Site No. 21-1316), dated October 4, 2002, by Harding ESE, Inc.

- Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area, Perry Street and 215th Place, Carson, California, dated April 30, 2001, by Montgomery Watson.
- Response letter to Greg Bishop of LARWQCB regarding Requirement for Technical Report Dominguez Channel, Carson, California, dated May 6, 2011, by Larry Alexander, President of Crimson.
- Response letter to Wendy Liu of LARWQCB regarding Tosco Perry Street Pipeline Request for Pipeline Information, dated November 7, 2011, by Daniel Carrier, Senior Geologist, Real Estate & Remediation Services of Unocal.
- Pipeline Abandonment Report, Perry Street Investigation, Shell Oil Company, dated November 9, 2001, by C₂REM.
- Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California, dated June 19, 1998, by PHR Environmental Consultants.
- Quitclaim Deed and Agreement (from Mobil to Shell), dated May 15, 1975.

3.1.2.2 Petitions

The following petitions were downloaded from the California Environmental Protection Agency, State Water Resources Control Board (SWRCB) Water Quality Petitions website:

- Petition File A-2163(a) – BP Pipelines (North America) Inc. [13267 Order Regarding Dominguez Channel Site].
- Petition File A-2163(b) – ConocoPhillips Company [13267 Order Regarding Dominguez Channel Site] Part 1 and 2. Petition appears to be the same petition for Chevron with the exception of the following footnote 1:

"This site is subject to a contract agreement between Chevron EMC [Environmental Management Company] and ConocoPhillips, whereby going forward, Chevron EMC will be responsible for remediation of the historical releases at the site, including the existing LUST case and any actions required by this Order. See Declaration of Amy E. Gaylord, paragraph 3."

- Petition File A-2163(c) – Chevron Environmental Management Company [13267 Order Regarding Dominguez Channel Site] Part 1 and 2.
- Petition File A-2163(d) – Crimson Pipeline, L.P. [13267 Order Regarding Dominguez Channel Site].
- Petition File A-2163(e) – Tesoro Refining and Marketing Company [13267 Order Regarding Dominguez Channel Site] Part 1, 2 and 3.

3.1.3 Agencies Contacted

The following agencies were contacted and interviewed for knowledge regarding pipeline information in the vicinity the LNAPL release:

- City of Carson, Engineering Department
- California Department of Forestry and Fire Protection, Office of the State Fire Marshal (OSFM), Sacramento Office
- California Department of Forestry and Fire Protection, OSFM, Lakewood Office
- U.S. Department of Transportation PHMSA, NPMS, and
- State of California Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR).

3.2 PIPELINE ASSESSMENT UPDATE

Per Orders by LARWQCB sent on December 13, 2011, pipeline owners and operators were required to submit technical information on pipelines owned or operated within a 1-mile radius of the LNAPL release. The requested technical information includes: identification number, owner identification, current owner, ownership history, size, material, product, oxygenates, status, integrity test failures, contact, notes, and source. In addition, a scaled map identifying the location of each pipeline, and Shapefiles (in GCS NAD_83 system) for use with geographic information system (GIS) mapping, were requested. All of the companies have responded to the Order as follows:

- Air Products and Chemicals, Inc. (APCI)
- BP Pipelines (North America), Inc. (BP)
- Chevron Environmental Management Company (Chevron EMC)
- ConocoPhillips Company (ConocoPhillips)
- Crimson Pipeline, LP (Crimson)
- ExxonMobil Pipeline Company (ExxonMobil)
- Plains All American Pipeline, LP (Plains All American)
- Shell Oil Products US (Shell)
- Tesoro Refining and Marketing Company (Tesoro)

The documents submitted by these companies were reviewed and the findings incorporated into this Pipeline Assessment Update.

This section includes a discussion of the status, current ownership, and location of pipelines in the vicinity of the LNAPL release based on publicly available agency and facility maps, plans, and documents, secondary sources, and agency contacts. These results were included in the Pipeline Assessment Interim Report dated December 8, 2011, and are provided with updated information in this section. A summary of the findings is presented in Table 1 (Pipeline Assessment Data Matrix), illustrated on Figure 2 (Assessment Area and Identified Petroleum Pipelines), and described below. For reference purposes, each pipeline identified in this phase of assessment has been assigned a URS identification number (URS #). The following sections are organized by reported pipeline ownership.

4.1 URS #01—#02 (CHEVRON, UNOCAL, CONOCOPHILIPS, TOSCO)

Two 6" pipelines, which run in a north-south orientation within the Perry Street right-of-way then traverse along the northeasterly access road of the Dominguez Channel, are identified on Figure 2 as URS #01 and URS #02. The two pipelines have appeared on various maps identified as two 6" *Union Oil* pipelines. Union Oil Company of California, dba Unocal merged with Chevron Corporation in 2005 and became a wholly-owned subsidiary.

In a response letter by Daniel Carrier, Senior Geologist, Real Estate & Remediation Services of Unocal to Wendy Liu of LARWQCB, regarding a 6" diameter wastewater pipeline and a crude oil pipeline located along Perry Street between 213th Street and Carson Street, Unocal stated that they sold the crude oil pipeline in 1997 as part of 76 Products (76 Products is an oil refining and marketing arm of Unocal) to Tosco. In addition, the response letter also stated that in a separate letter from 76 Products (now Tosco), the portion of wastewater pipeline (URS #02) from 213th Street to Del Amo Boulevard was leased by Shell. Unocal has found no records of what Shell transported through the pipeline (Unocal, 2001). Tosco was later acquired by Phillips Petroleum who later merged with Conoco to form ConocoPhillips in 2002.

4.2 URS #03 (CRIMSON, UNOCAL)

An additional 6" pipeline, identified as 6" *Union Oil*, was observed on the LACFCD's Dominguez Channel Plan (Sheet 6). The 6" *Union Oil* pipeline is identified on Figure 2 as URS #03, which is shown to intersect URS #01 near the Dominguez Channel and traverse along the northerly access road of the Dominguez Channel.

It has been stated in a response letter by Larry Alexander, President of Crimson, to Greg Bishop of LARWQCB that "*Crimson does own an idle crude oil pipeline which parallels and is adjacent to the Dominguez Channel in the vicinity of the Site. The pipeline is known as the Dominguez Gathering pipeline. It is a 6-inch diameter crude oil pipeline originally constructed by Unocal*" (Crimson, 2011). However, it was unclear as to which 6" *Union Oil* pipeline within the access road belongs to Crimson.

4.3 URS #04—#14, #16—#18, AND #20 (SHELL, MOBIL)

Shell reportedly abandoned six pipelines (URS #04, URS #05, URS #06, URS #08, URS #11, and URS #14) that run in a north-south orientation within the Perry Street right-of-way, cross the Dominguez Channel in a westerly direction along Carson Street, and then continue along

Recreation Road. The pipelines were operated from the late 1920s and early 1930s until the early 1970s. The Shell pipelines reportedly carried crude oil, refined products, and partially-refined products. Documentation pertaining to the pipeline abandonment details is apparently not available; however, Shell abandoned the pipelines in place in the early 1970s. Reportedly, the pipelines have not transported fluids since they were abandoned (Montgomery Watson, 2001).

Two additional pipelines (URS #10 and URS #16) abandoned by Shell are located along Carson Street. A 6" steel pipeline (URS #10) was a crude oil pass-through pipeline starting at the intersection of a replaced 6" *Dominguez Hill Fuel Line* segment (URS #08) at Perry Street, crossing the channel along Carson Street, and continuing south along Recreation Road. A second 6" pipeline (URS #16) was a short north-south segment of pipe that appears located at the intersection of Carson and Perry Streets. There was no product content listed for URS #16. According to the LACDPW (Land Records Substructure Map No. W-222), the two pipelines (URS #10 and URS #16) were abandoned in 1973 and 1960, respectively.

According to C₂Rem's Pipeline Abandonment Report, portions of the Shell 4" *Ventura Gas Line* (URS #12) and Shell 6" *Dominguez Hill Fuel Line* (URS #09) within Perry Street only were relocated and replaced in 1962. The decision to replace these two pipelines was based on the proximity of these pipelines to the edge of the pipeline right-of-way, conflict with any future potential development, and to facilitate pipeline maintenance (C₂Rem, 2001).

In addition, a 12" butadiene pipeline (URS #07) shown on the LACDPW Land Records Substructure Map No. W-222 was never constructed. According to C₂Rem's Pipeline Abandonment Report, in 1971 Shell management contemplated the construction of a 12" 11.5-mile long pipeline between the Torrance Synthetic Rubber Plant and the Mormon Island Terminal. A Los Angeles County Department of Roads (LACDR) permit was applied for and acquired; however, according to both the information provided by Shell employees and field observations during subsurface utility work, construction of the butadiene pipeline did not occur (C₂Rem, 2001).

The LACFCD's Dominguez Channel Plan (Sheet 6) shows 4" and 6" Shell pipelines (URS #17) traveling in a north-south direction across the Dominguez Channel, with the pipelines crossing the channel having been removed and capped near both sides of the channel. The linear distance of removed pipeline, however, is unknown (consequently, shown as dashed lines on Figure 2). The southerly portions of the abandoned pipelines continue into Lauder Street.

Update to URS #17: Additional documentation provided by the LACDPW includes copies of a permit and completion notice from the LACFCD for the removal of a "utility bridge crossing" permitted to Shell Oil Company that extended over the Dominguez Channel just south of Carson Street. LACDPW also provided a copy of a letter from Shell Oil Company to the LACFCD confirming that removal of the "pipeline crossing" was completed on October 21, 1960. A 1954 aerial photo of Carson Street and the Dominguez Channel shows the crossing located at URS #17 (Figure 1). Based on these documents, it is likely that the Shell pipelines were not buried beneath the channel and were abandoned no later than 1960 when the "pipeline crossing" was removed.

Two 8" amine pipelines (URS #18), which travel in a parallel direction within the southwesterly access road of the Dominguez Channel, are identified as Mobil lines in the LACFCD's

Dominguez Channel Plan (Sheets 4-6). However, the two parallel pipelines were released and quit claimed from Mobil to Shell in 1975 (Mobil, 1975). The H₂ Pipeline Alignment Drawings 2137-A-112 and 113 by Air Products and Chemicals, Inc. (APCI) addressed the pipelines as abandoned.

The NPMS, Public Map and the research at the OSFM both confirmed an 8" pipeline (URS #20) identified as *Line 22* traversing in a parallel direction within the southwesterly access road of the Dominguez Channel. The NPMS and OSFM both stated the status of the pipeline as out of service or idle. The NPMS lists the pipeline product as water.

4.4 URS #19 (TESORO, SHELL)

Tesoro operates an 8" jet fuel pipeline (URS #19), which travels along the southwesterly access road of the Dominguez Channel. The NPMS Public Map and research at the OSFM both identified the pipeline as *Line 21*, with the pipeline in service. Tesoro reportedly purchased the pipeline from Shell in 2007.

4.5 URS #21, AND #23—#26 (ARCO/BP)

A 10" pipeline (URS #21) identified as *Line 1* by BP, travels along the northeasterly access road of the Dominguez Channel, then crosses approximately 8 feet below the bottom of the Dominguez Channel north of Carson Street and continues into Recreation Road. It has been stated in emails between Donna M. DiRocco, LA Basin Environmental Coordinator of BP and Greg Bishop of LARWQCB regarding ownership of the pipeline, that *Line 1* was originally an Atlantic Richfield Company (ARCO) pipeline. ARCO was later purchased by BP in 2000. An abandoned segment of pipeline (URS #24) within the Dominguez Channel appeared in the APCI drawing and was identified as abandoned and re-routed to the current location of URS #21; however, no other mention of this abandonment could be found.

The NPMS Public Map confirmed an active 12" BP natural gas pipeline (URS #23) identified as *211 Stocker Carson REF*. The pipeline traverses along the northeasterly access road of the Dominguez Channel, then crosses approximately 15 feet below the bottom of the Dominguez Channel north of Carson Street and continues into Recreation Road. An abandoned segment of pipeline (URS #26) within the Dominguez Channel appeared in the APCI drawing and was identified as abandoned and re-routed to the current location of URS #23; however, no other mention of this abandonment could be found.

