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9 Attorneys for Petitioner,  
10 CHEVRON ENVIRONMENTAL MANAGEMENT  
11 COMPANY and PHILLIPS 66 COMPANY

12 STATE WATER RESOURCES CONTROL BOARD

13 \_\_\_\_\_  
14 In the Matter of the California Regional  
15 Water Quality Control Board – Los Angeles  
16 Region Cleanup and Abatement Order No.  
17 R4-2013-0007 Directed to Phillips 66  
18 Company re Site/Case: Dominguez Channel,  
19 South of Carson Street, Carson, California  
20 (SCP No. 1264; File No. 11-184)  
21 \_\_\_\_\_

22 **CHEVRON ENVIRONMENTAL  
23 MANAGEMENT COMPANY'S  
24 PETITION FOR REVIEW OF  
25 CLEANUP AND ABATEMENT  
26 ORDER TO PHILLIPS 66  
27 COMPANY; REQUEST FOR  
28 HEARING, AND REQUEST FOR  
STAY**

1 **I. PETITION FOR REVIEW OF CLEANUP AND ABATEMENT ORDER.**

2 Pursuant to section 13304 of the California Water Code and section 2050 of Title 23  
3 of the California Code of Regulations (“CCR”), Chevron Environmental Management  
4 Company (“CEMC” or “Petitioner”) petitions the State Water Resources Control Board  
5 (“State Board”) to review the February 8, 2013 issuance of Cleanup and Abatement Order  
6 No. R4-2013-0007 (“Order”) by the California Regional Water Quality Control Board,  
7 Los Angeles Region (“Regional Board”) to Phillips 66 Company (“Phillips 66”).<sup>1</sup> A true  
8 and correct copy of the Order is attached as Exhibit 1 to the declaration of Todd Littleworth  
9 concurrently submitted in support of this Petition (hereafter, “Littleworth Decl.”).

10 Pursuant to Section 13320 of the California Water Code and Section 2053 of Title  
11 23 of the California Code of Regulations, Petitioner also requests that an order be issued  
12 staying the effect of the Order as to Phillips 66, and requests a hearing on this Petition.

13 **A. NAME, ADDRESS, TELEPHONE NUMBER AND EMAIL ADDRESS**  
14 **OF PETITIONER.**

15 Petitioner’s contact information is as follows:

16 Chevron Environmental Management Company (for Phillips 66)  
17 Attn: Mr. Todd Littleworth, Esq.  
18 Chevron Corporation - Law Department  
19 6001 Bollinger Canyon Road  
20 San Ramon, California 94583  
21 Telephone: (925) 842-9159  
22 Email: TLittleworth@chevron.com

23 Petitioner requests that copies of all communications and documents relating to this  
24 Petition also be sent to:

25 Amy E. Gaylord, Esq.  
26 Pillsbury Winthrop Shaw Pittman LLP  
27 Four Embarcadero Center, Suite 2200  
28 San Francisco, CA 94111  
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29 <sup>1</sup> CEMC petitions the State Board on behalf of Phillips 66 at Phillips 66’s request.

1 Steven L. Slagel  
2 Senior Counsel  
3 Phillips 66 Company  
4 PWC, 8119 Pinnacle  
5 3010 Briarpark Drive  
6 Houston, TX 77042  
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9 **B. THE SPECIFIC ACTION OF THE REGIONAL BOARD WHICH**  
10 **THE STATE BOARD IS REQUESTED TO REVIEW.**

11 Petitioner requests that the State Board review the Regional Board's issuance of its  
12 February 8, 2013, Cleanup and Abatement Order No. R4-2013-0007 relating to Site/Case:  
13 Dominguez Channel, South of Carson Street, Carson, California (SCP No. 1264; File No.  
14 11-184) as it is directed to Phillips 66.

15 **C. THE DATE ON WHICH THE REGIONAL BOARD ACTED.**

16 The Regional Board acted on February 8, 2013 when it issued the Order.

17 **D. STATEMENT OF REASONS THE REGIONAL BOARD'S ACTION**  
18 **WAS INAPPROPRIATE AND IMPROPER.**

19 The Order to Phillips 66 is improper because there is no evidence that Phillips 66 or  
20 any related entity "caused or permitted" a discharge to a water of the State, which is a  
21 required showing for issuance of a Cleanup and Abatement Order ("CAO") under Water  
22 Code section 13304. Specifically, there is no evidence there was any discharge from the  
23 pipeline cited by the Regional Board as the premise for naming Phillips 66 as a responsible  
24 party.

25 **A. Brief History of the Order.**

26 According to the Order, in January 2011, A petroleum sheen was discovered in the  
27 Dominguez Channel near its intersection with Carson Street in Carson, California. *See*  
28 Littleworth Decl., Ex. 1 at ¶ 5. The Dominguez Channel is a concrete lined flood control  
channel owned and operated by the Los Angeles County Flood Control District  
("LACFD"). It was discovered that petroleum hydrocarbons were being released from the

1 Channel bottom as well as from the sub-drain pipe system in the Channel's levees. The  
2 petroleum constituents have been characterized by the Regional Board as a mixture of a  
3 refinery intermediate (partially-refined petroleum product) primarily in the naptha range,  
4 with a small crude oil component representing less than five percent of the product in the  
5 least weathered samples. Littleworth Decl., Ex. 1 at ¶ 6 (Order, citing URS Corporation,  
6 2012).

7 The Regional Board has not yet identified the source(s) of the sheen. The area  
8 where the sheen was discovered is one of naturally occurring crude deposits, and significant  
9 petroleum production, including two active refineries. It is also an area of significant  
10 petroleum transport, as evidenced by the approximately 26 pipelines identified by the  
11 Regional Board in the immediate vicinity of the sheen, at least one of which crosses beneath  
12 the Dominguez Channel. See Littleworth Decl., Ex. 2 (Draft Order, Tbl. 1). The Regional  
13 Board's consultant, URS, has opined that there are "multiple potential sources."  
14 Littleworth Decl., Ex. 1 (Order at Ex. A, p. 1-1). In fact, the technical report prepared for  
15 the Regional Board which underlies the Order admits that "the sources of the release have  
16 yet to be identified." *Id.* at p. 2-1.

17 The Order does not specifically define the geographic area to which it applies,  
18 vaguely defining the "Site" as "a section of the Dominguez Channel, approximately 400  
19 feet south of the Carson Street bridge in Carson, California, and the surrounding area where  
20 discharges of petroleum hydrocarbons in the subsurface have occurred." Littleworth Decl.,  
21 Ex. 1 at ¶ 5 (Order, citing URS Corporation, 2012).

22 After discovery of the sheen, the Regional Board issued a series of investigatory  
23 orders pursuant to Water Code section 13267 to numerous entities in an effort to determine  
24 the source of the petroleum in the Dominguez Channel. The first round of investigatory  
25 orders was issued in April 2011. They were directed at service stations, a few pipeline  
26 operators, and other industrial/commercial facilities in the vicinity of the sheen  
27 ("Investigatory Orders").

1 In the meantime, after the Dominguez Channel sheen was discovered, Resources  
2 Environmental, LLC (“RELLC”) undertook work on behalf of its members—including  
3 Phillips 66—to address the sheen. RELLC has been undertaking containment and other  
4 activities since shortly after the discovery of the sheen, and CEMC understands that due to  
5 RELLC’s work, the sheen is not currently present. Littleworth Decl., at ¶ 5; *see also, id.*,  
6 Ex. 4.

7 On May 17, 2011, the Regional Board issued a CAO to LAFCD, as the owner and  
8 operator of the Dominguez Channel, directing it to “assess, monitor, cleanup the waste, and  
9 abate the effects of the ongoing discharge of LNAPL and other wastes within the  
10 Dominguez Channel, approximately 400 feet south of Carson Street in Carson, California.”  
11 Littleworth Decl., Ex. 3. A few months later, in February 2012, the Regional Board  
12 rescinded the CAO to LACFD, despite stating that “[a]s the owner of this infrastructure,  
13 LACFD is required to contain and clean up the discharge in the channel and channel  
14 infrastructure, including the subdrain piping and containment of any product discharged to  
15 the Dominguez Channel.” Littleworth Decl., Ex. 4. The Regional Board did not name  
16 LACFD in the instant Order. Littleworth Decl., Ex. 1.

17 In December 2011, the Regional Board issued a second round of investigatory  
18 orders under Water Code section 13267 addressing numerous pipelines in the vicinity of the  
19 Dominguez Channel sheen. These orders required the recipients to prepare and submit  
20 technical reports identifying all pipelines in the vicinity of the Channel (“Technical Report  
21 Orders”). ConocoPhillips Company (“ConocoPhillips”) received a Technical Report Order,  
22 which required the submission of an “inventory of all pipelines ever owned or operated by  
23 your company or any affiliated company that you are able to reasonably obtain records  
24 from that are located within one mile of the intersection of Carson Street and the  
25 Dominguez Channel in Carson, California.” Littleworth Decl., Ex. 5.

26 CEMC complied with the Technical Report Order, and identified one former Union  
27 Oil Company of California (“Union Oil”) related pipeline which carried crude oil and

1 which was sold in 1997 to Tosco (hereafter “Former Tosco Pipeline”). Littleworth Decl. at  
2 Ex. 6. That line came into ConocoPhillips’ ownership on January 1, 2003, when Tosco  
3 merged into ConocoPhillips Company. Declaration of Dan Fischman (“Fischman Decl.”)  
4 at ¶ 4. ConocoPhillips sold the line on July 1, 2008, when ConocoPhillips and Crimson  
5 California Pipeline, L.P. entered into a Purchase and Sale Agreement for a package of  
6 pipelines, including the Former Tosco Pipeline. *Id.* The Former Tosco Pipeline was not in  
7 use at the time it was sold to Tosco, and was not used at any time while it was owned by  
8 Tosco or ConocoPhillips. Fischman Decl. at ¶ 3.

9 As of May 1, 2012, ConocoPhillips split to become two separate, independent  
10 companies. Phillips 66 Company is the new downstream refining and marketing company  
11 which has assumed any responsibility that ConocoPhillips may have for the Former Tosco  
12 Pipeline. Phillips 66 is informed and believes that the Former Tosco Pipeline currently is  
13 owned by Crimson California Pipeline, L.P. *Id.* at ¶ 5.

14 Based on the information provided in the Technical Reports, in June 2012, the  
15 Regional Board issued a draft CAO to several current and former pipeline owners and  
16 operators, including: BP plc c/o Atlantic Richfield Company, CEMC, ExxonMobil  
17 Corporation c/o ExxonMobil Pipeline Company, Phillips 66, Plains All American Pipeline,  
18 L.P., and Shell Oil Products US. The Regional Board stated that the rationale for issuance  
19 of the Draft CAO to these parties was:

20 [P]ipeline operations at the Site date back at least 100 years, to 1912. Given the  
21 century-long pipeline activities at the Site, it is likely that materials transported  
22 through the pipelines at and near the Site may have changed over time and that  
23 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.

24 Littleworth Decl. Ex. 2, (Draft Order at p. 5, ¶11 (emphasis added).) The draft CAO named  
25 Phillips 66 as a responsible party for the Former Tosco Pipeline on the basis that “Phillips  
26 66’s predecessor companies owned and operated pipelines in the vicinity of the Site ...

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1 Phillips 66's pipelines reportedly transported crude oil. Crude Oil has been identified at the  
2 Site." *Id.* at 3.

3 On August 17, 2012, CEMC submitted written comments to the Regional Board on  
4 behalf of Phillips 66 and Union Oil Company of California ("Unocal"). CEMC challenged  
5 the Draft Order noting that Phillips 66 is not properly named as a responsible party under  
6 Water Code section 13304 because there is no evidence of a discharge from the Former  
7 Tosco Pipeline:

8 Basing a cleanup and abatement order on ownership or operation of a pipeline,  
9 without some evidence of a discharge from that line during the period of the  
10 responsible party's ownership or operation, is not envisioned by Water Code §  
11 13304 and is inconsistent with State Water Board decisions on point. The  
12 Water Code requires that to issue a cleanup order, there must be "substantial  
13 evidence" that the named party has caused or permitted waste to be discharged  
into the waters of the State ... Although the Draft Order uses the boilerplate  
language that "[s]ubstantial evidence" indicates that Unocal or Phillips "caused  
or permitted waste to be discharged into waters of the state" it fails to identify  
*any evidence of causation or permission to discharge* by Unocal or Phillips. As  
indicated above, there is no such evidence.

14 Littleworth Decl., Ex. 7.

15 In response, the Regional Board stated that the Order is appropriate because  
16 "intermediate and/or crude oil petroleum products [are] documented to have been  
17 transported through the Responsible Parties' pipelines ... these same materials have been  
18 detected at the Site." Littleworth Decl. at Ex. 1.

19 On February 8, 2013, the Regional Board issued the final Order to BP and its related  
20 entities, as well as Chevron Corporation, Phillips 66, and Shell Oil Products US. The Order  
21 names Phillips 66 because "its predecessor companies owned and operated pipelines in the  
22 vicinity of the Site ... [which] purportedly transported crude oil." Littleworth Decl. at Ex.  
23 1, p. 3. The line which is attributed to Phillips 66 is the Former Tosco Pipeline. The Order  
24 fails to cite any evidence of a discharge from this pipeline during the approximately eleven  
25 years it was owned by a predecessor of Phillips 66. In fact, Phillips does not believe the  
26 line was operated during Tosco's or ConocoPhillips' ownership. Fischman Decl. at ¶ 3.

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1 In short, the Regional Board’s position is that the mere ownership or operation of a  
2 pipeline in the vicinity of the site which once carried crude oil is sufficient to be named as a  
3 discharger, even absent any evidence of a discharge from that pipeline. The Regional  
4 Board’s position is a gross misstatement of California law and should be rejected.

5 **E. THE MANNER IN WHICH THE PETITIONER IS AGGRIEVED.**

6 Phillips 66 is aggrieved because the Order is not based on any evidence – let alone  
7 “substantial evidence” – of any discharge from the pipeline formerly owned by its  
8 predecessor during the period when its predecessor owned it.

9 **F. THE SPECIFIC ACTION BY THE STATE OR THE REGIONAL**  
10 **BOARD THAT PETITIONER REQUESTS.**

11 Petitioner requests that the State Board rescind the Order directed to Phillips 66.

12 Petitioner also requests a Stay as to Phillips 66 of the due dates in the Order while  
13 this petition is pending.

14 **G. STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF**  
15 **LEGAL ISSUES RAISED IN THE PETITION.**

16 The following statement of points and authorities in support of this petition  
17 incorporates the recitation of the facts set forth above.

18 1. **The Order Must Be Rescinded Because Phillips 66 Did Not Cause or**  
19 **Permit a Discharge.**

20 The Water Code requires that a cleanup order must be based on “substantial  
21 evidence” that the named party has caused or permitted waste to be discharged into the  
22 waters of the State:

23 Any person who has ... caused or permitted, causes or permits, or threatens to  
24 cause or permit any waste to be discharged or deposited where it is, or  
25 probably will be, discharged into the waters of the state and creates, or  
26 threatens to create, a condition of pollution or nuisance, shall upon order of the  
27 regional board, clean up the waste or abate the effects of the waste, or, in the  
28 case of threatened pollution or nuisance, take other necessary remedial action,  
including, but not limited to, overseeing cleanup and abatement efforts.

1 Water Code § 13304 (emphasis added). Here, there is no evidence that there was any  
2 discharge from the crude oil pipeline during the time period when Phillips 66 or any related  
3 entity owned it. In fact, there is no evidence that Phillips 66 or any predecessor company  
4 ever even operated the line. There is no evidence, therefore, that Phillips 66 caused or  
5 permitted a discharge. In fact, there is no evidence in the record that a discharge occurred  
6 from the Former Tosco Pipeline at all.

7 State Board and state court precedent requires that there be “substantial evidence”  
8 that a named party “caused or permitted” the discharge of waste in order to uphold a CAO.  
9 *See, In re Stinnes-Western Chemical Corporation*, WQ 86-19 (“We concluded that while  
10 we can independently review the Regional Board record, in order to uphold a Regional  
11 Board action, we must be able to find that the action was based on substantial evidence.”)

12 The State Board repeatedly has confirmed this standard:

13 There must be substantial evidence to support a finding of responsibility for  
14 each party named. This means credible and reasonable evidence which indicates the named party has responsibility.

15 *In re Exxon Company, et al.*, WQ 85-7, 1985 WL20026 (Cal.St.Wat.Res.Bd.) at \*6. See  
16 also, *TWC Storage, LLC v. State Water Resources Control Board*, 185 Cal. App. 4<sup>th</sup> 291  
17 (2010)(applying the substantial evidence standard to analogous language in Water Code  
18 section 13350 which provides that any person who “causes or permits a discharge is strictly  
19 liable”.)

20 In *Exxon*, the State Board rejected a regional board’s attempt to issue a cleanup  
21 order under Water Code section 13304 because there was insufficient evidence of  
22 ownership of the leaking tanks in issue. *Id.* at \*5. In doing so, the State Board expressly  
23 concluded that in order to impose liability under Water Code section 13304 there must be  
24 substantial evidence that the named party has caused or permitted a discharge:

25 We recognize the difficult position in which this places the Regional Board.  
26 In this case the Regional Board was searching to find responsible parties  
27 who could effectuate the cleanup. Fewer parties named in the order may well  
28 mean no one is able to clean up a demonstrated water quality problem. We  
also recognize that the Regional Board does not have infinite resources  
available to it to extensively search through various county files in a quest

1 for additional information. ... However, in order to name parties ... we  
2 believe there should be more evidence than we have before us currently.

3 *Id.* Accordingly, in *Exxon*, spotty tax records were deemed insufficient to establish  
4 ownership of tanks and the CAO was found improper due to lack of substantial evidence of  
5 a discharge by the tank owner. In its response to comments, the Regional Board summarily  
6 dismisses the *Exxon* decision, concluding that it does not apply because the issue in *Exxon*  
7 was whether there was substantial evidence of ownership of the underground storage tanks  
8 from which a discharge occurred, whereas here, the question is whether there is substantial  
9 evidence of a discharge. The Regional Board's strained argument does not fairly address  
10 the substantial evidence requirement.

11 The authority is clear that there must be substantial evidence that the named party  
12 caused or permitted a discharge. The State Board has said, "[i]n cases involving several  
13 potentially responsible parties, it is appropriate to name in cleanup orders all parties for  
14 which there is reasonable evidence of responsibility. There must be substantial evidence to  
15 support a finding for each party named." *In re U.S. Cellulose and Louis J. and Shirley D.*  
16 *Smith*, WQ 92-04, 1992 WL 88723 (Cal. St. Wat. Res. Bd.). Not only must there be  
17 substantial evidence that the responsible party caused or permitted the discharge, there also  
18 must be substantial evidence that the discharge has caused the contamination to be  
19 addressed by the order. *In re HR Texton, Inc.*, WQ 94-2, 1994 WL 86342 (Cal. St. Wat.  
20 Res.Bd.) (concluding that there was not substantial evidence in the record to "support a  
21 conclusion that the discharge of waste from the tanks has likely migrated to ground water,  
22 [and therefore] it was inappropriate for the RWQCB to [issue a CAO] to require a ground  
23 water investigation.")

24 Here, the Order cites no evidence that Phillips 66 caused or permitted a discharge;  
25 in fact, it fails to even assert there was a discharge from the relevant pipeline. Instead, the  
26 Order rests on the mere operation of the pipeline: "The transport of refinery intermediate  
27 and/or crude oil petroleum products documented to have been transported through the

1 Responsible Parties' pipelines is the basis for naming the Responsible Parties.'" Littleworth  
2 Decl., Ex. 1. The Regional Board's position is that the operation of a pipeline which at  
3 some point carried crude is sufficient to impose liability, even absent substantial evidence  
4 of a discharge from those pipelines.

5 In support of its position, the Regional Board points to State Board Order WQ 89-13  
6 (*In the Matter of the BOC Group, Inc.*) for the proposition that mere operation of a pipeline  
7 is sufficient evidence to justify issuance of the Order. It argues that in *BOC Group*, the  
8 State Board found it proper to name the former owner and operator of an underground  
9 storage tank as a responsible party because that tank contained contaminants of the type  
10 found at the site. Accordingly, the Regional Board argues that the mere existence of  
11 pipelines in the vicinity of the discharge, coupled with the nature of the discharge, is  
12 sufficient evidence to support the Order. But the facts in *BOC Group* are distinguishable  
13 from the instant case. In *BOC Group*, there was no other reasonably identifiable source of  
14 the contaminants. Therefore the fact that the UST contained the same contaminant which  
15 was found in surrounding soil was held to be sufficient circumstantial evidence that it was  
16 the source.

17 Contrary to *BOC Group*, the Order here identifies 18 different possible sources –  
18 and the underlying record mentions eight others. But it does not identify a release from  
19 any of them. Despite two prior rounds of investigatory orders to numerous parties in the  
20 vicinity of the Dominguez Channel sheen, there is no evidence to justify concluding that the  
21 Former Tosco Pipeline leaked during the ownership or operation by a predecessor of  
22 Phillips 66. There no evidence that Phillips 66's predecessors caused or permitted a  
23 discharge, and the threshold liability standard of Water Code section 13304 has not been  
24 met.

25 **H. THE PETITION HAS BEEN SENT TO THE REGIONAL BOARD**  
26 **AND TO THE DISCHARGER, IF NOT THE PETITIONER.**

27 A copy of this Petition has been sent to the Regional Board, and will be transmitted

1 to the other named parties in the Order.

2 **I. THE SUBSTANTIVE ISSUES OR OBJECTIONS RAISED IN THE**  
3 **PETITION WERE RAISED BEFORE THE REGIONAL BOARD.**

4 The history of Petitioner's communications with the Regional Board with regard to  
5 this Order is set forth above. CEMC provided comments on the Draft Order in a letter  
6 attached to the Declaration of Todd Littleworth as Exhibit 7.

7 **J. THE PETITIONER REQUESTS A HEARING ON THE ORDER.**

8 Petitioner requests a hearing on the Order. In support of this request, it makes the  
9 following points:

10 A summary of the arguments that Petitioner wishes to make at the hearing is  
11 provided in the Petition above.

12 A summary of the testimony or evidence the petitioner wishes to introduce is  
13 provided in the Petition above, including all documents referenced in this Petition, although  
14 Petitioner may supplement the testimony or evidence at the hearing.

15 **II. REQUEST FOR STAY.**

16 Petitioner requests a stay of the Order pending resolution of the issues raised in this  
17 Petition. This stay request is based on the accompanying declarations of Todd Littleworth,  
18 and Rick Horn, demonstrating the legal grounds set forth below.

19 Pursuant to section 2053 of the State Board's regulations (23 CCR § 2053), the  
20 effects of an order shall be stayed if the petitioner shows:

- 21 (1) Substantial harm to petitioner or to the public interest if a stay is not granted;  
22 (2) A lack of substantial harm to other interested parties and to the public if a  
23 stay is granted; and  
24 (3) Substantial questions of fact or law regarding the disputed action exist.

25 These requirements are met in this case.

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1           **A. Petitioner Will Suffer Substantial Harm if a Stay Is Not Granted.**

2           The Order requires significant investigation and cleanup of a vaguely defined  
3 “Site,” and provides deadlines for the completion of significant and expensive work over  
4 the next six months, including the following:

- 5           • Submission of a work plan for the containment of petroleum wastes from an  
6           undefined area, as well as a work plan for the removal and disposal of hydrocarbons  
7           within the Dominguez Channel sub-drain systems by April 30, 2013;
- 8           • Submission of a master work plan by May 31, 2013;
- 9           • Submission of a workplan for groundwater monitoring by April 2, 2013;
- 10          • Submission of a Site Conceptual Model by July 1, 2013 or sooner;
- 11          • Submission of an initial groundwater monitoring report by July 31, 2013; and
- 12          • Submission of an Interim Remedial Action Plan by August 30, 2013.

13          Other significant action items such as preparation of a Human Health Risk Assessment,  
14 conducting Remedial Action, development of a comprehensive Remedial Action Plan  
15 (“RAP”), and Implementation of the RAP, are required by the Order but the due dates for  
16 these activities have not been determined. Littleworth Decl., Ex. 1.

17          The cost of satisfying the Order’s directives is presently incalculable, but given the  
18 breadth of the Order and the broad definition of “Site,” costs to comply could total several  
19 millions of dollars. Declaration of Rick Horn at ¶ 4.

20          The Order puts Petitioner in a prejudicial bind. If Petitioner complies with the  
21 Order pending appeal, it will have to spend significant sums with no hope of recouping  
22 them except through expensive cost recovery litigation. If Petitioner declines to expend  
23 money, time, and resources in an effort to comply with the Order, it becomes exposed to  
24 significant daily penalties for non-compliance. Therefore, if a stay is not granted, Petitioner  
25 would be faced with a no-win scenario: expend substantial sums to comply with an  
26 improperly issued Order, or face substantial monetary penalties for failure to comply. A  
27 stay until the State Board rules on the merits of the petition would solve this problem and

1 save Petitioner from significant and substantial monetary harm. Littleworth Decl. at ¶ 10;  
2 Horn Decl. at ¶ 5.

3 **B. The Public Will Not Be Substantially Harmed If a Stay Is Granted.**

4 There is no information indicating that the Former Tosco Pipeline is a source of  
5 discharge to the Dominguez Channel. Moreover, RELLC has been addressing the sheen in  
6 the Dominguez Channel and the sheen has not reappeared. Littleworth Decl., ¶ 5. As a  
7 result, the public will not be harmed by issuance of a stay with regard to the Order. The  
8 Regional Board acknowledged as much in February 2012 when it rescinded its Cleanup and  
9 Abatement order to LACFD: it withdrew the order to LACFD because RELLC had taken  
10 action to address the problem. See Littleworth Decl., Ex. 4 (Regional Board rescinded  
11 CAO to LAFCD noting, “RELLC is taking actions to remove hydrocarbons and prevent the  
12 possible migration of hydrocarbons within the sub-drain systems”). In fact, in its response  
13 to comments, the Regional Board acknowledges the sheen is no longer present, but  
14 speculates that it might return in the future. Littleworth Decl. at Ex. 1, p. 6. Future  
15 speculative harm is an insufficient basis to deny the stay request. There will be no harm to  
16 the public if the stay is granted.

17 **C. The Petition Raises Substantial Questions of Law and Fact.**

18 As discussed above, there are significant questions of law and fact raised by this  
19 Petition. There is not substantial evidence on which to name Phillips 66 as the former  
20 owner/operator of the Former Tosco Pipeline because there is no evidence of a discharge  
21 from it during the period of Phillips 66’s predecessors’ ownership/operation or at any other  
22 time. The mere historical operation of pipelines carrying crude oil is an insufficient basis  
23 for issuance of the Order.

24 There are sufficient issues of fact and law to warrant a stay.

25 ///

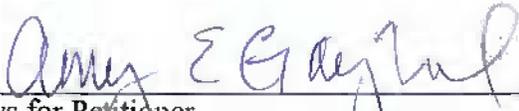
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1 Dated: March 8, 2013

2 Respectfully submitted,

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7 By:   
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18 Corporation for Site/Case: Dominguez )  
19 Channel, South of Carson Street, Carson, )  
20 California (SCP No. 1264; File No. 11-184) )

21 **DECLARATION OF DAN**  
22 **FISCHMAN IN SUPPORT OF**  
23 **CHEVRON ENVIRONMENTAL**  
24 **MANAGEMENT COMPANY'S**  
25 **PETITION FOR REVIEW OF**  
26 **CLEANUP AND ABATEMENT**  
27 **ORDER TO PHILLIPS 66**  
28 **COMPANY; REQUEST FOR**  
**HEARING, AND REQUEST FOR**  
**STAY**

1 I, Dan Fischman, declare and state as follows:

2 1. I am the Western Regional Manager for Remediation Management, Health,  
3 Safety & Environment for Phillips 66 Company ("Phillips 66"). This declaration is  
4 submitted in support of Chevron Environmental Management Company's ("CEMC")  
5 Petition, on behalf of Phillips 66, to the State Board challenging the February 8, 2013  
6 issuance of Cleanup and Abatement Order No. R4-2013-0007 ("Order") by the California  
7 Regional Water Quality Control Board, Los Angeles Region ("Regional Board") to Phillips  
8 66. Unless otherwise stated, I have personal knowledge of the matters stated herein and  
9 could and would testify competently thereto.

10 2. CEMC responds on behalf of Phillips 66 at the request of Phillips 66.

11 3. I am informed and believe that CEMC submitted a response to the Regional  
12 Board's December 13, 2011 Technical Report Requirement in which it identified one  
13 former Union Oil-related pipeline which carried crude oil and which was sold in 1997 to  
14 Tosco (hereafter "Former Tosco Pipeline"). The Former Tosco Pipeline was not in use at  
15 the time it was sold to Tosco, and was not used at any time while it was owned by Tosco or  
16 ConocoPhillips Company ("ConocoPhillips").

17 4. On January 1, 2003, Tosco merged into ConocoPhillips. On July 1, 2008,  
18 ConocoPhillips and Crimson California Pipeline, L.P. entered into a Purchase and Sale  
19 Agreement for a package of pipelines, including the Former Tosco Pipeline.

20 5. As of May 1, 2012, ConocoPhillips Company split to become two separate,  
21 independent companies. Phillips 66 Company is the new downstream refining and  
22 marketing company which has assumed any responsibility that ConocoPhillips may have  
23 for the Former Tosco Pipeline, and is named in the Order. Phillips 66 is informed and  
24 believes that the Former Tosco Pipeline currently is owned by Crimson California Pipeline,  
25 L.P.

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

3 Dated this 9<sup>th</sup> day of March, 2013, in Long Beach, California.

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By   
Dan Fischman

1 CHRISTOPHER J. MCNEVIN (SBN 109603)  
AMY E. GAYLORD (SBN 217553)  
2 PILLSBURY WINTHROP SHAW PITTMAN LLP  
Four Embarcadero Center, Suite 2200  
3 San Francisco, CA 94111  
Telephone: (415) 983-1000  
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E-mail: amy.gaylord@pillsburylaw.com

5 Attorneys for Petitioner,  
6 CHEVRON ENVIRONMENTAL MANAGEMENT  
COMPANY and PHILLIPS 66 COMPANY  
7

8 STATE WATER RESOURCES CONTROL BOARD  
9

10 \_\_\_\_\_  
11 In the Matter of the California Regional )  
Water Quality Control Board – Los Angeles )  
12 Region Cleanup and Abatement Order No. )  
R4-2013-0007 Directed to Phillips 66 )  
13 Company for Site/Case: Dominguez Channel, )  
South of Carson Street, Carson, California )  
14 (SCP No. 1264; File No. 11-184) )  
15 )  
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**DECLARATION OF RICHARD G.  
HORN IN SUPPORT OF CHEVRON  
ENVIRONMENTAL  
MANAGEMENT COMPANY'S  
PETITION FOR REVIEW OF  
CLEANUP AND ABATEMENT  
ORDER TO PHILLIPS 66  
COMPANY; REQUEST FOR  
HEARING, AND REQUEST FOR  
STAY**

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1 I, Richard G. Horn, declare and state as follows:

2 1. I am the 76 Products Manager for Chevron Corporation's affiliate company,  
3 Chevron Environmental Management Company ("EMC"). EMC is charged with managing  
4 remediation of historic Union Oil Company of California ("Union Oil") liabilities. This  
5 declaration is submitted in support of EMC's Petition to the State Board challenging the  
6 February 8, 2013 issuance of Cleanup and Abatement Order No. R4-2013-0007 ("Order")  
7 by the California Regional Water Quality Control Board, Los Angeles Region ("Regional  
8 Board") to Phillips 66 Company ("Phillips 66"). Unless otherwise stated, I have personal  
9 knowledge of the matters stated herein and could and would testify competently thereto.

10 2. CEMC responds on behalf of Phillips 66 at the request of Phillips 66.