The WOGA map shows a pipeline labeled *R-266*. Ownership of the pipeline is discussed in an email response from Donna M. DiRocco, LA Basin Environmental Coordinator of BP to Greg Bishop of LARWQCB. BP states that "*The R-266 is a designation from the old WOGA (Western Oil and Gas) maps (maps no longer produced). The "R" designation stood for Atlantic Richfield. Each pipeline company was given their own letter designation. The 266 was a sequential WOGA number designation given to two Richfield lines – an 8" oil and a 10" oil. In this case it is referring to 10" Line 1 (URS #21) and 8" Line 6 (URS #22). As far as we know Line 1 and Line 6 have always been in Crude service and cross under the Dominguez Channel. Line 1 is now BP's pipeline. Line 6 was sold to Plains All American in approximately 1999. Further research has discovered an old abandoned section of 8" Line 6 (URS #25) that crosses the Dominguez Channel in the same general area, but was abandoned prior to 1964*" (BP

Petition, 2011). In a follow-up email by Donna M DiRocco, she states that the abandoned portion of the pipeline remains BP's asset, even though it has not been in service since approximately 1964 (BP Petition, 2011).

4.6 URS #15 AND #22 (PLAINS, ARCO/BP)

Research at the OSFM indicates that the 8" *Line 6* (URS #22) pipeline referenced above is owned by Plains and the status of the pipeline is "out of service". As stated above, the pipeline was sold to Plains in 1999 by ARCO/BP. Research at the OSFM also identified an active 16" crude oil pipeline (URS #15) within Perry Street which then crosses beneath the Dominguez Channel and continues into Lauder Street. The pipeline has also been referred to in various documents as the 16" *Four Corners Crude Oil* (in reference to ARCO/Four Corners Crude) and is owned by Plains.

4.7 URS #27 (APCI)

A Record Drawing dated July 5, 2002, prepared for APCI, indicates the presence of a 10" hydrogen pipeline that travels along the southwesterly access road of the Dominguez Channel. The pipeline is listed in the NPMS and designated as an "in service" hydrogen gas line operated by APCI.

This section includes a discussion of the information provided by the pipeline owners and operators pursuant to the Orders issued by the LARWQCB on December 13, 2011.

A summary of the submitted information specific to the LNAPL release area is presented in Table 2 (Submitted Pipeline Information Matrix). The supplied documentation for each pipeline has been organized by response number (Response #) included on Figure 3 (Assessment Area and Submitted Pipeline Information). A pipeline response number (Response #) and corresponding URS identification number (URS #) for each pipeline (assigned as part of the Interim Pipeline Assessment) are included in Table 2. In addition, pipelines addressed in Table 2 are shaded in Table 1 as a cross-reference. A summary of the pipeline responses by company are provided below along with a comparison of the findings described in the Interim Pipeline Assessment Results.

5.1 RESPONSE #01 (APCI)

Air Products and Chemicals, Inc. (APCI) provided information for an active 10" carbon steel pipeline (Response #01), which travels parallel along the westerly access road of the Dominguez Channel. The provided alignment of the pipeline correlates with previous research (URS #27), with hydrogen gas transport as the only pipeline use. APCI states that they installed the pipeline 11 years ago (2001) and that there has been no other owner or operator.

5.2 RESPONSE #02—#05 (SHELL)

Information provided by Shell Oil Products US (Shell) confirmed with the previous research for the *Dominguez Hills Crude Line #6* (Response #02), *Carson Plant Line #21* (Response #03), *Carson Plant Line #22* (Response #04), and *Ventura Field to Wilmington Inter-Refinery 4" Gasoline Line #18* (Response #05).

According to Shell, the *Dominguez Hills Crude Line #6* (Response #02) is an abandoned 6" carbon steel pipeline that transported crude oil. The abandoned segment crossing the Dominguez Channel was reportedly removed and the remaining ends and capped on each side of the channel. The provided alignment of the pipeline also compares with previous research (URS #10), with ownership by Shell.

Shell has identified Tesoro as the current owner of the *Carson Plant Line #21* (Response #03), an 8" carbon steel pipeline. Alignment and provided information up to 2007 (pipeline was sold to Tesoro in 2007) correlates with previous research (URS #19). Shell also indicated that the pipeline was used to transport lean diethanolamine (DEA) and jet fuel during Shell's ownership. Based on information provided by Tesoro (Response #17) it is reasonable to conclude that Response #03 and Response #17 are the same 8" pipeline.

The *Carson Plant Line #22* (Response #04) is an idle 8" carbon steel pipeline that transported fat DEA and water. The provided information and alignment of the pipeline correlate with previous research (URS #20), with ownership by Shell.

According to Shell, the *Ventura Field to Wilmington Inter-Refinery 4" Gasoline Line #18* (Response #05) is an abandoned 4" carbon steel pipeline that once transported gasoline. Shell also stated in their notes that "[in] 1974 – abandoned segments in the Dominguez Channel

[were] removed and remaining pipeline ends capped on either side of channel right-of-way" (Shell Submission 2012). The Shapefiles provided by Shell show the 4" pipeline capped at the southerly right-of-way of the channel and terminates at the intersection of Lauder Street and S. Edgar Street. A pipeline segment north of the channel was not indicated in the Shapefiles. Previous research also indicated an abandoned and capped 6" pipeline located along the 4" pipeline (URS #17). However, no alignment or information was provided for the 6" pipeline. Shell has been identified as the only owner of both the pipelines.

In addition to the Shell submittal, the LACDPW provided copies of a permit and completion notice from the LACFCD for the removal of a "utility bridge crossing" permitted to Shell Oil Company that extended over the Dominguez Channel just south of Carson Street. LACDPW also provided a copy of a letter from Shell Oil Company to the LACFCD confirming that removal of the "pipeline crossing" was completed on October 21, 1960. A 1954 aerial photo of Carson Street and the Dominguez Channel shows the crossing located at URS #17 (Figure 1). Based on these documents, it is likely that the Shell pipelines (4" gasoline pipeline described in Response #05 and the 6" pipeline identified as part of URS #17) were not buried beneath the channel and were abandoned no later than 1960 when the "pipeline crossing" was removed.

5.3 RESPONSE #06 (EXXONMOBIL)

ExxonMobil Pipeline Company (ExxonMobil) has identified Shell as the current owner of the *Amine Lines #7 and #8* (Response #06), which are two 8" steel pipelines with current operating status unknown. Alignment and provided information up to 1975 (pipelines were sold to Shell in May 15, 1975) compares with previous research (URS #18). However, Shell did not acknowledge ownership of the pipelines in its submittals. Shapefiles for the pipelines' alignment were not provided. Location of the amine lines were identified in an exhibit by ExxonMobil as traveling within the westerly access road of the Dominguez Channel.

5.4 RESPONSE #07 (CRIMSON)

Crimson Pipeline, LP (Crimson) provided information for the *Norwalk #1 – Dominguez Gathering Line* (Response #07). The pipeline is an inactive 6" steel line, which travels in a north-south orientation within the Perry Street right-of-way and then traverses along the easterly access road of the Dominguez Channel.

Previous research based on the LACFCD's Dominguez Channel Plan (Sheet 6), shows two 6" *Union Oil*¹ pipelines (URS #01 and URS #03) as intersecting near the Dominguez Channel and then traversing in parallel along the easterly access road of the Dominguez Channel. Based on the information provided, it is reasonable to conclude that the two 6" *Union Oil* pipelines (URS #01 and URS #03) shown in the LACFCD's plan is the single *Norwalk #1 – Dominguez Gathering Line* (Response #07).

In addition, information provided by Chevron EMC (Response #08) and ConocoPhillips (Response #16) both identified Crimson as the current owner of the 6" *Union Oil* pipeline. It is reasonable to conclude that Response #07, Response #08, and Response #16 are the same 6"

¹ Union Oil Company, dba Unocal merged with Chevron Corporation in 2005 and became a wholly-owned subsidiary.

gathering line; and are the same line initially identified as two lines (URS #01 and URS #03) in the Interim Pipeline Assessment.

5.5 RESPONSE #08—#09 (CHEVRON EMC)

Chevron Environmental Management Company (Chevron EMC) has identified Crimson as the current owner of the 6" *Dominguez No. 2* pipeline (Response #08). As described earlier, it is reasonable to conclude that Response #07, Response #08, and Response #16 are referring to the same 6" *Union Oil* pipeline (URS #01 and URS #03).

According to Chevron EMC, a 6" *Lease to Field Dept. for Wastewater Line* (Response #09) is an inactive 6" steel pipeline that once transported crude oil and then wastewater. The pipeline has also been identified to be the same 6" *Union Oil* pipeline (URS #02) with ownership by Unocal.

5.6 RESPONSE #10—#11 (PLAINS)

Plains All American Pipeline, L.P. (Plains) provided information for *Line 093D* (Response #10). The pipeline is an active 16" carbon steel pipeline currently used to transport crude oil. The provided information and alignment of the pipeline correlates with previous research (URS #15) passing beneath the channel, with Plains as the current owner.

Plains also provided information for *Line 006A* (Response #11). The pipeline is an inactive 8" carbon steel pipeline that was used to transport crude oil. The provided specifications for the pipeline compare with previous research (URS #22), with Plains as the current owner. However, the pipeline alignment obtained from the Shapefiles provided by Plains differs from the alignment reported in the Interim Pipeline Assessment. Previous research has shown the pipeline crossing the Dominguez Channel at the north side of the Carson Street Bridge (Figure 2), whereas the Shapefile shows the pipeline crossing beneath the Carson Street Bridge (Figure 3).

Plains has reportedly owned the pipelines since 2006. From 1999 to 2006, ownership is reported as Pacific Pipeline System, LLC. Prior to 1999, ownership is reported as ARCO/BP.

5.7 RESPONSE #12—#15 (BP)

Information provided by BP Pipelines (North America), Inc. (BP) includes *Line 211* (Response #12), *Line 1R* (Response #13), *Line 1* (aka R266-1) (Response #14), and *Line 6* (aka R66-6) (Response #15).

Line 211 (Response #12) is an active 12" carbon steel pipeline that originally transported crude oil and since 2000 has been transporting natural gas. The pipeline specifications correlate with previous research (URS #23), with ownership by ARCO/BP since 1994. The portion of pipeline alignment from Shapefiles provided by BP differs from AECOM's² exhibit (part of BP submission) and previous research; the discrepancy noted is the section of pipe beneath Carson Street. Previous research indicated an abandoned segment of pipeline (URS #26) that was rerouted to its current location of Response #12; however, no mention of this abandonment could be found in the BP submission.

² Atlantic Richfield Company is the entity that manages remediation activities for BP, who in turn obtained petroleum forensics review services from AECOM.

According to BP, *Line 1R* (Response #13) is an abandoned 10" carbon steel pipeline that once transported crude oil. BP also stated in their notes that "*1R refers to the portion of Line 1 that had to be replaced and rerouted in 1963 due to the widening of the Dominguez Channel. 1R also includes the remainder of the line within the one-mile radius. 1R was subsequently abandoned in 1994 due to the Northridge earthquake. It was subsequently purged with Nitrogen*" (BP Submission 2012). A Shapefile for the pipeline alignment was not provided by BP. However, AECOM's exhibit and previous research show *Line 211* and *Line 1R* along parallel alignments. The pipeline specifications correlate with previous research (URS #21), with ownership by ARCO/BP since 1994.

According to BP, *Line 1* (aka *R266-1*) (Response #14) is an abandoned 10" carbon steel pipeline that once transported crude oil. The pipeline was reportedly abandoned in 1963 due to widening of the channel. A Shapefile for the pipeline alignment was not provided by BP. However, AECOM's exhibit and previous research confirm the alignment of the abandoned pipeline, which terminates at S. Edgar St. (south of I-405) to the south. In addition, the provided information correlates with previous research (URS #24), with ownership by ARCO/BP since 1994.