11 3. I have worked for EMC since August 2005 during which time my primary  
12 job function has been the management and oversight of environmental remediation projects  
13 for historic liabilities. Prior to August 2005, I worked in a similar capacity for Union Oil. I  
14 have worked in California since 2002, and prior to that I worked for Union Oil in various  
15 locations throughout the eastern and middle United States, managing a portfolio of projects  
16 consisting of service stations, terminals and refineries. In the past 20 years, I have either  
17 directly managed or overseen project managers who managed, approximately 1,500 distinct  
18 environmental projects. I have first-hand knowledge of the costs generally incurred to  
19 undertake the directives set forth in the Order.

20 4. The cost of satisfying the Order's directives is presently incalculable, but  
21 given the breadth of the Order and the broad definition of "Site," costs to comply could  
22 total several millions of dollars.

23 5. The Order puts Petitioner in a prejudicial bind. If Petitioner complies with  
24 the Order pending appeal, it will have to spend significant sums with no hope of recouping  
25 them except through expensive cost recovery litigation. If Petitioner declines to expend  
26 money, time, and resources in an effort to comply with the Order, it becomes exposed to  
27 significant daily penalties for non-compliance. Therefore, if a stay is not granted, Petitioner

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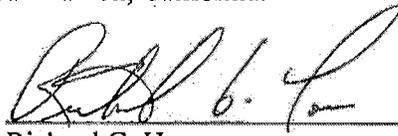
1 would be faced with a no-win scenario: expend substantial sums to comply with an  
2 improperly issued Order, or face substantial monetary penalties for failure to comply. A  
3 stay until the State Board rules on the merits of the petition would solve this problem and  
4 save Petitioner from significant and substantial monetary harm.

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

7 Dated this 8 th day of March 2013, in San Ramon, California.

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By   
Richard G. Horn

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1 CHRISTOPHER J. MCNEVIN (SBN 109603)  
AMY E. GAYLORD (SBN 217553)  
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5 Attorneys for Petitioner,  
6 CHEVRON ENVIRONMENTAL MANAGEMENT  
COMPANY and PHILLIPS 66 COMPANY  
7

8 STATE WATER RESOURCES CONTROL BOARD  
9

10 \_\_\_\_\_  
11 In the Matter of the California Regional )  
Water Quality Control Board – Los Angeles )  
12 Region Cleanup and Abatement Order No. )  
R4-2013-0007 Directed to Phillips 66 )  
13 Company for Site/Case: Dominguez Channel, )  
South of Carson Street, Carson, California )  
14 (SCP No. 1264; File No. 11-184) )  
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**DECLARATION OF TODD  
LITTLEWORTH IN SUPPORT OF  
CHEVRON ENVIRONMENTAL  
MANAGEMENT COMPANY'S  
PETITION FOR REVIEW OF  
CLEANUP AND ABATEMENT  
ORDER TO PHILLIPS 66  
COMPANY; REQUEST FOR  
HEARING, AND REQUEST FOR  
STAY**

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1 I, Todd Littleworth, declare and state as follows:

2 1. I am a licensed attorney employed by Chevron Corporation in San Ramon,  
3 California. This declaration is submitted in support of Chevron Environmental  
4 Management Company's ("CEMC") Petition to the State Board challenging the February 8,  
5 2013 issuance of Cleanup and Abatement Order No. R4-2013-0007 ("Order") by the  
6 California Regional Water Quality Control Board, Los Angeles Region ("Regional Board")  
7 to Phillips 66 Company ("Phillips 66"). Unless otherwise stated, I have personal  
8 knowledge of the matters stated herein and could and would testify competently thereto.

9 2. CEMC responds on behalf of Phillips 66 at the request of Phillips 66.

10 3. A true and correct copy of the Order is attached as Exhibit 1 hereto.

11 4. A true and correct copy of the Draft Cleanup and Abatement Order issued by  
12 the Regional Water Quality Control Board on June 20, 2012 is attached hereto as Exhibit 2.

13 5. After the Dominguez Channel sheen was initially discovered, Resources  
14 Environmental, LLC ("RELLC") undertook work on behalf of its members—including  
15 Phillips 66—to address the sheen. RELLC has been undertaking containment and other  
16 activities since shortly after the discovery of the sheen, and CEMC is informed and believes  
17 that due to RELLC's work, the sheen is no longer present.

18 6. A true and correct copy of the May 17, 2011 Cleanup and Abatement Order  
19 to the Los Angeles Flood Control District is attached hereto as Exhibit 3. On August 16,  
20 2011, the Regional Board rescinded that Order by letter, a copy of which is attached hereto  
21 as Exhibit 4.

22 7. On December 13, 2011, ConocoPhillips Company received a Technical  
23 Report Order, a true and correct copy of which is attached hereto as Exhibit 5.

24 8. CEMC timely complied with the Technical Report Order, and identified one  
25 former Union Oil Company of California ("Union Oil") related pipeline which carried  
26 crude oil and which was sold in 1997 to Tosco (hereafter "Former Tosco Pipeline"). A true  
27 and correct copy of CEMC's February 8, 2012 submission in response to the Regional  
28 Board's December 13, 2011 Order is attached hereto as Exhibit 6.



# EXHIBIT 1



EDMUND G. BROWN JR.  
GOVERNOR



MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## Los Angeles Regional Water Quality Control Board

February 8, 2013

Mr. Darrell Fah  
BP p.l.c., BP Pipelines (North America) Inc., and/or other BP Entity  
4 Centerpointe Drive  
La Palma, CA 90623

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 3500 0003 5491 0681

Mr. Ben Terry  
Chevron Corporation  
c/o Chevron Environmental Management Company  
6101 Bollinger Canyon Road  
San Ramon, CA 94583

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 3500 0003 5491 0698

Mr. Louis S. Mosconi  
Phillips 66  
3900 Kilroy Airport Way, Suite 210  
Long Beach, CA 90806

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7012 1640 0000 6228 4830

Mr. Eugene Freed  
Environmental Services  
Shell Oil Products US  
20945 S. Wilmington Avenue  
Carson, CA 90810

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7012 1640 0000 6228 4892

**SUBJECT: CLEANUP AND ABATEMENT ORDER NO. R4-2013-0007  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13304**

**SITE/CASE: DOMINGUEZ CHANNEL, SOUTH OF CARSON STREET  
CARSON, CALIFORNIA (SCP NO. 1264; FILE NO. 11-184)**

Dear Mr. Fah, Mr. Terry, Mr. Mosconi, and Mr. Freed:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of Los Angeles County and Ventura County, including the area referred to as the Dominguez Channel, in the vicinity of Carson Street in Carson, California (referred herein as the Site). Regional Board staff recently performed an evaluation of environmental conditions at the Site and identified areas requiring additional delineation and remediation. In accordance with the Regional Board's responsibilities for the protection of water quality and beneficial uses, enclosed is Cleanup and Abatement Order No. R4-2013-0007 (CAO), directing you to assess, monitor, cleanup, and abate the effects of wastes discharged to the soil, soil vapor, groundwater, and surface water at and near the Dominguez Channel (south of Carson Street) in Carson, California. This CAO was prepared pursuant to sections 13267 and 13304 of the California Water Code.

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

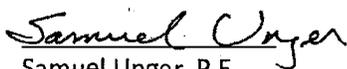
320 West 4th St., Suite 200, Los Angeles, CA 90013 | [www.waterboards.ca.gov/losangeles](http://www.waterboards.ca.gov/losangeles)

A draft of this CAO (Draft CAO No. R4-2012-0103) was provided to you on June 20, 2012, inviting comments. The attached CAO R4-2013-0007 contains changes based upon the comments we received. Our responses to comments received are provided in the enclosed table, *Responsiveness Summary – Draft Cleanup and Abatement Order R4-2012-0103*.

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

Should you have any questions, please contact Mr. Greg Bishop at (213) 576-6727 or [gbishop@waterboards.ca.gov](mailto:gbishop@waterboards.ca.gov).

Sincerely,



Samuel Unger, P.E.  
Executive Officer

Enclosure: *Responsiveness Summary – Draft Cleanup and Abatement Order R4-2013-0007*

cc: (via e-mail)

Mr. Larry Alexander, Crimson Pipeline, L.P.  
Ms. Mary Jo Anzia, AECOM  
Mr. Lalo Bakhoun, South Coast Air Quality Management District  
Mr. Hector Bordas, Los Angeles County Department of Public Works/Flood Control District  
Mr. Edward Boyes, California Dept. of Fish and Game  
Mr. Jason Clark, Air Products and Chemicals, Inc.  
Mr. Christian Corbo, California Dept. of Fish and Game  
Ms. Adriana Crasnean, Cal Fire  
Ms. Donna DiRocco, BP Pipelines  
Mr. Matthew Dunne, Exxon-Mobil Corporation  
Ms. Patricia Elkins, City of Carson  
Mr. John Englehardt, Resource Environmental, LLC  
Mr. Mark Fahan, Holguin, Fahan & Associates, Inc.  
Mr. Dan Fischman, Phillips 66  
Mr. Daniel Gabel, Tesoro Refining and Marketing Company  
Ms. Amy Gaylord, Pillsbury Winthrop Shaw Pittman LLP  
Mr. Julio Gonzalez, City of Carson  
Mr. Bob Gorham, Cal Fire  
Mr. Marc Greenberg, Keesal, Young & Logan  
Mr. Ngiabi Gicuhi, Plains All American Pipeline, L.P.  
Mr. John Hawkinson, Carson Estate Companies

Mr. Gary Hildebrand, Los Angeles County Department of Public Works/Flood Control District  
Mr. Corey Kong, California Dept. of Fish and Game  
Mr. Joe Liles, URS Corporation  
Mr. Todd Littleworth, Chevron Corporation, Chevron Law Group  
Mr. Chuck MacDonald, Cal Fire  
Mr. Sean Moe, California Dept. of Fish and Game  
Mr. George Phair, Resource Environmental, LLC  
Mr. Martin Powell, USEPA  
Mr. Ron Prowell, Prowell Family Trust  
Mr. David Randall, URS Corporation - North Carolina  
Mr. Ian Robb, Chevron Environmental Management Company  
Ms. Adriane R. Simon, ExxonMobil Corporation c/o ExxonMobil Pipeline Company  
Mr. Rob Speer, Chevron Environmental Management Company  
Mr. Robert Stechmann, Stechmann Geoscience, Inc.  
Mr. Fred Stroud, USEPA  
Ms. Michelle Tsiebos, Los Angeles County Department of Environmental Health  
Mr. Greg Vogelpohl, Resource Environmental, LLC  
Ms. Diane Wachi, City of Carson  
Mr. Barry White, City of Carson  
Mr. Jerome Zimmerle, URS Corporation

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

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	<p>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.</p>	<p>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.</p> <p>The definition of "Site" has been revised in the second paragraph of the CAO.</p> <p>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>
Shell 2	<p><u>Background; Paragraph 1:</u> We understand that the Go Kart World is active, not a former business.</p>	<p>The word "former" has been removed.</p>
Shell 3	<p><u>Background; Paragraph 2:</u> 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 ...."</p>	<p>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.</p>
Shell 4	<p><u>Background; Paragraph 6:</u> We understand that 26, not 27, pipelines have been identified. Pipelines 1 and 3 refer to the same line.</p>	<p>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.</p>

## 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 &amp; 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	<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.	Comment noted. See Response to Shell Comment 7.
Shell 10	<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.	Comment noted. See Response to Shell Comment 7.
Shell 11	<u>Required Actions</u> ; Paragraph 3: SOPUS requests the Board replace the words "stop the discharge" with "minimize the discharge."	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.
Shell 12	<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.	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.

## 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 &amp; 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 RELLC 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>

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

Author/ Comment No.	Comment	LARWQCB Response
Shell 16	<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.	Comment noted. The Regional Board expects that the responsible parties will notify the Regional Board if there are difficulties with obtaining access.
Shell 17	<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.	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.
Shell 18	<u>Exhibit B, Table:</u> Basis for Naming Responsible Parties: Shell Oil Products US, line 17. SOPUS information indicates gasoline was the product type for this line.	Comment noted.
Shell 19	<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.	Exhibit C has been removed.
City of Carson 1	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.	Comment noted.
CEMC 1	<u>Footnote 1, Page 1:</u> Chevron Environmental Management Company ("CEMC") 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.	The paragraph under Chevron Environmental Management Company within Item 6, Activities and Chemical Usage has been revised to more accurately describe Chevron's relationship.  The Regional Board notes that CEMC is responding on behalf of Phillips 66 and, presumably, Chevron Corporation.

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Author/ Comment No.	Comment	LARWQCB Response
CEMC 2	<p>Page 2: CEMC understands that actions taken by RELC (which CEMC participated in funding) have largely eradicated the sheen on the Channel.</p>	<p>The RELC 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> <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> <p>Comment noted. However, one of the wastes identified in the CAO is crude oil.</p>
CEMC 3	<p>Page 2: 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>	
CEMC 4	<p>Page 2: 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.</p>
CEMC 5	<p>Footnote 2, Page 2: 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>Pipelines 01 and 03 (using the URS numbering scheme) are the same pipeline. Therefore, CEMC refers only to Pipeline 01.</p>	<p>See Response to Shell Comment No. 4.</p>
CEMC 7	<p>Page 3: 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>Page 3: 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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Author/ Comment No.	Comment	LARWQCB Response
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. Naptha-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 naptha-range hydrocarbon source, suggesting a single pipeline source.</p>	<p>The Regional Board suspects there are multiple releases due to (1) the presence of LNAPL along the western levee of the Dominguez Channel at a very shallow depth, (2) the presence of sheen along the eastern side of the Dominguez Channel (including Perry Street north of Carson Street), and (3) the presence of different materials: naptha-range hydrocarbons, crude oil, and refined products.</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 naptha-range hydrocarbons observed in the subsurface.</p>	<p>Naptha-range hydrocarbons are not the only discharged substance at the Dominguez Channel. Pipeline URS No. 01 (aka URS No. 03) carried crude oil, which has also been detected at the Dominguez Channel.</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>	<p>The State Water Resources Control Board has issued several Orders interpreting the application of Water Code section 13304 to owners and has made it clear that the Regional Boards should be naming persons who own the facilities responsible for the discharges of waste. See, e.g., State Water Board Orders WQ 89-13 (In the Matter of the BOC Group, Inc.). Chevron or its predecessor pipelines carried crude oil which has been found at the Site.</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 naptha-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>Page 4: 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. <u>This means credible and reasonable evidence which indicates the named party has responsibility.</u></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 Dominguez 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>
CEMC 14	<p>Page 5: 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, WQ 93-14, 1993 WL 456494 (Cal. St. Wat. Res. Bd., 1993)</i> (finding that "obviously if, as Sanmina claims, Sanmina did not use or store the VOCs, Sanmina could not have caused or permitted their discharge, and therefore, would not be responsible for their cleanup.")</p>	<p>The Regional Board disagrees with the application of the cited order to this matter. Chevron- or its predecessor-owned pipelines were used to transport crude oil, which has been detected at the Site.</p>

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CEMC 15	<p>Page 5: 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>Page 5, Footnote 4: 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>Page 5: 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>Page 6: 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>Page 6: 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 onsite 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 (DIPE) 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 DIPE 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 naphtha 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>Page 6: 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>Page 7: 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>Page 7 (Item D): 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>	The Regional Board has opted to omit ExxonMobil Corporation/ExxonMobil Pipeline Company from the CAO.
BP 1	<p>Pages 3 and 4 (Items 1 through 7): 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>	The lines within Recreation Road have been removed as a basis for naming BP entities in the CAO.
BP 2	<p>Page 4 (Item 8): The prevalence of di-isopropyl ether (DIPE) in groundwater samples in the vicinity of the release area indicates that DIPE presence in BP monitoring well samples is likely due to an area-wide plume and is not a localized release.</p>	The Regional Board concurs.
BP 3	<p>Page 5: “AECOM [on behalf of BP] concluded that a minimum of three types of petroleum hydrocarbons comprise Dominguez Channel release area 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>	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.

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BP 4	<p>Page 6, first bullet: 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>
BP 5	<p>Page 6, first bullet: 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>	<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>
BP 6	<p>Page 6, second bullet: 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>	<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>
BP 7	<p>Page 6, third bullet: 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>	<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>
BP 8	<p>Pages 6 and 7: 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> <p>Hydrotests were conducted from 1983 through 1999 with a passed internal line inspection in 2007.</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>
BP 9	<p>Page 7, first bullet: 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>	<p>The "Pipeline ID Used in Reference Materials" column in URS Table 1 identifies the referenced pipelines.</p>
BP 10	<p>Page 7, second bullet: 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 RELC 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.</p> <p>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 <i>potential</i> timing 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>
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/URS report on subsurface sampling performed at the Active RV site that had evaluated these risks.</p> <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>See Plains Comment No. 12.</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 subsurface data for one building within the footprint of contamination is not likely to be representative of risks at all possible locations.</p> <p>The cited RELLC/URS report did not conclude that cancer health risks under a <u>residential</u> scenario are acceptable.</p> <p>The statement that BP objected to actually reads “... are or <u>probably will</u> pose a <u>potential</u> human health threat to occupants ...” (emphasis added). One of the tasks of the CAO is to further evaluate whether the threat is actual.</p>
BP 15	<p><u>Page 8, Item 5:</u> The draft CAO states “that LNAPL was observed in a limited number of wells adjacent to the Dominguez Channel and that several wells adjacent to the channel contained no LNAPL”. BP requests that the LARWQCB clarify this sentence.</p>	<p>There are many wells installed adjacent to the Dominguez Channel. Some of them contained LNAPL. Some of them did not contain LNAPL.</p>

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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 naphtha-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 (9<sup>th</sup> 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.	Comment	LARWQCB Response
BP 20	<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.	See Response to BP Comment Nos. 1 and 17. BP is named in the cleanup and abatement order.
BP 21	<u>Page 9, Item 7, Bullet 3:</u> The draft CAO names BP p.l.c., which is also incorrect.	The Regional Board has requested clarification from BP as to the ownership of pipelines it acquired from ARCO, but has used the available information in determining what BP entity to name in the CAO. The CAO has been revised to name "BP p.l.c., BP Pipelines (North America) Inc., and/or other BP entity".
BP 22	<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.	See Response to CEMC Comment 12.
BP 23	<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.	State Water Resources Control Board 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.
BP 24	<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.	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.
Plains 1	<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.	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.
		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.
		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.

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

Author/ Comment No.	Comment	LARWQCB Response
Plains 2	<p><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.</p>	<p>Note that information learned as a result of these investigative orders have identified primarily naphtha-range hydrocarbons with some crude oil and refined product.</p>
Plains 3	<p><u>Pages 3 to 4, Item B:</u> With reference to <i>In the Matter of the Petition of Exxon Company, USA et al.</i>, WQO No. 85-7 at 11-12 and <i>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.</p>	<p>The Regional Board has opted to omit Plains from the CAO.</p>
Plains 4	<p><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.</p>	<p>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.</p>
Plains 5	<p><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.</p>	<p>See Response to Plains Comment Nos. 4 and 11.</p>
Plains 6	<p><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.</p> <p>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.</p>	<p>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.</p> <p>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.</p> <p>The Regional Board accepts that the history of many of the pipelines, including URS Nos. 18, 19, 20, and 27, is unclear.</p>

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

Author/ Comment No.	Comment	LARWQCB Response
Plains 7	<p>Page 5, Item C: The <i>URS Supplemental Site Assessment Report</i> (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>Page 5, Item D: 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>	<p>The crude oil impact is not isolated to just R-MW-6, but is present beneath the Dominguez Channel where Plains (formerly ARCO) Line 93 is present.</p> <p>In addition to free product (LNAPL) present near R-MW-6, sheen has been detected below the Dominguez Channel and to the east of the Dominguez Channel, along the pipeline corridor through the former Active RV property and north of there in Carson Street and Perry Street.</p>
Plains 9	<p>Page 6, Item D: 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>Page 6, Item D: 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>Since the Plains pipelines carried only crude oil, they cannot be the source of the contamination.</p>	<p>See Response to CEMC Comment No. 9.</p>

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

Author/ Comment No.	Comment	LARWQCB Response
Plains 11	<p>Page 7, <u>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>Page 7, <u>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>Page 8, <u>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>Pages 8 to 9: 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>

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.

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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 naphtha 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*<sup>1</sup> by URS Corporation (2012); a copy of this report is included as Exhibit A.

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<sup>1</sup> *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 naptha-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.

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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 naphtha-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). RELLC 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, RELLC 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*

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*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 naphtha-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 naphtha-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 13267<sup>2</sup>. The Dischargers are required to submit the

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<sup>2</sup> 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](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.

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### 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 Channel<sup>3</sup>. 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 systems<sup>4</sup>. 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.

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<sup>3</sup> 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.

<sup>4</sup> 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

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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.

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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

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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

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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](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

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#### 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.

**EXHIBIT A**

***Pipeline Assessment Update Report  
Dominguez Channel South of Carson Street  
Carson, California***

**by**

**URS Corporation**

**April 12, 2012**

**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

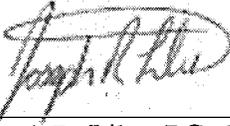
**URS**

2020 East First Street, Suite 400  
Santa Ana, CA 92705  
714-835-6886 Fax: 714-667-7147

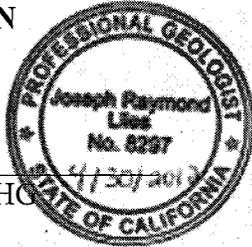
**PIPELINE ASSESSMENT UPDATE REPORT  
DOMINGUEZ CHANNEL SOUTH OF CARSON STREET  
CARSON, CALIFORNIA**

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.

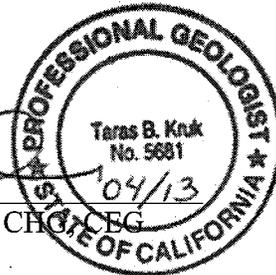
**URS CORPORATION**



Joseph R. Liles, PG, CH  
Project Manager



Taras B. Kruk, PG, CH, CEG  
Principal



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## List of Acronyms

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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 Order 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 213<sup>th</sup> 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" H<sub>2</sub> Pipeline Alignment Drawings 2137-A-112 and 113 were obtained from Air Products and Chemicals. The map identifies the 10" H<sub>2</sub> 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 215<sup>th</sup> 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 C<sub>2</sub>REM.
- 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 213<sup>th</sup> 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 213<sup>th</sup> 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 C<sub>2</sub>Rem'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 (C<sub>2</sub>Rem, 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 C<sub>2</sub>Rem'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 (C<sub>2</sub>Rem, 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 H<sub>2</sub> 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 mentioned 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

## **SECTION FOUR Interim Pipeline Assessment Results (December 8, 2011)**

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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*<sup>1</sup> 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”

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<sup>1</sup> 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's<sup>2</sup> 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 re-routed to its current location of Response #12; however, no mention of this abandonment could be found in the BP submission.

<sup>2</sup> 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 Tosco<sup>3</sup> 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.

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<sup>3</sup> 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.
- C<sub>2</sub>REM, 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*.

- 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*.



TABLE 1  
 PIPELINE ASSESSMENT DATA MATRIX  
 (December 8, 2011 Submitted)  
 Dominguez Channel South of Carson Street  
 Carson, California  
 (Page 1 of 9)

AMS ID	OSPH ID	Owner (as noted)	Line (Inches) and Material	Pipeline (D) Used in Reference Materials	Product	Content	Pipeline Status	Regulate Issue	Reference	Notes
01	001	City of Carson	18" Steel Well Cased with Galvanized Steel	18" Steel Well Cased with Galvanized Steel	Water	<p>Per the information in the assessment report, the pipeline is a 18" steel well cased with galvanized steel. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson.</p>	<p>The pipeline is a 18" steel well cased with galvanized steel. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson.</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>
02	002	City of Carson	18" Steel Well Cased with Galvanized Steel	18" Steel Well Cased with Galvanized Steel	Water	<p>Per the information in the assessment report, the pipeline is a 18" steel well cased with galvanized steel. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson.</p>	<p>The pipeline is a 18" steel well cased with galvanized steel. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson.</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>
03	003	City of Carson	18" Steel Well Cased with Galvanized Steel	18" Steel Well Cased with Galvanized Steel	Water	<p>Per the information in the assessment report, the pipeline is a 18" steel well cased with galvanized steel. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson.</p>	<p>The pipeline is a 18" steel well cased with galvanized steel. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson. The pipeline is located in the Dominguez Channel area of Carson, California. The pipeline is used for water supply to the City of Carson.</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>	<p>18" Steel Well Cased with Galvanized Steel        Dominguez Channel        Carson, California</p>

Note: Pipeline ID highlighted shows are further delineated in Table 2

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

URS ID	OSFM ID	Owner (see notes)	Size (inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
04	NA	Shell	8" Steel	8" Shell Oil, No. 1 Gasoline Line, the Dominguez Fuel Line and 8" Equilon	Gasoline	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.	The pipeline travels within Perry St and Carson St, then crosses beneath the Dominguez Channel near the northerly 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) 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 <sub>2</sub> Pipeline Alignment Drawing 2137-A-113. 4) Well Installation Work Plan (for Chevron Texaco Heritage Site No. 21-1316) 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" Equilon		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.	The pipeline which travels within Perry St and Carson St, then crosses beneath the Dominguez Channel near the northerly 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) 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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> 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).	The pipeline was constructed in February 1953.	
06	NA	Shell	12" Steel	12" Shell Oil, No. 15 Hot Oil Line and 12" Equilon	Hot Oil	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.	The pipeline travels within Perry St and Carson St, then crosses beneath the Dominguez Channel near the northerly 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) 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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> 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).	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 Butadiene Pipeline	Butadiene	LACDPW, Land Records Substructure Map No. W-222 shows the pipeline alignment. Pipeline Abandonment Report (C,REM 2001) states that the pipeline was never constructed.	The proposed pipeline was to be constructed between the Torrance Synthetic Rubber Plant and Mormon Island.	1) LACDPW, Land Records Substructure Map No. W-222. 2) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C,REM 2001).	The proposed 12" pipeline was to be 11.5 miles (60,720 ft) long. According to Pipeline Abandonment Report (C,REM 2001), the pipeline was never constructed and field observations confirmed the absence of the pipeline.	

Note: Pipelines of Highlighted Rows are further addressed in Table 2

TABLE I  
 PIPELINE ASSESSMENT DATA MATRIX  
 (December 8, 2011 Submittal)  
 Dominguez Channel South of Carson Street  
 Carson, California  
 (Page 3 of 6)

URS ID	OSFM ID	Owner (see notes)	Size (Inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
08	NA	Shell	6" Steel	6" Shell Oil and 6" Dominguez Hill Fuel Line (Replacement pipeline segment located within Perry St only)	Crude Oil		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.	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 overall pipeline operated between the Dominguez Hills production fields and/or transport localities to either bifurcated refinery complex.	1) 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). 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 1962.
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		LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as 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).  The overall pipeline operated between the Dominguez Hills production fields and/or transport localities to either bifurcated refinery complex.	1) LACDPW, Land Records Substructure Map No. W-222. 2) Shell Oil, Dominguez Hill Crude Trunk Line Drawing Y-1413. 3) Shell Oil, Abandoned Inter-Refinery Pipelines, Wilmington & Dominguez Refinerics Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Well Installation Work Plan for Chevron Texaco Heritage Site No. 21-1316 Plate No. 4 (Harding ESE 2002). 5) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C-REM 2001). 6) 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.  According to Pipeline Abandonment Report (C-REM 2001), the portion of the pipeline within Perry St was possibly abandoned and replaced by a new 6" Dominguez Hill Fuel Line (see URS#08) due to conflict with potential future development and to facilitate pipeline maintenance.
10	NA	Shell	6" Steel	6" Shell Oil, 6" Dominguez Hill Crude Line and 6" Equilon	Crude Oil		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 1972.	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. When crosses the Dominguez Channel along the Carson St. bridge and continues into Recreation Road.  The overall pipeline operated between the Dominguez Hills production fields and/or transport localities to either bifurcated refinery complex.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Shell Oil, Dominguez Hill Crude Trunk Line Drawing Y-1413. 4) Shell Oil, Abandoned Inter-Refinery Pipelines, Wilmington & Dominguez Refinerics Drawings Y-5166-H, Y-5166-J and Y-5166-K. 5) AIC Products and Chemicals, Mobil TarPine Pipeline Project, 10" P2 Pipeline Alignment Drawing 23-97-4-113. 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: Pipelines or Highlighted Rows are further addressed 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	OSFM ID	Owner (see notes)	Size (Inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
11	NA	Shell	6" Steel	6" Shell Oil and 6" Ventura Gas Line (Replacement pipeline segment located within Perry St only).	Gasoline		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.	The segment of pass-through pipeline (within Perry St only) was a replacement for the 4" 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.  The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW Land Records Substructure Map No. W-222. 2) Shell Oil, Ventura Product Line Drawing Y-4023. 3) Well Installation Work Plan (for Chevron Tesaco Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002). 4) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C2REM 2001). 5) 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 1962.
12	NA	Shell	4" Steel	4" Ventura Gas Line (Pipeline segment being replaced located within Perry St only)	Gasoline		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" Ventura Gas Line segment within Perry St (see URS#11).  The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW Land Records Substructure Map No. W-222. 2) Well Installation Work Plan (for Chevron Tesaco Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002). 4) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C2REM 2001). 5) 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 Mar 1927 and joins the original 4" Ventura Gas Line (see URS#13) at the intersection of Perry St and Carson St.  According to Pipeline Abandonment Report (C-REM 2001) the portion of the pipeline within Perry St was possibly abandoned and replaced by a new 6" Ventura Line (see URS#11) due to conflict with potential future development and to facilitate pipeline maintenance.
13	NA	Shell	4" Steel	4" Shell Oil, 4" Shell Gasoline, 4" Ventura Gas Line and 4" Equilon	Gasoline		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.	The pass-through pipeline starts at the intersection of the 6" Ventura Gas Line segment (URS#11) at and Carson St, then crosses the Dominguez Channel along the Carson St bridge and continues into Recreation Road.  The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW Land Records Substructure Map No. W-222. 2) LACDPW Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Shell Oil, Ventura Product Line Drawing Y-4023. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawings: 2137-A-113. 5) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C-REM 2001). 6) Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The pipeline was constructed in March 1927.

Note: Pipelines of Highlighted Rows are further addressed in Table 2

TABLE 1  
PIPELINE ASSESSMENT DATA MATRIX  
(December 8, 2011 Submission)  
Dominguez Channel South of Carson Street  
Carson, California  
(Page 5 of 8)

URS ID	OSFM ID	Owner (See notes)	Size (Inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
14	NA	Shell	10" Steel	10" Shell Oil, the No. 2 Dominguez Hills Fuel Line, or the Non-finished Gasoline Line and 10" Equilon	Gasoline		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.	The abandoned gasoline pipeline travels within Perry St and Carson St, then crosses beneath the Dominguez Channel near the northerly 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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> 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 I Environmental Site Assessment, Vinced's Automotive Specialties, 1209 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 (134,784 ft).
15	1103	Plains All American Pipeline	16"	16" Four Corners Crude Oil Pipeline 89 and 16" ARCO	Crude Oil	John Rifiato LB 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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Western Oil & Gas Association, Land 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 (Mangum/Watson 2001). 7) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C:REM 2001). 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. National Pipeline Mapping System has Pacific Pipeline System as the operator. Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area (Mangum/Watson 2001) states that BP was formerly A/S/CO (Four Corners Crude).
16	NA	Shell	6"	6" Shell Oil			LACDPW Land Records Substructure Map No. W-222 shows the pipeline as abandoned in July 1960. Well Installation Work Plan (For Chevron Texaco Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002) shows the pipeline as abandoned.	References of the segment of pipeline appears only at the intersection of Perry St and Carson St.	1) 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 appeared in the LACDPW Land Records Substructure Map No. W-222 and Well Installation Work Plan (For Chevron Texaco Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002).
17	NA	Shell	4" and 6"	4" & 6" Shell Oil and 4" & 6" Equilon			The five 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 direction. The portion of the pipelines crossing the Dominguez Channel have been removed and capped at 65th St. The 4" and 6" pipelines are located on the south portion of the pipelines continues into Lauder St.	1) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 3. 2) LACFCO, Dominguez Channel Wilmington Ave. To Avalon Blvd. Channel Excavation, CIVIL (John and Stone Rebevent Plan and Profile, Sta. 31+84.67-28 to Sta. 32+91.00, Sheet 6. 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing 2137-A-113. 4) Shell Oil, Dominguez Hill Crude Tank Line Drawing Y-1433. 5) Shell Oil, Ventura Products Line Drawing Y-4023. 6) LACFCO Permit and Completion Notice for the removal of a "utility bridge" just south of Carson Street. 7) Shell Oil Company letter addressed to LACFCO confirming removal of a "pipeline crossing" just south of Carson Street completed on October 23, 1960.	According to documents from LACFCO 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.