The portion of an 8" carbon steel pipeline identified as *Line 6* (aka *R266-6*) (Response #15) by BP was noted as abandoned in 1963 due to widening of the channel. BP also noted that the "remainder [of the pipeline] was sold to Pacific Pipelines (Plains) in 1999" (BP Submission 2012). A Shapefile for the pipeline alignment was not provided by BP. However, AECOM's exhibit and the provided information correlates with previous research (URS #25), with ownership of the abandoned portion by BP since 2000. This pipeline appears to terminate at S. Edgar St. (south of I-405) at approximately the same location as the Plains *Line 006A* (Response #11), which is assumed to be the "remainder" of the pipeline south of that location.

5.8 RESPONSE #16 (CONOCOPHILLIPS)

ConocoPhillips Company (ConocoPhillips) has identified Crimson as the current owner of *Line 700A2-001* (Dominguez Estates Portion of Norwalk Trunk Line) (Response #16). As described earlier, it is reasonable to conclude that Response #07, Response #08, and Response #16 are referring to the same 6" *Union Oil* pipeline. According to previous research, the 6" *Union Oil* pipeline (previously noted as two pipelines URS #01 and URS #03) was sold to Tosco³ in 1997 and then to Crimson in 2008.

5.9 RESPONSE #17 (TESORO)

Based on submittals by Tesoro Corporation (Tesoro), the *Carson Plant Line #21* (Response #17) is an active 8" carbon steel pipeline that is used to transport jet fuel. Based on information provided by Shell (Response #03) it is reasonable to conclude that Response #03 and Response #17 are the same 8" pipeline. The provided information and alignment of the pipeline correlates with previous research (URS #19), owned by Tesoro since 2007 and previously owned by Shell since circa 1975.

³ Tosco merged into Phillips Petroleum in 2001, and Conoco and Phillips subsequently merged on August 30, 2002 to become ConocoPhillips.

Presented in this Pipeline Assessment Update are the findings incorporated from an earlier Pipeline Assessment Interim Report dated December 8, 2011, along with the findings from recent submittals by pipeline owners and operators that responded to a December 13, 2011 Order by the LARWQCB for additional information on pipeline operations. The Pipeline Assessment Interim Report included information on 27 pipelines (URS #01 to URS #27) with reported ownerships by ConocoPhillips, Crimson, Shell, BP, Plains and APCI. There were 17 company responses (Response#01 to Response#17) provided by APCI, Shell, ExxonMobil, Crimson, Chevron, Plains, BP, ConocoPhillips, and Tesoro for 15 of the pipelines (URS #01, URS #02, URS #03, URS #10, URS #15, URS #17, URS #18, URS #19, URS #20, URS #21, URS #22, URS #23, URS #24, URS #25, and URS #27) located within the Pipeline Assessment area. No new pipelines were identified within this area, but there were several differences observed from the earlier pipeline descriptions.

Some major differences from what was initially described in the Pipeline Assessment Interim Report are as follows:

- A 4" abandoned pipeline (and possibly a 6" abandoned pipeline) that was owned by Shell (URS #17) was reported to carry gasoline and crossed the Dominguez Channel south of Perry St. Additional information obtained from LACDPW indicates that the pipeline likely crossed the Dominguez Channel aboveground on a "utility bridge" and not beneath the channel. Therefore, the Shell pipeline likely did not exist beneath the channel where LNAPL has been observed.
- The pipeline *Norwalk #1 – Dominguez Gathering Line* owned by Crimson appears to be a single pipeline that was initially identified as two pipelines (URS #01 and URS #03).
- The pipeline alignment obtained from Shapefiles provided by Plains *Line 006A* differs from the alignment reported in the Interim Pipeline Assessment. Previous research has shown the pipeline (URS #22) crossing the Dominguez Channel at the north side of the Carson Street Bridge (Figure 2), whereas the Shapefile shows the pipeline crossing beneath the Carson Street Bridge (Resp#11, Figure 3).

In addition to the above differences, many of the abandoned pipelines identified in the Pipeline Assessment Interim Report (URS #04, URS #05, URS #06, URS #08, URS #09, URS #11, URS #12, URS #13, URS #14, URS #16, and URS #26) were not addressed in the company responses.

Also, Plains reported the ownership of one active (URS #15) and one inactive (URS #22) pipeline as belonging to Plains from 2006 to present, Pacific Pipeline System from 1999 to 2006, and ARCO/BP prior to 1999. However, information regarding the historical use of these pipelines could not be found in the BP submittals. The URS#15 pipeline is buried beneath the channel where LNAPL has been observed.

The conclusions presented in this report are professional opinions based solely upon the data described herein. They are intended exclusively for the purpose outlined in this report and the location and project indicated. This report was prepared for the sole use and benefit of RELLC. The scope of services performed in execution of this Pipeline Assessment Update may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Given that the scope of services for this assessment was limited, and that conditions may vary between the points explored, it is possible that currently unrecognized conditions may be present within the assessment area. Should site use or conditions change, the information and conclusions in this report may no longer apply. Opinions relating to pipeline conditions are limited to data obtained from this assessment and actual conditions might vary from those encountered at the times and resources where data were obtained. No express or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed by RELLC with the customary thoroughness and competence of professionals working in the same area on similar projects.

- Air Products and Chemicals, Inc., *Mobil Torrance Pipeline Project 10" H2 Pipeline Alignment Drawings 2137-A-112 and 113.*
- BP Petition, 2011. *A-2163(a) – BP Pipelines (North America) Inc. [13267 Order Regarding Dominguez Channel Site].* May 26.
- BP Submission, 2012. Submission of Pipelines Inventory in Response to Order by LARWQCB.
- Chevron Petition, 2011. *A-2163(c) – Chevron Environmental Management Company [13267 Order Regarding Dominguez Channel Site] Part 1 and 2.* May 26.
- City of Carson Engineering Department, *Pipeline Map No. W-222.*
- ConocoPhillips Petition, 2011. *A-2163(b) – ConocoPhillips Company [13267 Order Regarding Dominguez Channel Site] Part 1 and 2.* May 26.
- C₂REM, 2001. *Pipeline Abandonment Report Perry Street Investigation Shell Oil Company.* November 9.
- Crimson. 2011. Response letter to Mr. Greg Bishop, LARWQCB re: Requirement for Technical Report Dominguez Channel Carson, California. May 6.
- Crimson Petition, 2011. *A-2163(d) – Crimson Pipeline, L.P. [13267 Order Regarding Dominguez Channel Site].* May 26.
- Harding ESE, 2002. *Well Installation Work plan (For Chevron Texaco Heritage Site No. 21-1316).* October 4.
- Los Angeles County Department of Public Works (LACDPW), *Land Records Substructure Map No. W-222.*
- Los Angeles County Department of Public Works (LACDPW) Geotechnical and Materials Engineering Division, Geology Investigations Unit, *Levee Side Subdrain System Dominguez Channel Carson, California Figures 2-5.*
- Los Angeles County Flood Control District (LACFCD), *Dominguez Channel Wilmington Ave. To Avalon Blvd. Channel Excavation, Clay Lining and Stone Revetment Plan and Profile Sta. 318+67.78 to Sta. 329+00 Sheets 4-6.*
- Mobil, 1975. *Quitclaim Deed and Agreement (From Mobil to Shell).* May 15.
- Montgomery Watson, 2001. *Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area, Perry Street and 215th Place, Carson, California.* April 30.
- PHR Environmental Consultants, 1998. *Phase I Environmental Site Assessment: Vince's Automotive Specialties 1209 East Carson Street Carson, California.* June 19.
- Shell Oil, *Dominguez Hill Crude Trunk Line Drawing Y-1413.*
- Shell Oil, *Abandoned Inter-Refinery Pipelines Wilmington & Dominguez Refineries Drawings Y-5166-H, Y-5166-J and Y-5166-K.*
- Shell Oil, *Ventura Product Line Drawings Y-3080 and Y-4023.*

SECTIONEight

References

- Shell Oil, *Carson - Van Nuys PDX Line 6" Product Line D.W.P. R/W Alignment Drawing Y-3085.*
- Shell Submission, 2012. Submission of Pipelines Inventory in Response to Order by LARWQCB.
- Tesoro Petition, 2011. *A-2163(e) – Chevron Environmental Management Company [13267 Order Regarding Dominguez Channel Site] Part 1, 2 and 3.* May 26.
- Unocal, 2001. Response Letter to Ms. Wendy Liu, LARWQCB re: Tosco Perry Street Pipeline Request for Pipeline Information. November 7.
- U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA), *National Pipeline Mapping System (NPMS), Public Map Viewer.*
- URS, 2011. *Light Non-Aqueous Phase Liquid Release Assessment Report. Water Code Section 13267 Order Dated May 26, 2011, Requiring Technical Reports for Dominguez Channel Site, South of Carson Street, Carson, Los Angeles County.* October 20.
- Western Oil & Gas Association (WOGA), *Long Beach - Wilmington harbor Area Oil Handling Facility Map.*

Tables

PIPELINE ASSESSMENT DATA MATRIX
 (December 8, 2011 Submittal)
 Dominguez Channel South of Carson Street
 Carson, California
 (Page 1 of 8)

URS ID	OSFM ID	Owner [see notes]	Site [inches] and Material	Pipeline ID Used in Dominguez Channel	Product	Contact	Pipeline Status	Pipeline Route		References	Notes
								1	2		
01	NA	ConocoPhillips	6"	6" Union Oil, Dominguez Gathering Pipeline	Crude Oil		Pipeline is not shown in the National Pipeline Mapping System.	LACDPW, Land Records Substrata Map No W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 3. 3) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 4) Well Installation Work Plan for Chevron Teaco Heritage Site No. 2-1316(1) Plate No. 4 (Harding ESE 2002). 5) Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area, Perry Street and 215th Place, Carson, California (Montgomery Watson 2003). 6) Unocal Response Letter (to Ms Wendy Liu LARWQCB) (Unocal 2001). 7) Pipeline Abandonment Report, Perry Street Investigation, Shell Oil Company (CIREM 2001).	[Unocal letter to LARWQCB (Unocal 2001) states that the pipeline was sold in 1997 to Tosco as part of the sale of 76 Products. Tosco was later acquired by Phillips Petroleum who later merged with Conoco to form ConocoPhillips in 2002.]		
02	NA	ConocoPhillips	6"	6" Union Oil, Dominguez Gathering Pipeline	Wastewater		Pipeline is not shown in the National Pipeline Mapping System.	LACDPW, Land Records Substrata Map No W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 3. 3) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 4) Well Installation Work Plan for Chevron Teaco Heritage Site No. 2-1316(1) Plate No. 4 (Harding ESE 2002). 5) Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area, Perry Street and 215th Place, Carson, California (Montgomery Watson 2003). 6) Unocal Response Letter (to Ms Wendy Liu LARWQCB) (Unocal 2001). 7) Pipeline Abandonment Report, Perry Street Investigation, Shell Oil Company (CIREM 2001).	[Unocal letter to LARWQCB (Unocal 2001) states that the pipeline was sold in 1997 to Tosco as part of the sale of 76 Products. Tosco was later acquired by Phillips Petroleum who later merged with Conoco to form ConocoPhillips in 2002.]		
03	NA	Crimson	6"	6" Union Oil, Dominguez Gathering Pipeline	Crude Oil		Crimson response letter (to Mr. Greg Bishop) (ABWWQCB) (Crimson 2011) recognized that Crimson does own an idle crude oil pipeline which parallels and is adjacent to the Dominguez Channel in the vicinity of the site. This pipeline is known as the Dominguez Gathering pipeline. It's a 6-inch diameter crude oil pipeline originally constructed by Unocal. "It is currently unclear as to which of the three 6-inch "Union Oil" lines, observed along the northeast levee of the channel (URS ID 01, 02, or 03), belongs to Crimson.	LACDPW, Levee Side Subdrain System Dominguez Channel, Figures 3, 4 and 5. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 3. 3) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 4) Crimson Response Letter (to Mr. Greg Bishop) (ABWWQCB) (Crimson 2011). 5) Crimson Petition, 13267 Order Regarding Dominguez Channel Site (Crimson 2011).	The additional 6" pipeline is depicted in the LACDFC's plans		

PIPELINE ASSESSMENT DATA MATRIX
 (December 8, 2011 Submittal)
 Dominguez Channel South of Carson Street
 Carson, California
 (Page 2 of 8)

UNS ID	CSFM ID	Owner [see notes]	Site Size [inches] and Material	Product	Contact	Pipeline Status	Pipeline Route		References	Notes
							Notes			
04	NA	Shell	8" Steel	Gasoline		[ACDPW, Land Records Substructure Map No. W-222 shows the pipeline is abandoned in August 1973. Pipeline Abandonment Report (C,REM 2001) shows the pipeline as abandoned in April 1971.]	The pipeline travels within Perry St and Carson St; then crosses beneath the Dominguez Channel near the northern edge of Carson St bridge and continues into Recreation Road. The overall inter-refinery pipeline operated between the Dominguez Refinery and the Wilmington Refinery.	[1] ACDPW, Land Records Substructure Map No. W-222. [2] ACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. [3] Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" Hs Pipeline Alignment Drawing 2137-A-13. [4] Well Installation Work Plan for Chevron Texaco Heritage Site No. 21-3316 Plate No. 4 (Harding ESE 2002). [5] Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C,REM 2001).	The pipeline was constructed in October 1926 and the length of the pipeline is approximately 2.8 miles (14,784 ft).	
05	NA	Shell	12" Steel	12" Shell Oil, No. 17 S.R. Residue Line and 12" Equilin		[ACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in August 1973. Pipeline Abandonment Report (C,REM 2001) shows the pipeline as abandoned in April 1971.]	The pipeline travels within Perry St and Carson St, then crosses beneath Dominguez Channel near the northern edge of the Carson St bridge and continues into Recreation Road. The overall inter-refinery pipeline operated between the Dominguez Refinery and the Wilmington Refinery.	[1] ACDPW, Land Records Substructure Map No. W-222. [2] ACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. [3] Shell Oil, Abandoned Inter-Refinery Pipelines, Wilmington & Dominguez Refineries Drawing Y-5166-H, Y-5166-J and Y-5166-K. [4] Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" Hs Pipeline Alignment Drawing 2137-A-13. [5] Well Installation Work Plan for Chevron Texaco Heritage Site No. 21-3316 Plate No. 4 (Harding ESE 2002). [6] Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C,REM 2001).	The pipeline was constructed in February 1933.	
06	NA	Shell	12" Steel	12" Shell Oil, No. 15 Hot Oil Line and 12" Equilin		[ACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in August 1973. Pipeline Abandonment Report (C,REM 2001) shows the pipeline as abandoned in April 1971.]	The pipeline travels within Perry St and Carson St, then crosses beneath Dominguez Channel near the northern edge of the Carson St bridge and continues into Recreation Road. The overall inter-refinery pipeline operated between the Dominguez Refinery and the Wilmington Refinery.	[1] ACDPW, Land Records Substructure Map No. W-222. [2] ACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. [3] Shell Oil, Abandoned Inter-Refinery Pipelines, Wilmington & Dominguez Refineries Drawing Y-5166-H, Y-5166-J and Y-5166-K. [4] Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" Hs Pipeline Alignment Drawing 2137-A-13. [5] Well Installation Work Plan for Chevron Texaco Heritage Site No. 21-3316 Plate No. 4 (Harding ESE 2002). [6] Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C,REM 2001).	The pipeline was constructed in August 1942 and the length of the pipeline is approximately 2.8 miles (14,784 ft).	
07	Not Installed	Shell	12"	12" Shell Oil Subdrain Pipeline						The proposed 12" pipeline was to be 11.5 miles (60,720 ft) long. According to Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C,REM 2001), the pipeline was never constructed and field observations confirmed the absence of the pipeline.

PIPELINE ASSESSMENT DATA MATRIX
 (December 8, 2011 Submittal)
 Dominguez Channel South of Carson Street
 Carson, California
 (Page 3 of 8)

URS ID	OSPM ID	Owner [see notes]	Size (inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status		Pipeline Route	References	Notes
							Current	Historical			
08	NA	Shell	6" Steel	6" Shell Oil and 6" Dominguez Hill Fuel Line (Replacement pipeline segment located within Perry St only)	Crude Oil		The segment of pass-through pipeline (within Perry St only) was a replacement for the 6" Dominguez Hill Fuel Line segment within Perry St. (see URS#09). The replacement pipeline segment traverses along the eastern side of Perry St, then joins the original 6" Dominguez Hill Fuel Line (see URS#10) at the intersection of Perry St and Carson St.	The segment of pass-through pipeline Map No. W-222, (within Site No. 22-1316) Plate No. 4 (Harding Est. 2002). 3. Pipeline Abandonment Report (C-REM 2001). 4) Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	[1] LACDPW, Land Records Substructure Map No. W-222, [2] Well Installation Work Plan (for Chevron Texaco Heritage Site No. 22-1316) Plate No. 4 (Harding Est. 2002). [3] Pipeline Abandonment Report (Perry Street Investigation; Shell Oil Company) (C-REM 2001). [4] Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The replacement pipeline segment within Perry St only was constructed in June 1967.	
09	NA	Shell	6" Steel	6" Shell Oil and 6" Dominguez Hill Fuel Line (Pipeline segment being replaced located within Perry St only)	Crude Oil		The segment of pass-through pipeline (within Perry St only) was abandoned in May 1962. Pipeline Abandonment Report (C-REM 2001) shows the pipeline as abandoned in June 1962.	The segment of pass-through pipeline (within Perry St only) was replaced by the 6" Dominguez Hill Fuel Line segment within Perry St (see URS#08).	[1] LACDPW, Land Records Substructure Map No. W-222, [2] Shell Oil, Dominguez Hill Crude Trunk Line Drawing Y- 133, [3] Shell Oil, Abandoned Inter-Refinery Pipelines, Whittier [4] Dominguez Refineries Drawings Y-S166-H, Y-S166-J and Y- S166-K, [5] Well Installation Work plan (for Chevron Texaco Heritage Site No. 22-1316) Plate No. 4 (Harding Est. 2002). [6] Pipeline Abandonment Report (Perry Street Investigation; Shell Oil Company) (C-REM 2001). [7] Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The overall pipeline was constructed in November 1938 and joins the original 6" Dominguez Hill Fuel Line (see URS#10) at the intersection of Perry St and Carson St.	
10	NA	Shell	6" Steel	6" Shell Oil, 6" Dominguez Hill Crude Line and 6" Equilon	Crude Oil		The pass-through pipeline starts at the intersection of the replaced 6" Dominguez Hill Fuel Line segment (URS#08) at the intersection of Perry St and Carson St. It crosses the Dominguez Channel, Figure 2. The overall pipeline (6" Dominguez Hill Fuel Line Drawing Y- 1613) starts along the Carson St Segment and continues into Macarthur Road.	[1] LACDPW, Land Records Substructure Map No. W-222, [2] LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. [3] Shell Oil, Abandoned Inter-Refinery Pipelines, Whittier [4] Dominguez Refineries Drawings Y-S166-H, Y-S166-J and Y- S166-K [5] Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" HD Pipeline Alignment Drawing 2137-A-13. [6] Pipeline Abandonment Report (Perry Street Investigation; Shell Oil Company) (C-REM 2001). [7] Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The overall pipeline was constructed in November 1938.		

Note : Pipeline(s) of interest listed above are summarized in Table 2.

TABLE 1
PIPELINE ASSESSMENT DATA MATRIX
(December 8, 2011 Submittal)
Dominguez Channel South of Carson Street
Carson, California
(Page 4 of 8)

URS ID	CSFMID	Owner [see notes]	Size (inches)	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Notes
11	NA	Shell	6" Steel	6" Shell Oil and 6" Ventura Gas Line (Replacement pipeline segment located within Perry St only)	Gasoline		The segment of pipeline within Perry St only was a replacement for the 6" Ventura Gas Line segment within Perry St (see URS#12). The replacement pipeline segment traverses along the eastern side of Perry St. It then joins the original 4" Ventura Gas Line (see URS#13) at the intersection of Perry St and Carson St.	1) LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in August 1973. Pipeline Abandonment Report (C-REM 2001) shows the pipeline as abandoned in April 1971.
12	NA	Shell	4" Steel	4" Ventura Gas Line (Pipeline segment being replaced located within Perry St only)	Gasoline		The overall pipeline originated between the Dominguez Hills production fields and/or transport locales to either unrefined refinery complex.	1) LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in June 1962.
13	NA	Shell	4" Steel	4" Shell Oil & 4" Shell Gasoline, 4" Ventura Gas Line and 4" Equilon	Gasoline		The overall pipeline spans at the intersection of the replaced 6" Ventura Gas Line segment (URS#11) at the intersection of Perry St and Carson St, then crosses the Dominguez Channel along the eastern side of bridge and continues into Recitation Road.	1) LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in August 1973. Pipeline Abandonment Report (C-REM 2001) shows the pipeline as abandoned in April 1971.

Sources: References or Hyperlinks found above are further detailed in Table 2.

PIPELINE ASSESSMENT DATA MATRIX
 (December 8, 2011 Submittal)
 Dominguez Channel South of Carson Street
 Carson, California
 (Page 5 of 8)

URS ID	OSFMID	Owner [see notes]	Size [inches] and Material	Product	Contact	Pipeline Status	Pipeline Route		References	Notes
							Pipeline ID Used in Reference Materials	Notes		
14	NA	Shell	10" Steel	Gasoline	LACDPW, Land Records Substructure Map No. W-222 shows the pipeline last abandoned in August 1973.	The abandoned gasoline pipeline travels within Perry St. and Carson St. then crosses beneath the Dominguez Channel near the northern edge of Carson St bridge and continues into Recreation Road.	[1] LACDPW, Land Records Substructure Map No. W-222. [2] LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. [3] Shell Oil, Abandoned Inter-Refinery Pipelines: Wilmington & Dominguez Refineries Drawing Y-5166-H, Y-5166-J and Y-5166-K. [4] Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawing 2137-A-113 [5] Well Installation Work Plan [for Chevron Texaco Heritage Site No. 21-1316] Plate No. 4 (Harding ESE 2002). [6] Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C.REM 2001). [7] Phase Environmental Site Assessment: Vince's Automotive Specialties, 209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The pipeline was constructed in May 1926 and the length of the pipeline is approximately 2.8 miles (14,784 ft).		
15	1103	Plains All American Pipeline	16" Four Corners Crude Oil, Pipeline 93 and 16" ARCO Pipeline	Crude Oil	John Riffato IB District Terminal Manager (562) 728-2346	Per Office of the State Fire Marshal, Lakewood Office, the pipeline is active.	The active oil pipeline travels within Perry St. then crosses beneath the Dominguez Channel and continues into Lauder St.	[1] LACDPW, Land Records Substructure Map No. W-222. [2] LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 3. [3] Shell Oil, Abandoned Inter-Refinery Pipelines: Wilmington & Dominguez Refineries Drawing Y-5166-H, Y-5166-J and Y-5166-K. [4] Western Oil & Gas Association Long Beach - Wilmington Harbor Area Oil Handling Facility Map [5] Well Installation Work Plan [for Chevron Texaco Heritage Site No. 21-1316] Plate No. 4 (Harding ESE 2002). [6] Work Plan for investigation and remediation of Perry Street Pipeline, Investigation Area (Montgomery Watson Segundo, Conoco-Phillips Torrance, Tank Farm and Shell Refineries, 7) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C.REM 2003). [8] Office of the State Fire Marshal, Lakewood Office. [9] National Pipeline Mapping System, Public Map Viewer.	Office of the State Fire Marshal has Plains All American listed as the current owner. American Pipeline has Pacific	
16	NA	Shell	6" Shell Oil	6" Shell Oil	LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in July 1960.	The listed references show the pipelines as abandoned. The various references also show the section of pipelines crossing the Dominguez Channel as having been removed and capped.	References to this segment of pipeline only appear in the LACDPW, Land Records Substructure Map No. W-222. 2) Well Installation Work Plan [for Chevron Texaco Heritage Site No. 21-1316] Plate No. 4 (Harding ESE 2002).	References to this segment of pipeline only appear in the LACDPW, Land Records Substructure Map No. W-222. 2) Well Installation Work Plan [for Chevron Texaco Heritage Site No. 21-1316] Plate No. 4 (Harding ESE 2002).		
17	NA	Shell	4" and 6" Shell Oil	4" and 6" Shell Oil	LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in July 1960.	The listed references show the pipelines as abandoned. The various references also show the section of pipelines crossing the Dominguez Channel as having been removed and capped.	The abandoned pipelines traverse in a north-south alignment. The portion of the pipelines crossing the Dominguez Channel have been removed and capped at both sides of the channel. The southern portion of the pipelines identified into LACCD S. 5) Shell Oil, Venture Products Line Drawing Y-4023, 10" H, Pipeline Alignment Drawing 2137-A-112 [6] LACCD Permit and Completion Notice for the removal of utility signage just south of Carson Street. [7] Shell Oil Company letter addressed to LACCD confirming removal of a "pipeline crossing" just south of Carson Street completed on October 21, 1960	According to documents from LACCD and Shell, these pipelines crossed the channel on a utility bridge and were not buried beneath the channel. And, the pipelines were abandoned no later than 1960 when the utility bridge was removed.		