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

AMS ID	CSEPM ID	Owner (see matrix)	Site (franchise level identifier)	Pipeline ID listed in Reference Materials	Product	Eastside	Pipeline History	Regulatory Details	References	Notes
01	001	Bay Area American Pipelines	01	01	Gas Custody Contract	01	01	01	01	01
02	002	Bay Area American Pipelines	02	02	Gas Custody Contract	02	02	02	02	02
03	003	Bay Area American Pipelines	03	03	Gas Custody Contract	03	03	03	03	03
04	004	Bay Area American Pipelines	04	04	Gas Custody Contract	04	04	04	04	04
05	005	Bay Area American Pipelines	05	05	Gas Custody Contract	05	05	05	05	05
06	006	Bay Area American Pipelines	06	06	Gas Custody Contract	06	06	06	06	06
07	007	Bay Area American Pipelines	07	07	Gas Custody Contract	07	07	07	07	07
08	008	Bay Area American Pipelines	08	08	Gas Custody Contract	08	08	08	08	08
09	009	Bay Area American Pipelines	09	09	Gas Custody Contract	09	09	09	09	09
10	010	Bay Area American Pipelines	10	10	Gas Custody Contract	10	10	10	10	10
11	011	Bay Area American Pipelines	11	11	Gas Custody Contract	11	11	11	11	11
12	012	Bay Area American Pipelines	12	12	Gas Custody Contract	12	12	12	12	12
13	013	Bay Area American Pipelines	13	13	Gas Custody Contract	13	13	13	13	13
14	014	Bay Area American Pipelines	14	14	Gas Custody Contract	14	14	14	14	14
15	015	Bay Area American Pipelines	15	15	Gas Custody Contract	15	15	15	15	15
16	016	Bay Area American Pipelines	16	16	Gas Custody Contract	16	16	16	16	16
17	017	Bay Area American Pipelines	17	17	Gas Custody Contract	17	17	17	17	17
18	018	Bay Area American Pipelines	18	18	Gas Custody Contract	18	18	18	18	18
19	019	Bay Area American Pipelines	19	19	Gas Custody Contract	19	19	19	19	19
20	020	Bay Area American Pipelines	20	20	Gas Custody Contract	20	20	20	20	20
21	021	Bay Area American Pipelines	21	21	Gas Custody Contract	21	21	21	21	21
22	022	Bay Area American Pipelines	22	22	Gas Custody Contract	22	22	22	22	22
23	023	Bay Area American Pipelines	23	23	Gas Custody Contract	23	23	23	23	23
24	024	Bay Area American Pipelines	24	24	Gas Custody Contract	24	24	24	24	24
25	025	Bay Area American Pipelines	25	25	Gas Custody Contract	25	25	25	25	25
26	026	Bay Area American Pipelines	26	26	Gas Custody Contract	26	26	26	26	26
27	027	Bay Area American Pipelines	27	27	Gas Custody Contract	27	27	27	27	27
28	028	Bay Area American Pipelines	28	28	Gas Custody Contract	28	28	28	28	28
29	029	Bay Area American Pipelines	29	29	Gas Custody Contract	29	29	29	29	29
30	030	Bay Area American Pipelines	30	30	Gas Custody Contract	30	30	30	30	30
31	031	Bay Area American Pipelines	31	31	Gas Custody Contract	31	31	31	31	31
32	032	Bay Area American Pipelines	32	32	Gas Custody Contract	32	32	32	32	32
33	033	Bay Area American Pipelines	33	33	Gas Custody Contract	33	33	33	33	33
34	034	Bay Area American Pipelines	34	34	Gas Custody Contract	34	34	34	34	34
35	035	Bay Area American Pipelines	35	35	Gas Custody Contract	35	35	35	35	35
36	036	Bay Area American Pipelines	36	36	Gas Custody Contract	36	36	36	36	36
37	037	Bay Area American Pipelines	37	37	Gas Custody Contract	37	37	37	37	37
38	038	Bay Area American Pipelines	38	38	Gas Custody Contract	38	38	38	38	38
39	039	Bay Area American Pipelines	39	39	Gas Custody Contract	39	39	39	39	39
40	040	Bay Area American Pipelines	40	40	Gas Custody Contract	40	40	40	40	40
41	041	Bay Area American Pipelines	41	41	Gas Custody Contract	41	41	41	41	41
42	042	Bay Area American Pipelines	42	42	Gas Custody Contract	42	42	42	42	42
43	043	Bay Area American Pipelines	43	43	Gas Custody Contract	43	43	43	43	43
44	044	Bay Area American Pipelines	44	44	Gas Custody Contract	44	44	44	44	44
45	045	Bay Area American Pipelines	45	45	Gas Custody Contract	45	45	45	45	45
46	046	Bay Area American Pipelines	46	46	Gas Custody Contract	46	46	46	46	46
47	047	Bay Area American Pipelines	47	47	Gas Custody Contract	47	47	47	47	47
48	048	Bay Area American Pipelines	48	48	Gas Custody Contract	48	48	48	48	48
49	049	Bay Area American Pipelines	49	49	Gas Custody Contract	49	49	49	49	49
50	050	Bay Area American Pipelines	50	50	Gas Custody Contract	50	50	50	50	50
51	051	Bay Area American Pipelines	51	51	Gas Custody Contract	51	51	51	51	51
52	052	Bay Area American Pipelines	52	52	Gas Custody Contract	52	52	52	52	52
53	053	Bay Area American Pipelines	53	53	Gas Custody Contract	53	53	53	53	53
54	054	Bay Area American Pipelines	54	54	Gas Custody Contract	54	54	54	54	54
55	055	Bay Area American Pipelines	55	55	Gas Custody Contract	55	55	55	55	55
56	056	Bay Area American Pipelines	56	56	Gas Custody Contract	56	56	56	56	56
57	057	Bay Area American Pipelines	57	57	Gas Custody Contract	57	57	57	57	57
58	058	Bay Area American Pipelines	58	58	Gas Custody Contract	58	58	58	58	58
59	059	Bay Area American Pipelines	59	59	Gas Custody Contract	59	59	59	59	59
60	060	Bay Area American Pipelines	60	60	Gas Custody Contract	60	60	60	60	60
61	061	Bay Area American Pipelines	61	61	Gas Custody Contract	61	61	61	61	61
62	062	Bay Area American Pipelines	62	62	Gas Custody Contract	62	62	62	62	62
63	063	Bay Area American Pipelines	63	63	Gas Custody Contract	63	63	63	63	63
64	064	Bay Area American Pipelines	64	64	Gas Custody Contract	64	64	64	64	64
65	065	Bay Area American Pipelines	65	65	Gas Custody Contract	65	65	65	65	65
66	066	Bay Area American Pipelines	66	66	Gas Custody Contract	66	66	66	66	66
67	067	Bay Area American Pipelines	67	67	Gas Custody Contract	67	67	67	67	67
68	068	Bay Area American Pipelines	68	68	Gas Custody Contract	68	68	68	68	68
69	069	Bay Area American Pipelines	69	69	Gas Custody Contract	69	69	69	69	69
70	070	Bay Area American Pipelines	70	70	Gas Custody Contract	70	70	70	70	70
71	071	Bay Area American Pipelines	71	71	Gas Custody Contract	71	71	71	71	71
72	072	Bay Area American Pipelines	72	72	Gas Custody Contract	72	72	72	72	72
73	073	Bay Area American Pipelines	73	73	Gas Custody Contract	73	73	73	73	73
74	074	Bay Area American Pipelines	74	74	Gas Custody Contract	74	74	74	74	74
75	075	Bay Area American Pipelines	75	75	Gas Custody Contract	75	75	75	75	75
76	076	Bay Area American Pipelines	76	76	Gas Custody Contract	76	76	76	76	76
77	077	Bay Area American Pipelines	77	77	Gas Custody Contract	77	77	77	77	77
78	078	Bay Area American Pipelines	78	78	Gas Custody Contract	78	78	78	78	78
79	079	Bay Area American Pipelines	79	79	Gas Custody Contract	79	79	79	79	79
80	080	Bay Area American Pipelines	80	80	Gas Custody Contract	80	80	80	80	80
81	081	Bay Area American Pipelines	81	81	Gas Custody Contract	81	81	81	81	81
82	082	Bay Area American Pipelines	82	82	Gas Custody Contract	82	82	82	82	82
83	083	Bay Area American Pipelines	83	83	Gas Custody Contract	83	83	83	83	83
84	084	Bay Area American Pipelines	84	84	Gas Custody Contract	84	84	84	84	84
85	085	Bay Area American Pipelines	85	85	Gas Custody Contract	85	85	85	85	85
86	086	Bay Area American Pipelines	86	86	Gas Custody Contract	86	86	86	86	86
87	087	Bay Area American Pipelines	87	87	Gas Custody Contract	87	87	87	87	87
88	088	Bay Area American Pipelines	88	88	Gas Custody Contract	88	88	88	88	88
89	089	Bay Area American Pipelines	89	89	Gas Custody Contract	89	89	89	89	89
90	090	Bay Area American Pipelines	90	90	Gas Custody Contract	90	90	90	90	90
91	091	Bay Area American Pipelines	91	91	Gas Custody Contract	91	91	91	91	91
92	092	Bay Area American Pipelines	92	92	Gas Custody Contract	92	92	92	92	92
93	093	Bay Area American Pipelines	93	93	Gas Custody Contract	93	93	93	93	93
94	094	Bay Area American Pipelines	94	94	Gas Custody Contract	94	94	94	94	94
95	095	Bay Area American Pipelines	95	95	Gas Custody Contract	95	95	95	95	95
96	096	Bay Area American Pipelines	96	96	Gas Custody Contract	96	96	96	96	96
97	097	Bay Area American Pipelines	97	97	Gas Custody Contract	97	97	97	97	97
98	098	Bay Area American Pipelines	98	98	Gas Custody Contract	98	98	98	98	98
99	099	Bay Area American Pipelines	99	99	Gas Custody Contract	99	99	99	99	99
100	100	Bay Area American Pipelines	100	100	Gas Custody Contract	100	100	100	100	100

TABLE I  
 PIPELINE ASSESSMENT DATA MATRIX  
 (December 8, 2011 Submitted)  
 Dominguez Channel South of Carson Street  
 Carson, California  
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URS ID	OSFM ID	Owner (see notes)	Size (Inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
25	NA	BP	8"	Line 6, 8", ARCO, 8" Rightfield (R) and R-266 Oil Lines 8" Pipeline segment within the Dominguez Channel only	Gas 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, Pipeline Safety Division did not yield any information regarding the abandoned portion of the pipeline that is 8" in diameter at that location. Air Products and Chemicals Drawing 2137-A-113 shows the pipeline as abandoned and relocated. BP Petition (BP 2011) in Donna DiRocco (BP) response to Greg Bishop (LARWQCD) states that "Further research has discovered an old abandoned section of 8" Line 6 which crosses the Dominguez Channel in the same general area but was abandoned prior to 1964."	The abandoned segment of pipeline within the Dominguez Channel was replaced by pipeline (URS202) north of Carson St. Per 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 <sub>2</sub> 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 2011)	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" designation stood for Atlantic field.... 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 4 and 8" Line 6. As far as we know, Line 4 and Line 6 have always been in Crude service and cross under the Dominguez Channel. Line 4 is now BP's pipeline. Line 6 was sold to Plains All American in approximately 1998." BP Petition (BP 2011) states that "The abandoned portion of Line 6 remains BP's asset.... This section of Line 6 was abandoned due to a re-route of the line caused by improvement made to the Flood Control (Dominguez Channel) Right-of-Way."
26	NA	BP	12"	12" Chevron Hills Gas, 12" ARCO 211 and 211 Stocker Carson REF (Pipeline segment within the Dominguez Channel only)	Natural Gas		Abandoned portion of the Pipeline is not shown in the National Pipeline Mapping System. Research at the Office of the State Fire Marshal, Pipeline Safety Division did not yield any information regarding the abandoned portion of the pipeline that is 12" in diameter at that location. Air Products and Chemicals Drawing 2137-A-113 shows the pipeline as abandoned and relocated.	The abandoned segment of pipeline within the Dominguez Channel was replaced by pipeline (URS202) north of Carson St. Per 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 <sub>2</sub> 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 2011)	BP Petition (BP 2011) discussed pipeline 211 (URS #23), however the abandoned segment of this pipeline was not identified.
27	NA	Air Products and Chemicals	10"	APCD 10" H <sub>2</sub> Pipeline	H <sub>2</sub>		Air Products and Chemicals Drawing 2137-A-113 shows the pipeline as active.	The pipeline travels in a parallel direction within the southwesterly access road of the Dominguez Channel.	1) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing 2137-A-113 and 113	

Note: Pipelines of Highlighted Rows are further addressed in Table 2

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

Response ID	URS ID	CSFM ID	Downer ID	Information Submitted By	Current Owner	Ownership History	Size (Inches) and Material	Product	Ongoing Status	Integrity Test Failures	Notes	Contact	Source
01	27	Not provided	Air Products and Chemicals Line #186	Air Products and Chemicals, Inc. (APCI) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	APCI	1) Air Products and Chemicals 2) Shell Oil Company (1926 to circa 1974)	10" Carbon Steel	Hydrogen Gas (11 years)	Active	No	APCI's notes stated, "This pipeline was installed by Air Products and Chemicals in 2001, and has been the only user and operator. The only product transported is clean and dry gaseous hydrogen." Clark@airproducts.com	Jason Clark, Air Products and Chemicals, Inc. 100 N Henry Ford Ave Wilmington, CA 90793 (310) 952-9172 clarkj@airproducts.com	APCI stated, "Owner construction and maintenance records."
02	30	Not provided	Dominguez Hills Crude Line #6	Shell Oil Products US (Shell) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	Shell	1) Shell Oil Company (1926 to circa 1974)	6" Carbon Steel	Crude	Abandoned	No records available	Shell's notes stated, "1974 - Abandoned segment in the Dominguez Channel removed and remaining pipeline ends capped on other side of channel Right-of-Way."	David Lloyd, Equilon Enterprises LLC (Shell Pipeline Company LLC - Operator) 20945 S. Wilmington Ave. Carson, CA 90810 (310) 816-7888	As stated, "Shell Pipeline Company LP."
03	39	0366	Carson Plant Line #21	Shell <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	Tecoro	1) General Petroleum (Mobil) 1966-circa 1975 2) Shell Oil Company (circa 1975 to 1/15/1998) 3) Equilon Enterprises LLC (1/15/1998 to 2/13/2002) 4) Equilon Enterprises LLC (2/13/2002 to 2/13/2007) 5) 2007 - sold to Tecoro	Shell stated, "12" Carbon Steel" Tecoro petition for a writ to identify the materials. 8" Carbon Steel	Other (Lean Diethanamine (DEA), Jet fuel)	Not provided, directed to contact Tecoro	Not provided, directed to contact Tecoro	Shell's notes stated, "Sold to Tecoro." Shepafilles provided by Shell. This pipeline appears to be the same line presented in Response 17 (Submitted by Tecoro).	Not provided, directed to contact Tecoro	Shell stated, "Tecoro."
04	20	0367	Carson Plant Line #22	Shell <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	Shell	1) General Petroleum (Mobil) 1966-circa 1975 2) Shell Oil Company (circa 1975 to 1/15/1998) 3) Equilon Enterprises LLC (1/15/1998 to 2/13/2002) 4) Equilon Enterprises LLC (2/13/2002 to 2/13/2007) 5) 2007 - sold to Present	8" Carbon Steel	Other (Jet Diethanamine (DEA), Water)	Idle	No	Shell's notes stated, "Not in service. Tool run conducted in water."	David Lloyd, Equilon Enterprises LLC (Shell Pipeline Company LLC - Operator) 20945 S. Wilmington Ave. Carson, CA 90810 (310) 816-7888 clarkj@airproducts.com	Shell stated, "Shell Pipeline Company LP."
05	17	Not provided	Valencia Field to Western Refinery #4 Gasoline Line #18	Shell <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	Shell	1) Shell Oil Company (1926 to circa 1974)	4" Carbon Steel	Gasoline	Abandoned with section within Dominguez Channel removed	No records available	Shell's notes stated, "1974 - Abandoned segment in the Dominguez Channel removed and remaining pipeline ends capped on other side of channel Right-of-Way." Pipeline segment starts at the southerly ROW of the channel and terminates at the intersection of Laurel St. and S Edgar St. Pipeline segment north of the channel was not indicated by Shell Oil.	David Lloyd, Equilon Enterprises LLC (Shell Pipeline Company LLC - Operator) 20945 S. Wilmington Ave. Carson, CA 90810 (310) 816-7888	Shell stated, "Shell Pipeline Company LP."
06	18	Not provided	Aminic Lines # 7 and 8	ExxonMobil Pipeline Company (ExxonMobil) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	Shell	1) Mobil Oil Corp. (1949-1975) 2) Sold to Shell 5/15/1975	(3) 8" - Steel	Aminic (1949-1975)	Unknown	No integrity test information up to 1975	ExxonMobil's notes stated, "Mobile Oil Corp. sold to Shell May 15, 1975. Shepafilles not provided. No leak history." ExxonMobil provided pipeline alignment through a PDF exhibit. Shepafilles for the pipeline alignment were not provided. Shell Oil did not provide any information related to these pipelines.	Adriane Simon, ExxonMobil Pipeline 12831 E 166th St Cerritos, CA 90703 (310) 212-4190 adriane.simon@exxonmobil.com	ExxonMobil stated, "Drawing no. 4C-15, 4C-16, 4C-17, 4C-18, 4C-19 & 4C-20."
07	01, 03	447	Newhall #1, Dominguez Gathering	Crimson Pipelines LP (Crimson) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shepafilles.)</i>	Crimson	1) Unocal (Original Owner) 2) Tesco (1987-2001) 3) Conoco Phillips (2001-2008) 4) Crimson (2008 to Present)	6" Steel	Crude	Inactive	None	Shepafilles provided by Crimson. This pipeline appears to be the same line presented in Response 18 (Submitted by ConocoPhillips).	Mike Ramsey, Crimson 2659 Robinson Ave. Carson, CA 90795 (562) 595-9463	Not provided