PIPELINE ASSESSMENT DATA MATRIX
 (December 8, 2011 Submittal)
 Dominguez Channel South of Cannon Street
 Carson, California
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UNS ID	OSFM ID	Owner [see notes]	Site [inches] and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
18	NA	Shell	(2) 8"	LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2, 3, 4 and 5 Products and Chemicals Drawing 2137-A-172 both show the pipelines as abandoned.	Ethanol-Amine 8" Mobil Amino Line	Daniel Gabel Terminal and Pipeline Manager (310) 522-6602 daniel.gabel@oco corp.com 1930 East Pacific Coast Highway Long Beach, CA 90744	In operation	1) LACDPW, Levee Side Subdrain System Dominguez Channel, Figures 2, 3, 4 and 5 2) LACFCO, Dominguez Channel, Wilmington Ave To Avalon Blvd, Channel Excavation, Cliv Unlpe and Stone Removal Plan and Profile, Sta. 318-67.78 to Sta 329-00, Sheet 6. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawings 2137-A-112 and 113. 4) Quitclaim Deed and Agreement, from Mobil Oil to Shell Oil.	Mobil Oil release and quitclaim the two pipelines to Shell Oil in May 1975. Total distance of the two pipelines is approximately 8.1 miles (42,768 ft).	
19	BP	Teoro	8"	Line 21, Pipeline 0366 and 8" Equilon/Shell	Jet Fuel	Daniel Gabel Terminal and Pipeline Manager (310) 522-6602 daniel.gabel@oco corp.com 1930 East Pacific Coast Highway Long Beach, CA 90744	In operation	1) LACDPW, Levee Side Subdrain System Dominguez Channel, Figures 2, 3, 4 and 5. 2) Shell Oil, Carson - Van Nuys PDX Line 6" Product Line D.W.P. RW Alignment Drawing Y-3085 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawings 2137-A-112 and 113. 4) Teoro Petition, 13267 Order Regarding Dominguez Channel Site (Teoro 2011). 5) Office of the State Fire Marshal, Lakewood Office. 6) National Pipeline Mapping System, Public Map Viewer.	The pipeline travels in a parallel direction within the southwesterly access road of the Dominguez Channel. The overall pipeline operates between Teoro's Refinery to Shell's Carson Terminal.	Teoro began operating line 21 in May 2007 after it purchased the asset from Equilon (dba Shell).
20	0367	Shell	8"	Line 22, Pipeline 0367 and 8" Equilon/Shell	Water	Shawn Hansson Asset Integrity Engineer (713) 241-3469 shawn.hansson@shell.com 777 Walker Street Houston, TX 77002	In operation	1) LACDPW, Levee Side Subdrain System Dominguez Channel, Figures 2, 3, 4 and 5. 2) Shell Oil, Carson - Van Nuys PDX Line 6" Product Line D.W.P. RW Alignment Drawing Y-3085 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawings 2137-A-112 and 113. 4) Office of the State Fire Marshal, Lakewood Office. 5) National Pipeline Mapping System, Public Map Viewer.	The pipeline travels in a parallel direction within the southwesterly access road of the Dominguez Channel. The overall pipeline operated between Unocal Carson, 1622 E Sepulveda to Shell Carson, 20845 S Wilmington Blvd.	The length of the pipeline is approximately 3.1 miles (16,368 ft).
21	NA	BP	10"	Line 1, EX, Pipeline 1r, 10" R-266 Oil Line - 10"	Past used for Crude service		In operation	1) LACDPW, Levee Side Subdrain System Dominguez Channel Figure 2. 2) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawing 2137-A-113. 3) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 4) BP Petition, 13267 Order Regarding Dominguez Channel Site (BP 2011)	Pipeline is not shown in the National Pipeline Mapping System. Research at the Office of the State Fire Marshal, Lakewood Office did not yield any information regarding a pipeline that is 10" in diameter at that location.	BP Petition (BP 2011) states that "The R-266 is a designation from the old WOGA (Western Oil and Gas) maps (map is no longer produced). The "R" designation stood for Atlantic Richfield. The 266 was a sequential WOGA number given to two Richfield lines, an 8" oil and a 10" oil. In this case it is referring to 10" Line 1 and 8" Line 6. Line 1 is now BP's pipeline. Line 6 was sold to Plains All American in approximately 1999. Further research has discovered an old, abandoned section of 8" line which crosses the Dominguez Channel in the same general area but was abandoned prior to 1994."

TABLE I
PIPELINE ASSESSMENT DATA MATRIX
(December 8, 2011 Submittal)
Dominguez Channel South of Carson Street
Carson, California
(Page 7 of 8)

URS ID	OSRM ID	Owner [see notes]	Size [inches] and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
22	0081	Plains All American Pipeline	8"	Line 6, 8" ARCO, 8" Richfield Oil and R-266 Oil Line-8*	Drained/Water (Office of State Fire Marshal), Pass used for Crude service	John Rillato LB District Terminal Manager (562)728-2346	The pipeline is not shown in the National Pipeline Mapping System. Research at the Office of the State Fire Marshal, Lakewood Office showed an 8" pipe as owned by Plains All American and as out of service.	The pipeline travels in a parallel direction with the northeasterly access road of the Dominguez Channel. It then crosses beneath 66' Dominguez Channel north of Carson St. and continues into Recreation Road.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawing 2137-A-113. 4) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map 5) BP Petition 13267 Order Regarding Dominguez Channel Site (BP 2013). 6) Office of the State Fire Marshal, Lakewood Office.	BP Petition (BP 2011) states that "The R-266 is a designation from the old WOGA (Western Oil and Gas) maps (maps no longer produced). The 'R' was a sequential WOGA number given to two Richfield lines, an 8" oil and 10" oil. In this case it is referring to 10" Line 1 and 8" Line 2... Line 1 is now BP's pipeline, line 6 was sold to Plains All American in approximately 1995. Further inspection has discovered an abandoned segment of 8" Line 6 which crosses the Dominguez channel in the same general area but was abandoned prior to 1964."
23	NA	BP	12"	12" Chevron Hills Gas, 12" ARCO 211 and 211 Soeder Carson Ref	Natural Gas	John Banda Superviso OCC & Land Terminals (562) 728-2644 bandaj@bp.com 5905 Paramount Long Beach, CA 90802	National Pipeline Mapping System shows the pipeline as 211 Soeder Carson Ref and as in service. Research at the Office of the State Fire Marshal, Lakewood Office did not yield any information regarding pipeline that is 12" in diameter at that location.	The pipeline travels in a parallel direction within the northeasterly access road of the Dominguez Channel. It then crosses approximately 15 ft below the bottom of the Dominguez Channel north of Carson St. and continues into Recreation Road.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawing 2137-A-113. 4) National Pipeline Mapping System, Public Map Viewer, 5) BP Petition 13267 Order Regarding Dominguez Channel Site (BP 2013). 6) Office of the State Fire Marshal, Lakewood Office.	The pipeline is shown as abandoned within the Dominguez Channel.
24	NA	BP	10"	Line 1, 1" Pipeline Jr, 10" ARCO 3" Richfield Oil and R-266 Oil Line-20"	Past used for Crude service		Abandoned portion of the pipeline is not shown in the National Pipeline Mapping System. Research at the Office of the State Fire Marshal, Lakewood office did not yield any information regarding the abandoned portion of the pipeline.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H, Pipeline Alignment Drawing 2137-A-113. 4) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 5) BP Petition 13267 Order Regarding Dominguez Channel Site (BP 2013).	10" is abandoned at the intersection. this pipeline is abandoned and relocated up to the intersection.	

PIPELINE ASSESSMENT DATA MATRIX
 (December 8, 2011 Submittal)
 Dominguez Channel South of Carson Street
 Carson, California
 (Page 8 of 8)

URS ID	OSFM ID	Owner [see notes]	Site [inches] and Material	Pipeline ID Used in Widespread/Material	Product	Contact	Pipeline Status	Pipeline Route	References		Notes
25	NA	BP	8"	Line 6, 8" Aliso, 8" Richfield Oil and R-266 Oil Line-# ^a (Pipeline segment within the Dominguez Channel only)	Past used for Crude service		Abandoned portion of the Pipeline is not shown in the National Pipeline Mapping System.	The abandoned segment of the pipeline within the Dominguez Channel was replaced by pipeline URS#22 north of Carson St. Project 10" H ₂ Pipeline Alignment Drawing 2137-A-13. Air Products and Chemicals Drawing 2137-A-113. this pipeline is abandoned and relocated up to the intersection.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H ₂ , Pipeline Alignment Drawing 2137-A-13. 4) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 5) BP Petition 13267 Order Regarding Dominguez Channel Site [BP 2011].	BP Petition (BP 2011) states that "The R-266 is a designation from the old WOGA (Western Oil and Gas) maps (now no longer produced). The 'R' designation stood for Atlantic Refined... The 266 was a sequential WOGA number designation given to two Richfield lines, an oil and a 10" oil. In this case it's referring to 10" oil and 8" Line 6. As far as we know, Line 1 and Line 6 have always been in Grade service and cross under the Dominguez Channel. Line 1 is now BP's pipeline. Line 6 was sold to Phillips 66 in approximately 1999."	
26	NA	BP	12"	12" Chevron Hills Gas, 12" Aliso 211 and 213 Stocker Carson RRF (Pipeline segment within the Dominguez Channel only)	Natural Gas		Abandoned portion of the Pipeline is not shown in the National Pipeline Mapping System.	The abandoned segment of the pipeline within the Dominguez Channel was replaced by pipeline URS#23 north of Carson St. Project 10" H ₂ , Pipeline Alignment Drawing 2137-A-13. Air Products and Chemicals Drawing 2137-A-113. this pipeline is abandoned and relocated up to the intersection.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H ₂ , Pipeline Alignment Drawing 2137-A-13. 4) Western Oil & Gas Association, Long Beach - Wilmington Harbor Area Oil Handling Facility Map. 5) BP Petition 13267 Order Regarding Dominguez Channel Site [BP 2011].	BP Petition (BP 2011) discussed pipeline #211 (URS #23), however the abandoned segment of this pipeline was not identified.	
27	NA		10"	Air Products and Chemicals	Air and 10" H ₂ Pipeline	H ₂	Air Products and Chemicals Drawing 2137-A-112 and 113. Show the pipeline as active.		1) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H ₂ Pipeline Alignment Drawing 2137-A-112 and 113.		

Note: Pipelines of Piping/Leaking/Potential Flow are further indicated on Table 2.