TABLE 2  
SUBMITTED PIPELINE INFORMATION MATRIX  
Dominguez Channel South of Carson Street  
Carson, California  
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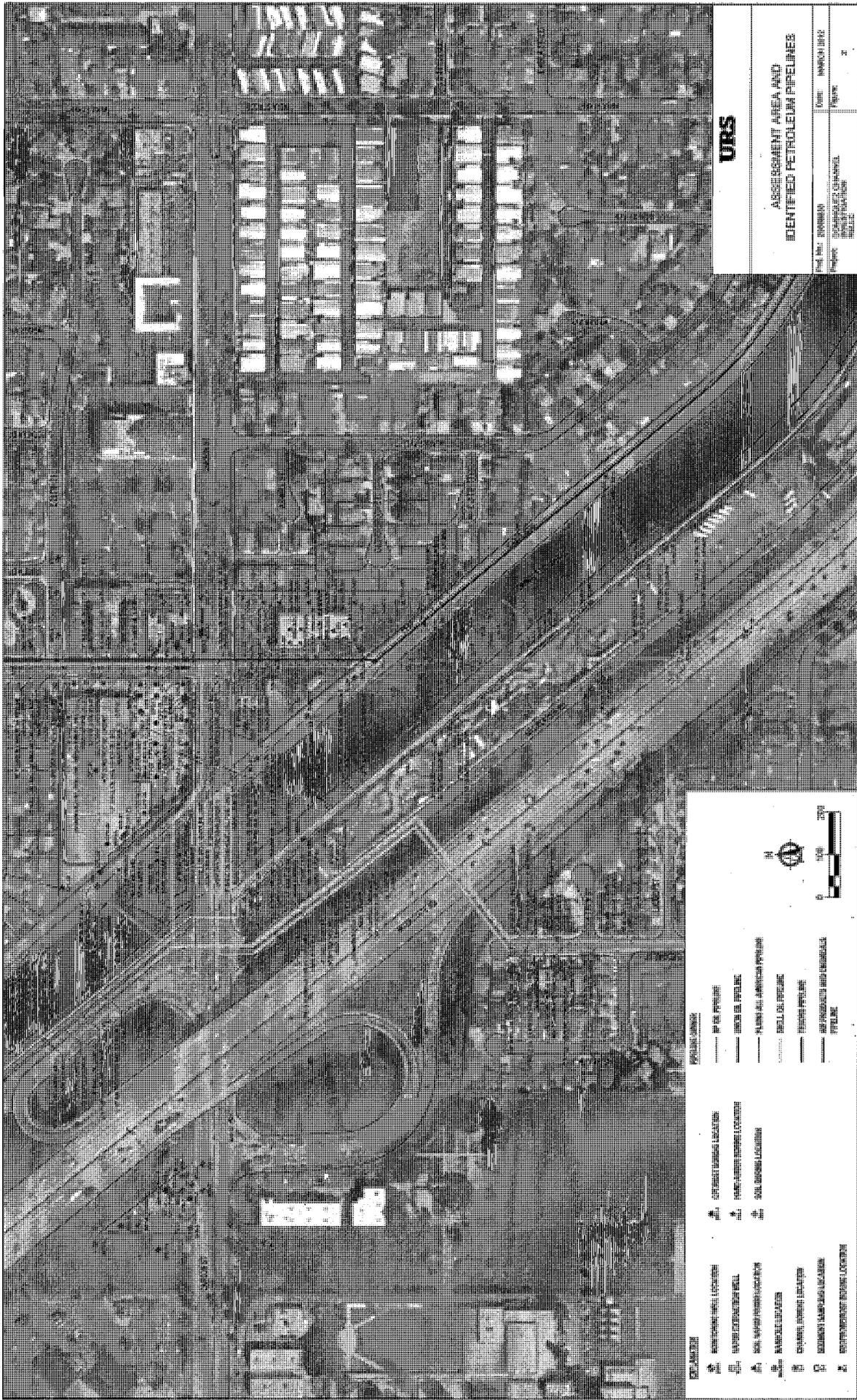
Response ID	URS ID	CFR ID	Owner ID	Information Submitted By	Current Owner	Ownership History	Size (Inches) and Material	Product	Originate	Pipeline Status	Integrity Test Failures	Notes	Contact	Source
08	01_03	Not Provided	6" Dominguez No. 2 for Wastewater Line	Chevron Environmental Management Company (Chevron EMC)  (Information regarding the pipeline alignment was provided in an exhibit and provided in the Shapefiles only)	Crimson	1) Union Oil Company of California and its wholly owned subsidiary Unocal California Pipeline Company (Unknown one to present) 2) Phillips Petroleum (1977 to 2008) 3) Crimson (2008 to present)  *Chevron stated, "Chevron understands that Tosco Phillips subsequently merged in 2001, and Conoco and Conoco subsequently merged on August 30, 2002 to become ConocoPhillips. Chevron is informed and believes that a Purchase and Sale Agreement was entered into between Phillips Petroleum Company and ConocoPhillips, L.P. for a package of lines including and the on JULY 1, 2008."  Union Oil Company of California, aka Unocal merged with Chevron Corporation in 2005 and became a wholly-owned subsidiary.	6" - Steel	Crude (dates unknown)	None	Chevron EMC stated, "Believed to be active"	No records indicating integrity test failures have been identified	Chevron EMC's notes stated, "All information provided is to the best of Chevron's current knowledge after a reasonable inquiry and diligent search. Where indicated, the information is provided on information and belief. Chevron is not responsible for information for periods beyond Union Oil's ownership."  Shapefiles provided by Chevron EMC. This Pipeline appears to be the same line presented in Response 07 (Submitted by Crimson) and Response 16 (Submitted by ConocoPhillips).	Chevron EMC stated, "Unknown, but believed to be currently owned by Crimson"	Crimson stated, "Union Oil Company of California drawings DAA183 and DAA124."
09	02	Not provided	6" Lead to Field Dept. for Wastewater Line	Chevron EMC  (Information regarding the pipeline alignment was provided in an exhibit and provided in the Shapefiles only)	Unocal  (Union Oil Company of California, aka Unocal, 2005) Unocal merged with Chevron Corp. and became a wholly owned subsidiary	1) Union Oil Company of California and its wholly owned subsidiary Unocal California Pipeline Company (Unknown one to present) 2) Phillips Petroleum (1977 to 2008) 3) Chevron (2008 to present)  Chevron stated, "In 1959 a 2,687 ft. section of the line was sold to Shell (Portion through Shell refinery) and subsequently Shell removed a 10 ft. section of the line."  Union Oil Company of California, aka Unocal merged with Chevron Corporation in 2005 and became a wholly-owned subsidiary.	6" - Steel	Previously used for wastewater (dates unknown)	None	Inactive	No records indicating integrity test failures have been identified	Chevron EMC's notes stated, "All information provided is to the best of Chevron's current knowledge after a reasonable inquiry and diligent search. Where indicated, the information is provided on information and belief."	Brian "Eric" Bergeron, Chevron EMC (925) 796-6519 eric.bergeron@chevron.com	Chevron EMC stated, "Union Oil Company of California drawings DAA183 and DAA124."
10	15	1103	Line 0932 (Perry SLT to Sepaveta 15)	Plains All American Pipeline, LP (Plains All American)  (Information regarding the pipeline alignment was provided in an exhibit and provided in the Shapefiles.)	Plains All American	1) ARCO/BP (1999) 2) Pacific Pipeline Systems, LLC (1999-2006) 3) Plains All American Pipeline (2006-Present)	16" - Carbon Steel	Crude Oil	None	Active	No	NA	Ngibi Gicouh, Plains All American Pipeline (862) 728-2024 ngicouh@psalp.com	Plains All American Pipeline stated, "Plains Pipeline Inventory Database."
11	22	81	Line 006A	Plains All American  (Information regarding the pipeline alignment was provided in an exhibit and provided in the Shapefiles.)	Plains All American	1) ARCO/BP (1999) 2) Pacific Pipeline Systems, LLC (1999-2006) 3) Plains All American Pipeline (2006-Present)	8" - Carbon Steel	Crude Oil	None	Inactive	Provided information on various Plains All American pipeline stated, "OOO"	Plains All American from Shapefiles provided by Plains All American offices from the site from previous research. Previous research shows pipeline crossing the Dominguez Channel at north of Carson St. bridge (see URS#72), while Plains All American Pipeline Shapefiles shows it as crossing beneath the Carson St bridge.	Ngibi Gicouh, Plains All American Pipeline (862) 728-2024 ngicouh@psalp.com	Not provided
12	23	Not Provided	Line 211	BP Pipelines (North America), Inc. (BP)  (Information regarding the pipeline alignment was provided in an exhibit and provided in the Shapefiles.)	BP (Carson Logistics Assets)	1) Richfield Oil (1960) 2) Chevron Hills Pipeline (1960-1982) 3) ARCO (March 1982-April 1982) 4) Four Corners (1982-1994) 5) Plains All American Pipeline Company (1994-2006) 6) BP (2006 - Present)	12" - Carbon Steel	Crude (1960-1994) 2) Oil (1994-1999) 3) Natural Gas (2000-Present)	No	Active	1) Integrity tests completed in 1983, 1990, and 1992 2) Hydrated on 2/28/1999 to prepare for transition to natural gas in 2000 3) Internal Line Inspection (ILI) in Nov. 2007 4) Pig got stuck. Made repairs. Ran pig again successfully	Pipeline alignment from Shapefiles provided by BP or Currently Owned by BP or its Affiliated Companies within a One-Mile radius of the Intersection of Carson Street and the Dominguez Channel; the discrepancy in the section of pipe beneath Carson St.  Atlantic Richfield Company is the entity that manages remediation activities for BP, who in turn manages remediation activities for BP, who in turn obtained petroleum forecasts review services from AECOM.	Donna M. DiRocco, BP (862) 499-2302 donna.dirocco@bp.com	BP stated: 1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764 2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipeline 3) Pipeline crossing the pipeline site, ownership status, and current ownership is derived from an ARCO database known as the OI (Operational Integrity Database) 4) Information regarding the historic ownership is derived from historical records 5) Pipeline status information is derived from project files

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

Response ID	URS ID	CSM ID	Owner ID	Information Submitted By	Current Owner	Ownership History	Size (Inches) and Material	Product	Originates	Pipeline Status	Integrity Test Failures	Notes	Contact	Source
13	21	Not provided	Line 1R	BP <i>(Information regarding the pipeline alignment was provided in an exhibit only.)</i>	BP (US Pipelines)	<ul style="list-style-type: none"> <li>1) Midway Gas (1912-1924)</li> <li>2) LA Midway Pipeline Co. (1924-1928)</li> <li>3) Abandoned (1928-1966)</li> <li>4) ARCO (1966-1978)</li> <li>5) Four Corners (1978-1994)</li> <li>6) ARCO Pipeline Co. (1994-2000)</li> <li>7) BP (2000-Present)</li> </ul>	10" - Carbon Steel	<ul style="list-style-type: none"> <li>1) Crude Oil (1928-1994)</li> <li>2) Abandoned (1994-Present)</li> </ul>	No	Abandoned <i>(BP stated, "It refers to the portion of the line that was abandoned and reworked in 1983 due to the widening of the Dominguez Channel. It also includes the remainder of the line within the one-mile radius. It was subsequently abandoned in 1994 due to the knowledge earthquake. It was subsequently reworked with Nitrogen.")</i>	Hydrotested June 1992	<p>Pipeline alignment was depicted in AECOM's exhibit "Pipelines Historically or Currently Owned by BP or its Affiliated Companies Within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel."</p> <p>Shapefiles for the pipeline alignment was not provided by BP. Therefore the pipeline alignment shown is a combination of the shape file alignment of Line 21, with the assumption of AECOM's exhibit, that Line 1R parallels the alignment of Line 21.</p> <p>Atlantic Richfield Company (ARCO) is the entity that manages remediation activities for BP, who in turn obtained petroleum forecasts review services from AECOM.</p>	Donna M. DiRocco, BP (562) 499-2202 donna.dirosso@bp.com	<ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>
14	24	Not provided	Line 1 (aka R286-1)	BP <i>(Information regarding the pipeline alignment was provided in an exhibit only.)</i>	BP (US Pipelines)	<ul style="list-style-type: none"> <li>1) Midway Gas (1912-1924)</li> <li>2) LA Midway Pipeline Co. (1924-1928)</li> <li>3) Richfield Oil Co. (1928-1966)</li> <li>4) ARCO (1966-1978)</li> <li>5) Four Corners (1978-1994)</li> <li>6) ARCO Pipeline Co. (1994-2000)</li> <li>7) BP (2000-Present)</li> </ul>	10" - Carbon Steel	<ul style="list-style-type: none"> <li>1) Crude Oil (1928-1963)</li> <li>2) Abandoned (1963-Present)</li> </ul>	No	Abandoned <i>(BP stated, "Abandoned in 1963 due to widening of Dominguez Channel.")</i>	No data available	<p>Pipeline alignment was depicted in AECOM's exhibit "Pipelines Historically or Currently Owned by BP or its Affiliated Companies Within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel."</p> <p>Shapefiles for the pipeline alignment was not provided by BP. Therefore the pipeline alignment shown is only an approximation based on AECOM's exhibit.</p> <p>Atlantic Richfield Company (ARCO) is the entity that manages remediation activities for BP, who in turn obtained petroleum forecasts review services from AECOM.</p>	Donna M. DiRocco, BP (562) 499-2202 donna.dirosso@bp.com	<ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>
15	25	Not provided	Line 6 (aka R286-6)	BP <i>(Information regarding the pipeline alignment was provided in an exhibit only.)</i>	BP (US Pipelines)	<ul style="list-style-type: none"> <li>1) Pan American Oil prior to 1928</li> <li>2) Richfield Oil Co. (1928-1966)</li> <li>3) ARCO (1966-1978)</li> <li>4) Four Corners (1978-1994)</li> <li>5) ARCO Pipeline Co. (1994-1999)</li> <li>6) ARCO Pipeline Company (1999 - Present, except for abandoned portion)</li> <li>7) BP (2000-Present, abandoned portion)</li> </ul>	8" - Carbon Steel	<ul style="list-style-type: none"> <li>1) Crude Oil (1928-1963)</li> <li>2) Abandoned (1963-Present)</li> </ul>	No	Abandoned <i>(BP stated, "Portion abandoned in 1963 due to widening of the Dominguez Channel. Remainder sold to Pacific Pipeline (Pacifi) in 1997")</i>	Hydrotested July 1983	<p>Pipeline alignment was depicted in AECOM's exhibit "Pipelines Historically or Currently Owned by BP or its Affiliated Companies Within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel."</p> <p>Shapefiles for the pipeline alignment was not provided by BP. Therefore the pipeline alignment shown is only an approximation based on AECOM's exhibit.</p> <p>Atlantic Richfield Company (ARCO) is the entity that manages remediation activities for BP, who in turn obtained petroleum forecasts review services from AECOM.</p>	Donna M. DiRocco, BP (562) 499-2202 donna.dirosso@bp.com	<ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>
16	01_03	Not provided	700A2-001 (Dominguez Estates Portion of Norwalk Trunk line)	ConocoPhillips Company (ConocoPhillips) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Crimson	<ul style="list-style-type: none"> <li>1) installed in 1923 by Unocal</li> <li>2) sold from ConocoPhillips to Crimson in July 1, 2008</li> <li>*A) Unocal Oil Company of California, dba Unocal.</li> <li>B) Tesco merged into Phillips Petroleum in 2001, and Conoco and Phillips subsequently merged on August 30, 2002 to become ConocoPhillips.</li> </ul>	4/6" - Steel	Records with Crimson	Inactive	Records with Crimson	<p>Shapefiles provided by ConocoPhillips. The pipeline appears to be the same line presented in Response 07 (submitted by Crimson) and Response 08 (Chevron EMC).</p>	ConocoPhillips provide the following contact: Larry Alexander, Crimson 2459 Redondo Ave. Long Beach, CA 90725	<ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>	
17	19	Not provided	Carson Plant Line #21	Tesoro <i>(Information regarding the pipeline alignment was provided in Shapefiles only.)</i>	Tesoro	Not provided	8" - Steel	Jet Fuel	Not provided	Active	Not provided	<p>Shapefiles provided by Tesoro. This pipeline appears to be the same line presented in Response 03 (submitted by Stiel).</p>	Dan Gabel, Tesoro Refining & Marketing 1930 E. Pacific Coast Highway Wilmington, CA 90744-9311	<ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>