TABLE 2
SUBMITTED PIPELINE INFORMATION MATRIX
Dominguez Channel South of Carron Street
Carron, California
(Page 1 of 3)

Response	URS ID	CSF ID	Information Submitted By	Owner ID	Current Owner	Ownership History	Pipeline Status	Interpretation	Contact	Source
01	27		Air Products and Chemicals Line #165 [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	AFC	Air Products and Chemicals	General Petroleum (Mobil) 1965-d circa 1975 1) Shell Oil Company [circa 1975 to 7/13/1986] 2) Equilon Enterprises LLC [7/13/98 to 2/13/2002] 3) Equilon Enterprises LLC, dba Shell Oil Products US SOP US [2/13/2002 to 2007] 4) 2007 - Sold to Tesoro	Active	No records available	David Lloyd, Equilon Enterprises LLC Company LLC - Operator 10945 Wilmington Ave. Carson, CA 90703 (310) 816-2172 carlidge@eqpllc.com	API stated, "Our construction and maintenance records."
10	10	planned	Dominguez Hills Cruise Line #6 [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	Carsen Plant Line #21	Tesoro	General Petroleum (Mobil) 1965-d circa 1975 1) Shell Oil Company [circa 1975 to 7/13/1986] 2) Equilon Enterprises LLC [7/13/98 to 2/13/2002] 3) Equilon Enterprises LLC, dba Shell Oil Products US SOP US [2/13/2002 to 2007] 4) 2007 - Sold to Tesoro	Abandoned	No records available	David Lloyd, Equilon Enterprises LLC Company LLC - Operator 10945 Wilmington Ave. Carson, CA 90703 (310) 816-2172	API notes stated, "This pipeline was installed by Exxon Air Products and Chemicals Air Products and Chemicals in 2001 and has been the only owner and operator. Their only product transported is clean and dry gaseous hydrogen."
03	19		Carsen Plant Line #21 [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	Carsen Plant Line #21	Tesoro	General Petroleum (Mobil) 1965-d circa 1975 1) Shell Oil Company [circa 1975 to 7/13/1986] 2) Equilon Enterprises LLC [7/13/98 to 2/13/2002] 3) Equilon Enterprises LLC, dba Shell Oil Products US SOP US [2/13/2002 to 2007] 4) 2007 - Sold to Tesoro	Not provided	Not provided, directed to contact Tesoro	David Lloyd, Equilon Enterprises LLC Company LLC - Operator 10945 Wilmington Ave. Carson, CA 90703 (310) 816-2172	API notes stated, "Night of Way"
04	04		Carsen Plant Line #22 [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	Shell	General Petroleum (Mobil) 1965-d circa 1975 1) Shell Oil Company [circa 1975 to 7/13/1986] 2) Equilon Enterprises LLC [7/13/98 to 2/13/2002] 3) Equilon Enterprises LLC, dba Shell Oil Products US SOP US [2/13/2002 to present]	Abandoned with section within Dominguez Channel removed	Not provided	Not provided, directed to contact Tesoro	David Lloyd, Equilon Enterprises LLC Company LLC - Operator 10945 Wilmington Ave. Carson, CA 90703 (310) 816-2172	API notes stated, "Night of Way"
05	17	Not provided	Ventura #10 With gas right #18 [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	Shell	General Petroleum (Mobil) 1965-d circa 1975 1) Shell Oil Company [circa 1975 to 7/13/1986] 2) Equilon Enterprises LLC [7/13/98 to 2/13/2002] 3) Equilon Enterprises LLC, dba Shell Oil Products US SOP US [2/13/2002 to 2007] 4) 2007 - Sold to Tesoro	Abandoned	No records available	David Lloyd, Equilon Enterprises LLC Company LLC - Operator 10945 Wilmington Ave. Carson, CA 90703 (310) 816-2172	API notes stated, "Night of Way"	
06	18	Not provided	Amine Units #7 and 8 [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	Amine (194-1975)	Sold to Shell 5/15/1975	Sold to Shell 5/15/1975	N	Not provided	David Lloyd, Equilon Enterprises LLC Company LLC - Operator 10945 Wilmington Ave. Carson, CA 90703 (310) 816-2172	API notes stated, "Night of Way"
07	437		Novak #1, Dominguez Gathering [Information regarding the pipeline alignment was provided in an exhibit and in the Shapefile.]	ExxonMobil Pipeline Company [ExxonMobil]	ExxonMobil Pipeline Company [ExxonMobil]	ExxonMobil Pipeline Company [ExxonMobil]	Not provided	Not provided	David Bradley, Exxon 1649 Beachview Lane Long Beach, CA 90803 (562) 395-9465	API notes stated, "Night of Way"
08			Unocal (Original Owner) 1) Unocal (1991-2003) 2) Tesco (1991-2003) 3) Conoco Phillips (2003-2008) 4) Phillips 66 (2008-Present)	Unocal (Original Owner) 1) Unocal (1991-2003) 2) Tesco (1991-2003) 3) Conoco Phillips (2003-2008) 4) Phillips 66 (2008-Present)	Unocal (Original Owner) 1) Unocal (1991-2003) 2) Tesco (1991-2003) 3) Conoco Phillips (2003-2008) 4) Phillips 66 (2008-Present)	Unocal (Original Owner) 1) Unocal (1991-2003) 2) Tesco (1991-2003) 3) Conoco Phillips (2003-2008) 4) Phillips 66 (2008-Present)	Not provided	Not provided	Not provided	API notes stated, "Night of Way"

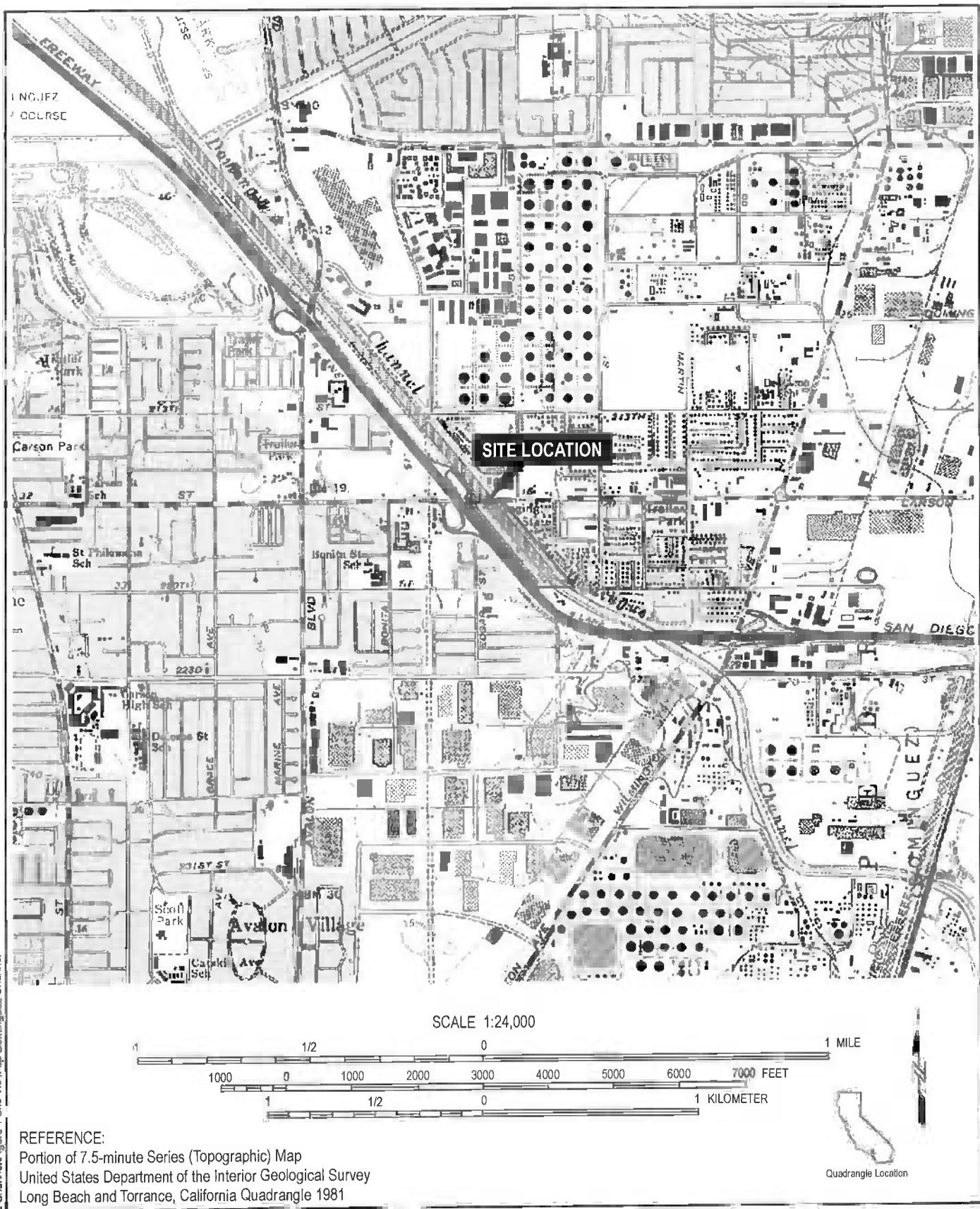
TABLE 2
SUBMITTED PIPELINE INFORMATION MATRIX
Dominguez Channel South of Carson Street
Carson, California
(Page 2 of 3)

Information Matrix-Final | Date: 12-20-2012

TABLE 2
SUBMITTED PIPELINE INFORMATION MATRIX
Dominguez Channel South of Carson Street
Carson, California

Response	URID	CSFM ID	Owner ID	Current Owner	Information Submitted By	Dimensions History	Site Address	Product	On-Waterfront	Pipeline Status	Notes	Contact	Source				
21	Not provided	Line 1R	BP	BP [US Pipelines]	[Information regarding the pipeline alignment was provided in an exhibit only.]	1) Whiting Gas (1912-1928) 2) LA Midway Pipeline Co. (1924-1928) 3) ARCO Pipeline Co. (1928-1969) 4) Four Corners (1968-1978) 5) ARCO Pipeline Co. (1994-2000) 6) BP (2000-Present)	10 Carbon Steel 1) Abandoned 2) [1994-Present]	Crude Oil (1928-1969)	No	Abandoned	Hydrated since June 2002 [BP stated, "BP refers to the portion line 1 that had to be replaced and removed in 1969 due to the washing of the Dominguez Channel. BP also includes the remainder of line within the subsequently abandoned in 1994 due to the Northridge earthquake. It was subsequently purged with Nitrogen.]	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Donna M. DiRocco, BPP	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Donna M. DiRocco, BPP	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	
24	provided	Line 1 (aka 1Rc)	BP	BP [US Pipelines]	[Information regarding the pipeline alignment was provided in an exhibit only.]	1) Whiting Gas (1912-1924) 2) LA Midway Pipeline Co. (1924-1928) 3) Richfield Oil Co. (1928-1965) 4) ARCO (1966-1978) 5) Four Corners (1978-1984) 6) ARCO Pipeline Co. (1994-2000) 7) BP (2000-Present)	10 Carbon Steel 1) Abandoned 2) [1994-Present]	Crude Oil (1928-1963)	No	Abandoned	Hydrated, "Abandoned in 1963 due to welding of Dominguez Channel."	No data available	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Donna M. DiRocco, BPP	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Donna M. DiRocco, BPP	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.
35	25	Line 6 [aka 62bc-5]	Not provided	BP	[Information regarding the pipeline alignment was provided in an exhibit only.]	1) Richfield Oil Co (1928-1961) 2) ARCO (1968-1978) 3) Four Corners Pipeline (1974-1994) 4) Pacific Pipeline Co. (1994 - Present, except abandoned portion) 5) Pacific Pipeline (1995 - Present, except abandoned portion) 6) BP (2000-Present, abandoned portion)	Crude Oil (1928-1963)	No	Abandoned	Hydrated July 1983 [BP stated, "Portion abandoned in 1963 due to welding of the Dominguez Channel. Remainder sold to Pacific Pipeline (Plains) in 1999"]	No	Hydrated	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Donna M. DiRocco, BPP	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Donna M. DiRocco, BPP	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.
16	01_03	70002-003 (Dominion) Burras Portion of Norwalk Trunk Line	Not provided	CronosOilCo Company (CronosOilCo)	[Information regarding the pipeline alignment was provided in an exhibit only.]	1) Sold from ConocoPhillips to Crimson in May 1, 2004 2) Union Oil Company of California, et al. Unocal 3) Tosco merged into Phillips Petroleum in 2001, and Unocal and Phillips subsequently merged on August 30, 2002 to become ConocoPhillips.	Crude Oil	Crude Oil	Hydrated	Terry O.	Acting	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Terry O.	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	Terry O.	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.	
17	Not provided	70002-003 (Dominion)	Not provided	Terry O.	[Information regarding the pipeline alignment was provided in an exhibit only.]						Not provided	1) Locations of pipelines can be found in Los Angeles Thomas Guide, page 756. 2) Construction Material of all pipelines is assumed to be carbon steel based on industry standards. 3) Information regarding pipeline site, commodity, status, and current ownership is derived from an ARCO [Information Database]. 4) Information regarding the historic ownership is derived from historical Right-of-Way records. 5) Integrity test information is derived from project files.					