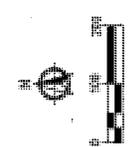


**URS**

**ASSESSMENT AREA AND IDENTIFIED PETROLEUM PIPELINES**

Project: **COACHMAN, COALFIELD, BELLEVILLE**  
 Date: **11/01/01**  
 Page: **2**

- WELL LOCATIONS**
- 1. EXISTING WELLS
  - 2. PROPOSED WELLS
  - 3. WELLS UNDER CONSTRUCTION
  - 4. WELLS UNDER CONTRACT
  - 5. WELLS UNDER OPTION
  - 6. WELLS UNDER AGREEMENT
  - 7. WELLS UNDER PERMIT
  - 8. WELLS UNDER APPLICATION
  - 9. WELLS UNDER INVESTIGATION
  - 10. WELLS UNDER STUDY
  - 11. WELLS UNDER REVIEW
  - 12. WELLS UNDER ASSESSMENT
  - 13. WELLS UNDER EVALUATION
  - 14. WELLS UNDER ANALYSIS
  - 15. WELLS UNDER REPORTING
  - 16. WELLS UNDER DISCUSSION
  - 17. WELLS UNDER COMMENT
  - 18. WELLS UNDER REPLY
  - 19. WELLS UNDER RESPONSE
  - 20. WELLS UNDER REVIEW
- PIPELINE LOCATIONS**
- 1. EXISTING PIPELINES
  - 2. PROPOSED PIPELINES
  - 3. PIPELINES UNDER CONSTRUCTION
  - 4. PIPELINES UNDER CONTRACT
  - 5. PIPELINES UNDER OPTION
  - 6. PIPELINES UNDER AGREEMENT
  - 7. PIPELINES UNDER PERMIT
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  - 16. PIPELINES UNDER DISCUSSION
  - 17. PIPELINES UNDER COMMENT
  - 18. PIPELINES UNDER REPLY
  - 19. PIPELINES UNDER RESPONSE
  - 20. PIPELINES UNDER REVIEW





**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).
	01, 03	Crude Oil	Phillips 66 is named as a successor to Tosco, Phillips Petroleum, and ConocoPhillips Company which previously owned the pipeline(s).
	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.
Phillips 66	18	Amine	Owner of pipeline.
	19	Lean Diethanolamine (DEA); Jet Fuel	Owner of pipeline.
	20	Fat Diethanolamine (DEA); Water	Owner of pipeline.
	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.
BP p.l.c. (BP)			

"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-SFVCleanupProgram\\_Sept2008\\_QAPP.pdf](http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/Board_SGV-SFVCleanupProgram_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**

<b>Directive</b>		<b>Due Date</b>
<b>1</b>	Submit a work plan for containment of petroleum hydrocarbons and associated wastes.	<b>April 30, 2013</b>
	Implement the work plan and report results in accordance with the approved work plan schedule.	To be determined
<b>2</b>	Submit a work plan to remove and legally dispose of petroleum hydrocarbons and associated wastes within both channel sub-drain systems.	<b>April 30, 2013</b>
	Implement the work plan and report results in accordance with the approved work plan schedule.	To be determined
<b>3</b>	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.	<b>August 30, 2013</b>
	Implement the IRAP work plan and report results in accordance with the approved work plan schedule.	To be determined
<b>4</b>	Develop and Update a Site Conceptual Model (SCM)	<b>July 1, 2013<sup>1</sup></b> 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
<b>5</b>	Complete Delineation of Wastes	
<b>5a</b>	Submit a Master Work Plan	<b>May 31, 2013</b>
<b>5b</b>	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
<b>6</b>	Prepare a Human Health Risk Assessment (HHRA) if requested by the Regional Board.	To be determined

<sup>1</sup> 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 approved 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.	<b>April 2, 2013</b>						
	Submit an initial groundwater monitoring report for the January to July 2013 period	<b>July 31, 2013</b>						
	Submit periodic groundwater monitoring reports in accordance with the following schedule:	<b>January 31 (each year) July 31 (each year)</b>						
<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							

# EXHIBIT 2



EDMUND G. BROWN JR.  
GOVERNOR



MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**Los Angeles Regional Water Quality Control Board**

June 20, 2012

Mr. Darrell Fah  
BP, plc; c/o Atlantic Richfield Company-BP  
4 Centerpointe Drive  
La Palma, CA 90623

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 2970 0000 0643 0800

Mr. Ben Terry  
Chevron Environmental Management Company  
6101 Bollinger Canyon Road  
San Ramon, CA 94583

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 2970 0000 0643 0817

Ms. Adriane R. Simon  
ExxonMobil Corporation c/o ExxonMobil Pipeline Company – Room 122  
12851 E. 166<sup>th</sup> Street  
Cerritos, CA 90703

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 2970 0000 0643 0824

Mr. Louis S. Mosconi  
Phillips 66  
3900 Kilroy Airport Way, Suite 210  
Long Beach, CA 90806

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 2970 0000 0643 0831

Mr. Ngiabi Gicuhi  
Plains All American Pipeline, L.P.  
5900 Cherry Avenue  
Long Beach, CA 90805

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 2970 0000 0643 0848

Mr. Eugene Freed  
Environmental Services  
Shell Oil Products US  
20945 S. Wilmington Avenue  
Carson, CA 90810

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
7011 2970 0000 0643 0855

**SUBJECT: DRAFT CLEANUP AND ABATEMENT ORDER NO. R4-2012-0103  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13304**

**SITE/CASE: DOMINGUEZ CHANNEL, SOUTH OF CARSON STREET  
CARSON, CALIFORNIA (SCP NO. 1264; FILE NO. 11-184)**

Dear Mr. Fah, Mr. Terry, Ms. Simon, Mr. Mosconi, Mr. Gicuhi, and Mr. Freed:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

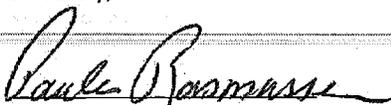
320 West 4th St., Suite 200, Los Angeles, CA 90013 | [www.waterboards.ca.gov/losangeles](http://www.waterboards.ca.gov/losangeles)

uses within major portions of Los Angeles County and Ventura County, including the area referred to as the Dominguez Channel, in the vicinity of Carson Street in Carson, California (referred herein as the Site). Regional Board staff recently performed an evaluation of environmental conditions at the Site and identified areas requiring additional delineation and remediation. In accordance with the Regional Board's responsibilities for the protection of water quality and beneficial uses, enclosed is draft Cleanup and Abatement Order No. R4-2012-0103 (Draft CAO), directing you to assess, monitor, cleanup, and abate the effects of wastes discharged to the soil, groundwater, and surface water at and near the Dominguez Channel (south of Carson Street) in Carson, California. This Draft CAO is prepared pursuant to sections 13267 and 13304 of the California Water Code.

You are hereby invited to submit written comments and/or evidence regarding this Draft CAO. Written submissions pertaining to this Draft CAO must be received by Regional Board staff no later than 5:00 p.m. on July 17, 2012. Thereafter, staff will prepare a response to comments, recommend appropriate modifications to the Draft CAO, and submit the materials to the Executive Officer of this Regional Board for consideration. Oral hearings are rarely convened to consider CAOs. Therefore, please ensure that all evidence and comments that you wish staff and/or the Executive Officer to consider are included in your timely submittal.

Should you have any questions, please contact Mr. Greg Bishop at (213) 576-6727 or [gbishop@waterboards.ca.gov](mailto:gbishop@waterboards.ca.gov).

Sincerely,



Paula Rasmussen  
Assistant Executive Officer

cc: (via e-mail)

Mr. Larry Alexander, Crimson Pipeline, L.P.

Ms. Mary Jo Anzia, AECOM

Mr. Lalo Bakhoun, South Coast Air Quality Management District

Mr. Hector Bordas, Los Angeles County Department of Public Works/Flood Control District

Mr. Edward Boyes, California Dept. of Fish and Game

Mr. Jason Clark, Air Products and Chemicals, Inc.

Mr. Christian Corbo, California Dept. of Fish and Game

Ms. Adriana Crasnean, Cal Fire

Ms. Donna DiRocco, BP Pipelines

Mr. Matthew Dunne, Exxon-Mobil Corporation

Ms. Patricia Elkins, City of Carson

Mr. John Englehardt, Resource Environmental, LLC

Mr. Mark Fahan, Holguin, Fahan & Associates, Inc.

Mr. Dan Fischman, Phillips 66

Mr. Daniel Gabel, Tesoro Refining and Marketing Company

Ms. Amy Gaylord, Pillsbury Winthrop Shaw Pittman LLP

Mr. Julio Gonzalez, City of Carson

Mr. Bob Gorham, Cal Fire

Mr. Marc Greenberg, Keesal, Young & Logan

Mr. John Hawkinson, Carson Estate Companies

Mr. Gary Hildebrand, Los Angeles County Department of Public Works/Flood Control District

Mr. Corey Kong, California Dept. of Fish and Game

Mr. Joe Liles, URS Corporation  
Mr. Todd Littleworth, Chevron Corporation, Chevron Law Group  
Mr. Chuck MacDonald, Cal Fire  
Mr. Sean Moe, California Dept. of Fish and Game  
Mr. George Phair, Resource Environmental, LLC  
Mr. Martin Powell, USEPA  
Mr. Ron Prowell, Prowell Family Trust  
Mr. David Randall, URS Corporation - North Carolina  
Mr. Ian Robb, Chevron Environmental Management Company  
Mr. Rob Speer, Chevron Environmental Management Company  
Mr. Robert Stechmann, Stechmann Geoscience, Inc.  
Mr. Fred Stroud, USEPA  
Ms. Michelle Tsiebos, Los Angeles County Department of Environmental Health  
Mr. Greg Vogelpohl, Resource Environmental, LLC  
Ms. Diane Wachi, City of Carson  
Mr. Barry White, City of Carson  
Mr. Jerome Zimmerle, URS Corporation

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STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-2012-0103  
REQUIRING

BP P.L.C.;  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY;  
EXXONMOBIL CORPORATION;  
PHILLIPS 66;  
PLAINS ALL AMERICAN PIPELINE, L.P.; 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. R4-2012-0103 (Order) is issued to BP p.l.c.; Chevron Environmental Management Company; ExxonMobil Corporation; Phillips 66; Plains All American Pipeline, L.P.; 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 (hereinafter, the "Site") located southeast of East Carson Street in Carson, California and of petroleum hydrocarbons within groundwater near 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 (that is adjacent to the former 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.; Chevron Environmental Management Company; ExxonMobil Corporation; Phillips 66; Plains All American Pipeline, L.P., 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, and Silverado 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-seven (27) 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*<sup>1</sup> by URS Corporation (2012); a copy of this report is included as Exhibit A.

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

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<sup>1</sup> *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.

***BP p.l.c.***

BP p.l.c. (BP) and/or 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. BP's pipelines reportedly transported crude oil. Crude oil has been identified at the Site.

***Chevron Environmental Management Company***

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

***ExxonMobil Corporation***

ExxonMobil Corporation's (ExxonMobil'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***

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.

***Plains All American Pipeline, L.P.***

Plains All American Pipeline, L.P. (Plains) and its subsidiary company own(ed) and operate(d) pipelines in the vicinity of the Site. These pipelines and their contents are identified in Exhibit B. Plains' pipelines reportedly transported crude oil. Crude oil has been identified at the Site.

***Shell Oil Products US***

Shell Oil Company operated a refinery that consisted of two properties: a Wilmington Unit to the south and a Dominguez Unit to the north (see Exhibit C). These units were approximately 3 miles apart and were connected by multiple corridors containing pipelines that transported every type of hydrocarbon produced or used at its refinery through these pipelines, including diesel fuel, refinery intermediates (or slops), and leaded and unleaded gasoline (Bright and Brown, 2010, p. 11). These pipelines extend through the Watson Industrial Center South (WICS) south of the Site and near the Site. The refinery intermediates transported within some of these lines would likely have included the naphtha-range LNAPL detected at the Site.

Shell Oil Products US (Shell) and its predecessor company's 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 naphtha-range LNAPL, Shell's pipelines reportedly transported

gasoline, crude oil, hot oil, amine, diethanolamine (DEA), and water. 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 naptha-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 naphtha-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). RELLC 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, RELLC 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:** In addition to the refinery intermediate and crude oil petroleum products documented to have been transported through the Responsible Parties' pipelines, the Regional Board recognizes that pipeline 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 detected, to be suspected discharge points.

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 is a nuisance. 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 Discharger is subject to an order pursuant to Water Code section 13304 because the Discharger has 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 Discharger 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 naphtha-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 naphtha-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 is therefore appropriately named as a responsible party 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 13267<sup>2</sup>. The Dischargers are required to submit the 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 Discharger's 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

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

This Order is issued by the Executive Officer pursuant to authority delegated by the Regional Board. The Discharger may seek reconsideration by the Regional Board. Note, however, that if the Discharger fails to file a petition within 30 days, in accordance with the State Water Board regulations, the Discharger will lose its 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 Channel<sup>3</sup>. 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 systems<sup>4</sup>. 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.

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<sup>3</sup> 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.

<sup>4</sup> 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.

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. 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.