Figures



REFERENCE:

REFERENCE:
Portion of 7.5-minute Series (Topographic) Map
United States Department of the Interior Geological Survey
Long Beach and Torrance, California Quadrangle 1981

SITE VICINITY MAP

Project No.: 29868838

Date: August 2011

Project: DOMINGUEZ CHANNEL INVESTIGATION
RESOURCE ENVIRONMENTAL LLC (RELLC)

Figure 1

URS

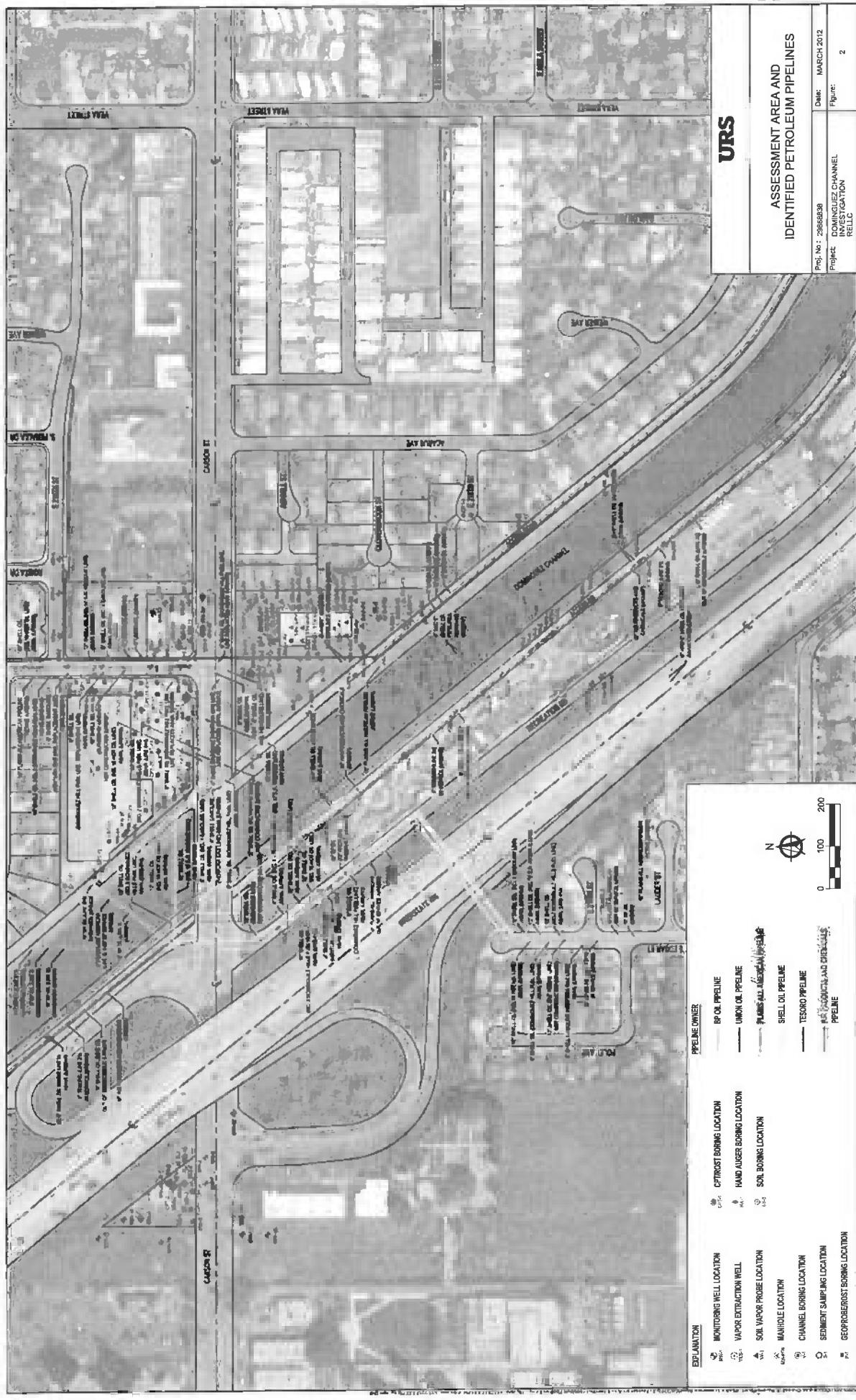


EXHIBIT B

Basis for Naming Responsible Parties

Basis for Naming Responsible Parties
Dominguez Channel Release, Carson, California
Cleanup and Abatement Order No. R4-2012-0103

Responsible Party	Pipelines (URS ID)	Product Type	Basis for being named a Responsible Party
Chevron Corporation (Chevron)	01, 03	Crude Oil	Chevron Corporation is named as a successor to Union Oil Company of California and Unocal California Pipeline Company which previously owned the pipeline(s).
	02	Crude Oil; Wastewater	Chevron Corporation is named as a successor to Union Oil Company of California and Unocal California Pipeline Company which previously owned the pipeline(s).
Phillips 66	01, 03	Crude Oil	Phillips 66 is named as a successor to Tosco, Phillips Petroleum, and ConocoPhillips Company which previously owned the pipeline(s).
Shell Oil Products US (Shell)	04	Gasoline	Owner of inter-refinery pipeline.
	05	Unknown	Owner of inter-refinery pipeline.
	06	Hot Oil	Owner of inter-refinery pipeline.
	08, 09, 10	Crude Oil	Owner of pipeline.
	11, 12, 13, 14	Gasoline	Owner of pipelines forming a connection between Dominguez Hills production fields and/or bifurcated refinery complex.
	16	Unknown	Owner of pipeline.
	17	Unknown	Owner of pipeline.
	18	Amine	Owner of pipeline.
	19	Lean Diethanolamine (DEA); Jet Fuel	Owner of pipeline.
	20	Fat Diethanolamine (DEA); Water	Owner of pipeline.
BP p.l.c. (BP)	15	Crude Oil	Successor to Richfield Oil Company, Atlantic Richfield Company (ARCO), Four Corners Pipeline Company, and ARCO Pipeline Company, which formerly owned the pipeline.

"URS ID" refers to a sequential pipeline numbering system presented within *Pipeline Assessment Update* dated April 22, 2012, prepared by URS Corporation. Readers are referred to this report for additional information about each pipeline.

EXHIBIT C

Monitoring and Reporting Program

MONITORING AND REPORTING PROGRAM FOR CLEANUP AND ABATEMENT ORDER NO. R4-2013-0007

This Monitoring and Reporting Program is part of Cleanup and Abatement Order (CAO) No. R4-2013-0007. Failure to comply with this program constitutes noncompliance with the CAO and the California Water Code, which can result in the imposition of civil monetary liability. All sampling and analyses shall be by USEPA-approved methods or by other methods the Regional Board may approve for this project. The test methods chosen for detection of the constituents of concern shall be subject to review and concurrence by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board).

Laboratory analytical reports to be included in technical reports shall contain a complete list of chemical constituents which are tested for and reported on by the testing laboratory. In addition, the reports shall include both the method detection limit and the practical quantification limit for the testing methods. All samples shall be analyzed within the allowable holding time for the method being used. All quality assurance/quality control (QA/QC) samples must be run on the same dates when samples were actually analyzed. Proper chain of custody procedures must be followed and a copy of the completed chain of custody form(s) shall be submitted within reports. All analyses must be performed by a California Department of Public Health accredited laboratory, unless otherwise approved by the Regional Board.

The Regional Board's *Quality Assurance Project Plan, September 2008*, can be used as a reference and guidance for project activities involving sample collection, handling, analysis and data reporting. The guidance is available on the Regional Board's web site at:

http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/Board_SGV-SFCleanupProgram_Sept2008_QAPP.pdf

GROUNDWATER MONITORING

To facilitate a groundwater monitoring program, the Dischargers shall submit a work plan for groundwater sampling and monitoring from all the existing shallow aquifer groundwater monitoring wells within the A- and B-zones. The work plan shall include proposed figures to be included in future groundwater monitoring reports.

After approval by the Regional Board Executive Officer, implement the work plan and report results in accordance with the Time Schedule.

REMEDIATION SYSTEMS

Reporting requirements shall be proposed within the required Interim Remedial Action Plan and any Remedial Action Plans. Reporting requirements will be evaluated by the Regional Board once the remediation methods are known.

MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted or parameters and locations removed or added by the Executive Officer if Site conditions indicate that the changes are necessary.

REPORTING REQUIREMENTS

1. The Dischargers shall report all monitoring data and information as specified herein and as may be approved in response to work plans submitted by the Dischargers.
2. The Regional Board may revise these monitoring reporting requirements or make more specific monitoring reporting requirements from time-to-time, particularly after reviewing work plans for groundwater monitoring or remedial actions.

Reports that do not comply with the Regional Board's content or reporting requirements may be rejected by the Regional Board and the Dischargers shall be deemed to be in noncompliance with the Monitoring and Reporting Program.

EXHIBIT D

Time Schedule

TIME SCHEDULE
CLEANUP AND ABATEMENT ORDER NO. R4-2013-0007

Directive	Due Date
1 Submit a work plan for containment of petroleum hydrocarbons and associated wastes.	April 30, 2013
Implement the work plan and report results in accordance with the approved work plan schedule.	To be determined
2 Submit a work plan to remove and legally dispose of petroleum hydrocarbons and associated wastes within both channel sub-drain systems.	April 30, 2013
Implement the work plan and report results in accordance with the approved work plan schedule.	To be determined
3 Submit an Interim Remedial Action Plan (IRAP) to stop the discharge of petroleum hydrocarbons and associated wastes to the surface waters of the Dominguez Channel.	August 30, 2013
Implement the IRAP work plan and report results in accordance with the approved work plan schedule.	To be determined
4 Develop and Update a Site Conceptual Model (SCM)	July 1, 2013¹ or sooner if needed to justify actions proposed in the Master Work Plan (Directive 5a)
Provide SCM updates in future technical reports.	To be determined
5 Complete Delineation of Wastes	
5a Submit a Master Work Plan	May 31, 2013
5b Submit subsequent Work Plans	To be determined
Implement the Master Work Plan and any subsequent Work Plans and report results in accordance with the approved work plan schedule.	To be determined
6 Prepare a Human Health Risk Assessment (HHRA) if requested by the Regional Board.	To be determined

¹ The Regional Board notes that a SCM was already submitted within *Supplemental Site Assessment Report*, dated April 30, 2012, prepared by URS. If the Responsible Parties all agree with this SCM, then a declaration may be submitted to the Regional Board indicating the agreement among Responsible Parties in lieu of a revised SCM. Alternatively, the July 1, 2013, due date for the SCM remains.

	Directive	Due Date						
7	Conduct Remedial Action							
7a	Develop a comprehensive Remedial Action Plan (RAP)	To be determined						
7b	Submit Quarterly Remediation Progress Reports	To be determined						
7c	Implement the RAP and report results in accordance with the approve work plan schedule	To be determined						
7d	Submit revisions to the RAP or additional RAP(s) if required by the Regional Board	To be determined						
8	Conduct Groundwater Monitoring Submit a Work Plan for groundwater sampling and monitoring. Submit an initial groundwater monitoring report for the January to July 2013 period Submit periodic groundwater monitoring reports in accordance with the following schedule:	April 2, 2013 July 31, 2013 January 31 (each year) July 31 (each year)						
	<table border="1"> <thead> <tr> <th>Monitoring Period</th><th>Report Due Date</th></tr> </thead> <tbody> <tr> <td>January – June</td><td>July 31</td></tr> <tr> <td>July – December</td><td>January 31</td></tr> </tbody> </table>	Monitoring Period	Report Due Date	January – June	July 31	July – December	January 31	
Monitoring Period	Report Due Date							
January – June	July 31							
July – December	January 31							

PROOF OF SERVICE

STATE OF CALIFORNIA, COUNTY OF LOS ANGELES

At the time of service, I was over 18 years of age and **not a party to this action**. I am employed in the County of Los Angeles, State of California. My business address is 1000 Wilshire Boulevard, Suite 600, Los Angeles, California 90017-2463.

On March 11, 2013, I served true copies of the following document(s) described as **PETITION FOR REVIEW AND REQUEST FOR HEARING** on the interested parties in this action as follows:

State Water Resources Control Board
Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
P.O. Box 100
Sacramento, CA 95812-0100
Telephone: (916) 341-5155
Facsimile: (916) 341-5199
E-Mail: jbashaw@waterboards.ca.gov

BY E-MAIL OR ELECTRONIC TRANSMISSION: I caused a copy of the document(s) to be sent from e-mail address odanaka@caldwell-leslie.com to the persons at the e-mail addresses listed in the Service List. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

BY OVERNIGHT DELIVERY: I enclosed said document(s) in an envelope or package provided by the overnight service carrier and addressed to the persons at the addresses listed in the Service List. I placed the envelope or package for collection and overnight delivery at an office or a regularly utilized drop box of the overnight service carrier or delivered such document(s) to a courier or driver authorized by the overnight service carrier to receive documents.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on March 11, 2013, at Los Angeles, California.

Margie Odanaka
Margie Odanaka

PROOF OF SERVICE

STATE OF CALIFORNIA, COUNTY OF LOS ANGELES

At the time of service, I was over 18 years of age and **not a party to this action**. I am employed in the County of Los Angeles, State of California. My business address is 725 South Figueroa Street, 31st Floor, Los Angeles, California 90017-5524.

On March 11, 2013, I served true copies of the following document(s) described as **PETITION FOR REVIEW AND REQUEST FOR HEARING** on the interested parties in this action as follows:

Mr. Darrell Fah
BP p.l.c., BP Pipelines (North America) Inc.
4 Centerpointe Drive
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Attorneys for Chevron

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Four Embarcadero Center, 22nd Floor
San Francisco, CA 94111
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Attorneys for Chevron Environmental Management Company and Phillips 66 Company

BY OVERNIGHT DELIVERY: I enclosed said document(s) in an envelope or package provided by the overnight service carrier and addressed to the persons at the addresses listed in the Service List. I placed the envelope or package for collection and overnight delivery at an office or a regularly utilized drop box of the overnight service carrier or delivered such document(s) to a courier or driver authorized by the overnight service carrier to receive documents.

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On March 11, 2013, I served true copies of the following document(s) described as **PETITION FOR REVIEW AND REQUEST FOR HEARING** on the interested parties in this action as follows:

Samuel Unger
California Regional Water Quality Control
Board - Los Angeles Region
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013
Tel.: (213) 576-6600
E-Mail: sunger@waterboards.ca.gov

BY PERSONAL SERVICE: I personally delivered the document(s) to the person being at the addresses listed in the Service List. (1) For a party represented by an attorney, delivery was made to the attorney or at the attorney's office by leaving the documents in an envelope or package clearly labeled to identify the attorney being served with a receptionist or an individual in charge of the office. (2) For a party, delivery was made to the party or by leaving the documents at the party's residence with some person not less than 18 years of age between the hours of eight in the morning and six in the evening.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on March 11, 2013, at Los Angeles, California.

Apex Attorney Services

1 CALDWELL LESLIE & PROCTOR, PC
2 MICHAEL R. LESLIE, State Bar No. 126820
leslie@caldwell-leslie.com
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4 725 S. Figueroa Street, 31st Floor
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Telephone: (213) 629-9040
5 Facsimile: (213) 629-9022

6 Attorneys for Petitioner EQUILON ENTERPRISES
LLC dba SHELL OIL PRODUCTS US

**STATE WATER RESOURCES CONTROL BOARD
FOR THE STATE OF CALIFORNIA**

1 In the Matter of the Petition of

Case No.

12 | EQUILON ENTERPRISES LLC dba SHELL
OIL PRODUCTS US

REQUEST FOR STAY

Cleanup and Abatement Order R4-2013-0007
California Regional Water Quality Control
Board, Los Angeles Region

California Water Code §§ 13267 and 13304

I. INTRODUCTION

In accordance with Water Code section 13321(a) and section 2053 of Title 23 of the California Code of Regulations, Equilon Enterprises LLC dba Shell Oil Products US (“Equilon”) hereby requests a stay of Cleanup and Abatement Order R4-2013-0007 (“CAO”) issued by the California Regional Water Quality Control Board, Los Angeles Region (the “Regional Board”) pursuant to Sections 13304 and 13267 of the Water Code. A copy of the CAO is attached as Exhibit 2 to Equilon’s Petition for Review and Request for Hearing (“Petition”) filed herewith.

The grounds for stay are set forth below and in the Petition and supporting Declaration of Gene Freed filed herewith and incorporated herein by reference. Because of the imminent deadlines contained in the CAO, Equilon requests that the State Board issue the requested stay and conduct a hearing on this matter as soon as possible.

1 In its Petition for Review, Equilon explains that the Regional Board named Equilon in the
2 CAO despite lacking any evidence that any of the pipelines associated with Equilon in the
3 vicinity of the Dominguez Channel have discharged waste into the environment or that any such
4 discharge (if it exists) caused the contamination observed in the Dominguez Channel. Thus, the
5 Regional Board lacks any basis for naming Equilon in the CAO and, on that basis, the CAO
6 should be rescinded. However, while this Petition is under review by the State Water Board,
7 Equilon still faces numerous deadlines as set forth in the CAO that begin in April 2013 and
8 continue through 2013 and beyond. For this reason, Equilon respectfully requests that the State
9 Board stay the CAO until it has an opportunity to address Equilon's Petition on the merits, as
10 well as any other petitions filed by the other parties named in the CAO.

11 **II. A STAY OF THE EFFECT OF THE 13267 LETTER IS WARRANTED IN THIS**
12 **CASE**

13 Under Section 2053 of the State Board's regulations (23 Cal. Code Regs. § 2053), a stay
14 of the effect of an order shall be granted if Equilon shows:

- 15 (1) substantial harm to petitioner or to the public interest if a stay is not granted;
16 (2) a lack of substantial harm to other interested parties and to the public if a stay is
17 granted; and
18 (3) substantial questions of fact or law regarding the disputed action exist.

19 Here, the requirements for issuance of a stay are clearly met.

20 **A. *Equilon Will Suffer Substantial Harm If a Stay Is Not Granted***

21 The CAO (a copy of which is attached as Exhibit 2 to the concurrently filed Declaration
22 of Gene Freed ("Freed Decl.")) requires substantial work during the coming months, including
23 the following submissions and tasks:

- 24 • By April 30, 2013, Equilon and the other named parties must submit a work plan
25 for the containment of petroleum wastes from the Dominguez Channel and an
26 undefined larger area, and a work plan for the removal and disposal of
27 hydrocarbons within the Dominguez Channel sub-drain systems;
28 • By May 31, 2013, the parties must submit a master work plan;

- By July 1, 2013, the parties must submit a Site Conceptual Model;
- By April 2, 2013, the parties must submit a work plan for groundwater monitoring and by July 31, 2013, they must submit an initial groundwater monitoring report; and
- By August 30, 2013, the Parties must submit an Interim Remedial Action Plan.

The CAO also requires preparation of a Human Health Risk Assessment and development and implementation of a comprehensive Remedial Action Plan (“RAP”) by some future undetermined dates.

The costs Equilon would incur to comply with the CAO’s directives likely would exceed \$1 million. (Freed Decl., ¶ 8.) Thus, unless a stay of the CAO is granted, Equilon either will have to undertake substantial measures immediately and continuing for years to attempt to comply with the numerous directives and deadlines set forth in the CAO, or it will face the threat of administrative sanctions, which include substantial daily penalties. Either way, Equilon will incur substantial harm which can be avoided through a stay while the State Board considers the merits of Equilon’s petition. Moreover, Equilon understands that other named parties are also in the process of preparing petitions challenging the CAO. Because the Regional Board has stated that the different parties named in the CAO should coordinate their efforts, it is logical and efficient to await a determination on the various petitions before proceeding with the steps set forth in the CAO.

B. The Public Will Not Be Substantially Harmed If a Stay is Granted

There is no known risk of substantial harm to the public or to water quality if the stay is granted. This is because, as the Regional Board states in the CAO, the ongoing work by Resource Environmental LLC (“RELLC”) in the Dominguez Channel and the sub-drain systems has effectively stopped the appearance of the hydrocarbon sheen. (CAO, p. 4.) In fact, the Regional Board previously relied on the actions taken by RELLCC as the basis for its February 2012 rescission of a prior CAO issued to the Los Angeles Flood Control District to address the contamination in the Dominguez Channel. (Freed Decl., ¶ 6.) The Regional Board has not stated

1 how the situation has changed since that time, and, to the contrary, it has acknowledged in the
2 CAO that the sheen has disappeared.

C. The Petition Raises Substantial Questions of Law and Fact

4 Third, Equilon's Petition raises substantial questions of law and fact, namely whether or
5 not the Regional Board exceeded its authority in naming Equilon in the CAO based only on the
6 fact that Equilon has owned and operated pipelines in the vicinity of the Dominguez Channel.
7 As Equilon explains in its Petition, this fact alone is not sufficient to permit issuance of a CAO
8 pursuant to Section 13304 in the absence of substantial evidence that Equilon was responsible for
9 a discharge that caused the contamination. Equilon also requests the State Board review the
10 definition of "Site" used in the CAO, *viz.*, the section of the Dominguez Channel located
11 approximately 400 feet south of the Carson Street bridge, and "the surrounding area where
12 discharges of petroleum hydrocarbons in the subsurface have occurred." (CAO, p. 2.) This
13 additional language makes the scope of the CAO vague and potentially imposes obligations on
14 the named parties that are unrelated to the discharge or discharges into the Dominguez Channel
15 that are the subject of the CAO.

16 III. CONCLUSION

17 For the foregoing reasons, Equilon respectfully requests that the State Board stay the
18 CAO pending a decision on the merits of the concurrently filed Petition for Review and any other
19 petitions submitted by the other parties named in the CAO. Equilon requests that the State Board
20 expeditiously issue a stay as soon as possible in order to avoid irrecoverable investment of
21 resources in advance of a decision on the merits.

DATED: March 11, 2013

CALDWELL LESLIE & PROCTOR, PC
MICHAEL R. LESLIE
DAVID ZAFT

By

DAVID ZAFT

Attorneys for Petitioner EQUILON ENTERPRISES
LLC dba SHELL OIL PRODUCTS US

CALDWELL
LESLIE &
PROCTOR

PROOF OF SERVICE

STATE OF CALIFORNIA, COUNTY OF LOS ANGELES

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Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
P.O. Box 100
Sacramento, CA 95812-0100
Telephone: (916) 341-5155
Facsimile: (916) 341-5199
E-Mail: jbashaw@waterboards.ca.gov

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing, following our ordinary business practices. I am readily familiar with Caldwell Leslie & Proctor, PC's practice for collecting and processing correspondence for mailing. On the same day that the correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service, in a sealed envelope with postage fully prepaid.

BY E-MAIL OR ELECTRONIC TRANSMISSION: I caused a copy of the document(s) to be sent from e-mail address odanaka@caldwell-leslie.com to the persons at the e-mail addresses listed in the Service List. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on March 11, 2013, at Los Angeles, California.

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Attorneys for Chevron Environmental
Management Company and Phillips 66
Company

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party's residence with some person not less than 18 years of age between the hours of eight in the
morning and six in the evening.

15 I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on March 11, 2013, at Los Angeles, California.

Alexis Lee
Apex Attorney Services