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.
- ii. 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.
- iii. Delineation shall include full lateral (including off-Site) delineation and vertical delineation of waste constituents such that a complete 3-dimensional SCM can be generated.
- 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 January 2003 Advisory - Active Soil Gas Investigations, and the DTSC February 2005 (or latest version) 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 E).
  - 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 E).
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 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](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 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, P.E.  
Executive Officer

Date: \_\_\_\_\_

#### 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.
- Bright and Brown. (2010, January 27). Petition for Review and for Hearing on Petition; Request for Stay in the Matter of Order Requiring Submittal for Technical Reports (Water Code Section 13267) for Watson Industrial Center, Carson, California, File No. 09-197. Glendale, CA.
- 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.

**EXHIBIT A**

***Pipeline Assessment Update Report  
Dominguez Channel South of Carson Street  
Carson, California***

**by**

**URS Corporation**

**April 12, 2012**

**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**

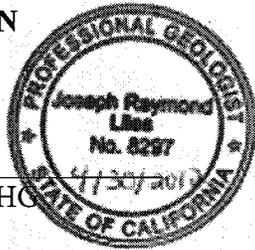
2020 East First Street, Suite 400  
Santa Ana, CA 92705  
714-835-6886 Fax: 714-667-7147

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

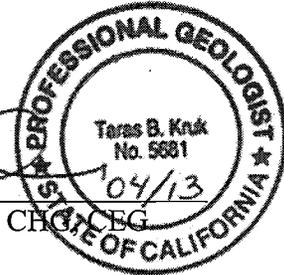
This Pipeline Assessment Update Report for the Dominguez Channel south of E. Carson Street in Carson, California, was prepared by URS Corporation on behalf of Resource Environmental LLC in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, geologists,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

**URS CORPORATION**

  
\_\_\_\_\_  
Joseph R. Liles, PG, CHG  
Project Manager



  
\_\_\_\_\_  
Taras B. Kruk, PG, CHG, CEG  
Principal



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## List of Acronyms

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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 Order 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 213<sup>th</sup> 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" H<sub>2</sub> Pipeline Alignment Drawings 2137-A-112 and 113 were obtained from Air Products and Chemicals. The map identifies the 10" H<sub>2</sub> 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 215<sup>th</sup> 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 C<sub>2</sub>REM.
- 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 213<sup>th</sup> 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 213<sup>th</sup> 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

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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 C<sub>2</sub>Rem'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 (C<sub>2</sub>Rem, 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 C<sub>2</sub>Rem'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 (C<sub>2</sub>Rem, 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 H<sub>2</sub> 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 mentioned 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

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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 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*<sup>1</sup> 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”

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<sup>1</sup> 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's<sup>2</sup> 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 re-routed to its current location of Response #12; however, no mention of this abandonment could be found in the BP submission.

<sup>2</sup> 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 Tosco<sup>3</sup> 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.

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<sup>3</sup> 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.
- C<sub>2</sub>REM, 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 (LACFCDD), *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*.

- 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*.





**TABLE 1  
PIPELINE ASSESSMENT DATA MATRIX**  
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Dominguez Channel South of Carson Street  
Carson, California  
(Page 2 of 8)

URS ID	OSFM ID	Owner (see notes)	Size (inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
04	NA	Shell	8" Steel	8" Shell Oil No. 1 Gasoline Line, the Dominguez Fuel Line and 8" Equilon	Gasoline		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.	The pipeline travels within Perry St and Carson St, then crosses beneath the Dominguez Channel near the northerly 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) 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 <sub>2</sub> Pipeline Alignment Drawing Z137-A-113. 4) Well Installation Work Plan for Chevron Texaco Heritage Site No. 21-1316) 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" Equilon			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.	The pipeline which travels within Perry St and Carson St, then crosses beneath Dominguez Channel near the northerly 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) 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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing Z137-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).	The pipeline was constructed in February 1933.
06	NA	Shell	12" Steel	12" Shell Oil No. 15 Hot Oil Line and 12" Equilon	Hot Oil		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.	The pipeline travels within Perry St and Carson St, then crosses beneath Dominguez Channel near the northerly 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) 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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing Z137-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).	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 Butadiene Pipeline	Butadiene		LACDPW, Land Records Substructure Map No. W-222 shows the pipeline alignment.  Pipeline Abandonment Report (C,REM 2001) states that the pipeline was never constructed.	The proposed pipeline was to be constructed between the Torrance Synthetic Rubber Plant and Mormon Island.	1) LACDPW, Land Records Substructure Map No. W-222. 2) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C,REM 2001).	The proposed 12" pipeline was to be 11.5 miles (60,720 ft) long.  According to Pipeline Abandonment Report (C,REM 2001), the pipeline was never constructed and field observations confirmed the absence of the pipeline.

Note: Pipelines of Highlighted Rows are further addressed in Table 2

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

URS ID	OSFM ID	Owner (see notes)	Size (inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
08	NA	Shell	6" Steel	6" Shell Oil and 6" Dominguez Hill Fuel Line (Replacement pipeline segment located within Perry St only)	Crude Oil		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.	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 overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) 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). 3) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C-REM 2001). 4) Phase I Environmental Site Assessment: Vincé'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 1962.
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		LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as 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). The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW, Land Records Substructure Map No. W-222. 2) Shell Oil, Dominguez Hill Crude Trunk Line Drawing Y-1413. 3) Shell Oil, Abandoned Inter-Refinery Pipelines, Wilmington & Dominguez Refineria's Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Well Installation Work Plan (for Chevron Texaco Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002). 5) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C-REM 2001). 6) Phase I Environmental Site Assessment: Vincé'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. According to Pipeline Abandonment Report (C-REM 2001), the portion of the pipeline within Perry St was possibly abandoned and replaced by a new 6" Dominguez Hill Fuel Line (see URS#08) due to conflict with potential future development and to facilitate pipeline maintenance.
10	NA	Shell	6" Steel	6" Shell Oil/6" Dominguez Hill crude line and 6" Equilon	Crude Oil		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.	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, then crosses the Dominguez Channel along the Carson St. bridge and continues into Recreation Road. The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW, Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Shell Oil, Dominguez Hill Crude Trunk Line Drawing Y-1413. 4) Shell Oil, Abandoned Inter-Refinery Pipelines, Wilmington & Dominguez Refineria's Drawings Y-5166-H, Y-5166-J and Y-5166-K. 5) AIP Products and Chemicals Mobil Terrace Pipe Line Project, 10" HZ Pipeline Alignment Drawing 2137-A-113. 6) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C-REM 2001). 7) Phase I Environmental Site Assessment: Vincé's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The overall pipeline was constructed in November 1938.

TABLE 1  
 PIPELINE ASSESSMENT DATA MATRIX  
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URS ID	OSFM ID	Owner (see notes)	Size (inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
11	NA	Shell	6" Steel	6" Shell Oil and 6" Ventura Gas Line (Replacement pipeline segment located within Perry St only).	Gasoline		LACDPW Land Records Substructure Map No. W-222 shows the pipeline as abandoned in August 1973. Pipeline Abandonment Report (C <sub>3</sub> REM 2001) shows the pipeline as abandoned in April 1971.	The segment of pass-through pipeline (within Perry St only) was a replacement for the 4" 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.  The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW Land Records Substructure Map No. W-222. 2) Shell Oil, Ventura Product Line Drawing Y-4023. 3) Well Installation Work Plan (for Chevron Texaco Heritage Site No. 21-13.16) Plate No. 4 (Harding ESE 2002). 4) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C <sub>2</sub> REM 2001). 5) 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 1962.
12	NA	Shell	4" Steel	4" Ventura Gas Line (Pipeline segment being replaced located within Perry St only)	Gasoline		Pipeline Abandonment Report (C <sub>3</sub> 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" Ventura Gas Line segment within Perry St (see URS#11).  The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW Land Records Substructure Map No. W-222. 2) Well Installation Work Plan (for Chevron Texaco Heritage Site No. 21-13.16) Plate No. 4 (Harding ESE 2002). 4) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C <sub>2</sub> REM 2001). 5) 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 Mar 1927 and joins the original 4" Ventura Gas Line (see URS#13) at the intersection of Perry St and Carson St.  According to Pipeline Abandonment Report (C <sub>3</sub> REM 2001) the portion of the pipeline within Perry St was possibly abandoned and replaced by a new 6" Ventura Gas Line (see URS#11) due to conflict with potential future development and to facilitate pipeline maintenance.
13	NA	Shell	4" Steel	4" Shell Oil, 4" Shell Gasoline, 4" Ventura Gas Line and 4" Equilon	Gasoline		LACDPW Land Records Substructure Map No. W-222 shows the pipeline as abandoned in August 1973. Pipeline Abandonment Report (C <sub>3</sub> REM 2001) shows the pipeline as abandoned in April 1971.	The pass-through pipeline starts 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 Carson St bridge and continues into Recreation Road.  The overall pipeline operated between the Dominguez Hills production fields and/or transport locales to either bifurcated refinery complex.	1) LACDPW Land Records Substructure Map No. W-222. 2) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 2. 3) Shell Oil, Ventura Product Line Drawing Y-4023. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawings 2137-A-113. 5) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C <sub>3</sub> REM 2001). 6) Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 East Carson Street, Carson, California (PHR Environmental Consultants 1998).	The pipeline was constructed in March 1927.

Note: Pipelines of Highlighted Rows are further addressed in Table 2

**TABLE I**  
**PIPELINE ASSESSMENT DATA MATRIX**  
 (December 8, 2011 Submittal)  
 Dominguez Channel South of Carson Street  
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URS ID	OSFM ID	Owner (see notes)	Size (inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
14	NA	Shell	10" Steel	10" Shell Oil, the No. 2 Dominguez Hills Fuel Line or the Non-finished Gasoline Line and 10" Equilon	Gasoline		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.	The abandoned gasoline pipeline travels within Perry St and Carson St, then crosses beneath the Dominguez Channel near the northerly edge of Carson St bridge and continues into Recreation Road. The inter-refinery pipeline operated between the Dominguez Refinery and the Wilmington Refinery.	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 Drawings Y-5166-H, Y-5166-J and Y-5166-K. 4) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing 2137-A-113. 5) Well Installation Work Plan (For Chevron Texas Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002). 6) Pipeline Abandonment Report (Perry Street Investigation, Shell Oil Company) (C-REM 2003). 7) Phase I Environmental Site Assessment: Vince's Automotive Specialties, 1209 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 (1.4, 784 Ft).
15	1103	Plains All American Pipeline	16"	16" Four Corners Crude Oil, Pipeline 93 and 16" ARCO	Crude Oil	John Ruffolo LB 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. The overall pipeline operated between Plains West Hynes to BSA Refinery. EXON (Mobil), Chevron El Segundo, Caroco-Phillips Torrance Tank Farm and Shell Refineries.	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 Drawings Y-5166-F, Y-5166-G 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 Texas Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002). 6) Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area (Wolfgang Watson 2001). 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 Plaines All American listed as the current owner. National Pipeline Mapping System has Pacific Pipeline System as the operator. Work Plan for Investigation and Remediation of Perry Street Pipeline Investigation Area (Wolfgang Watson 2001) states that BP was formerly ARCO/ four corners Crude.
16	NA	Shell	6"	6" Shell Oil			LACDPW, Land Records Substructure Map No. W-222 shows the pipeline as abandoned in July 1960. Well Installation Work Plan (For Chevron Texas Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002) shows the pipeline as abandoned.	References of the segment of pipeline appears only at the intersection of Perry St and Carson St.	1) LACDPW, Land Records Substructure Map No. W-222. 2) Well Installation Work Plan (For Chevron Texas Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002).	References to this segment of pipeline only appeared in the LACDPW, Land Records Substructure Map No. W-222 and Well Installation Work Plan (For Chevron Texas Heritage Site No. 21-1316) Plate No. 4 (Harding ESE 2002).
17	NA	Shell	4" and 6"	4" & 6" Shell Oil and 4" & 6" Equilon			The five 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 direction. The portion of the pipelines crossing the Dominguez Channel have been removed and capped at both sides of the Channel. The southerly portion of the pipelines continues into Lauder St.	1) LACDPW, Levee Side Subdrain System Dominguez Channel, Figure 3. 2) LACDPW, Dominguez Channel (Wilmington Ave. To Aviston Blvd) Channel Excavation, C&W (Leak) and S&P (Settlement Plan) and Profiles, SEE 318-6778 to 34-329-00, Sheet 6 3) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing 2137-A-112. 4) Shell Oil, Dominguez Hill Crude Trunk Line Drawing Y-1433. 5) Shell Oil, Ventura Products Line Drawing Y-4023. 6) LACDPW Permit and Completion notice for the removal of a "utility bridge" just south of Carson Street. 7) Shell Oil Company letter addressed to LACDPW confirming removal of a "pipeline crossing" just south of Carson Street completed on October 21, 1960.	According to documents from LACDPW and Shell, these pipelines crossed the channel on utility bridges and were not buried beneath the channel and the pipelines were abandoned in the later than 1960 when the utility bridge was removed.

Note: Pipelines of Highlighted Rows are further addressed in Table 2

TABLE 1  
 PIPELINE ASSESSMENT DATA MATRIX  
 (December 8, 2011 Submitted)  
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Alert ID	Owner (Alert Number)	Alert Number	Alert Title	Alert Description	Alert Status	Alert Category	Alert Priority	Alert Severity	Alert Date	Alert Location	Alert Status	Alert Description	Alert Status
10	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
11	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
12	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
13	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
14	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
15	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
16	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
17	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
18	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
19	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
20	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
21	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
22	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
23	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
24	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
25	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
26	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
27	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
28	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
29	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
30	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
31	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
32	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
33	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
34	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
35	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
36	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
37	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
38	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
39	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
40	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
41	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
42	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
43	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
44	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
45	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
46	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
47	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
48	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
49	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
50	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Note: Headlines of highlighted rows are further elaborated in Table 2



**TABLE 1  
PIPELINE ASSESSMENT DATA MATRIX  
(December 8, 2011 Submittal)  
Dominguez Channel South of Carson Street  
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URS ID	OSFM ID	Owner (See notes)	Size (Inches) and Material	Pipeline ID Used in Reference Materials	Product	Contact	Pipeline Status	Pipeline Route	References	Notes
25	NA	BP	8"	Line 6, 8" ARCO, 8" Richfield Oil and B-266 Oil Line-8" Pipeline segment within the Dominguez Channel only	Past use of on-Grades service		Abandoned portion of the Pipeline is not shown in the National Pipeline Mapping System. Research at the Office of the State Fire Marshal, Pipeline Safety Division did not yield any information regarding the abandoned portion of the pipeline that is 8" in diameter at that location. Air Products and Chemicals Drawing 2137-A-113 shows the pipeline as abandoned and relocated. BP Petition (BP-2011) in Donna DiRocco (BP) response to Greg Bishop (LARWQCB) states that "Further research has discovered an old abandoned section of 8" Line 6 which crosses the Dominguez Channel in the same general area, but was abandoned prior to 1954."	The abandoned segment of pipeline within the Dominguez Channel was replaced by pipeline (US#223) north of Carson St. Per 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 <sub>2</sub> 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-2011).	BP Petition (BP-2011) states that "The B-266 is a designation from the old Wood (Western Oil and Gas) maps (maps no longer produced). The B-266 designation stood for Abante, Richfield... The B-66 was a sequential WOGA number designation given to two Richfield lines, an 8" oil and a 10" oil. In this case it's referring to 10" Line 1 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 Plains All American in approximately 1999." BP Petition (BP-2011) states that "The abandoned portion of Line 6 remains BP's asset... This section of Line 6 was abandoned due to a re-route of the line caused by improvement made to the Flood Control (Dominguez Channel) Right-of-Way."
26	NA	BP	12"	12" Chevron Hills Gas, 12" ARCO 211 and 211 Stocker Carson REF (Pipeline segment within the Dominguez Channel only)	Natural Gas		Abandoned portion of the Pipeline is not shown in the National Pipeline Mapping System. Research at the Office of the State Fire Marshal, Pipeline Safety Division did not yield any information regarding the abandoned portion of the pipeline that is 12" in diameter at that location. Air Products and Chemicals Drawing 2137-A-113 shows the pipeline as abandoned and relocated.	The abandoned segment of pipeline within the Dominguez Channel was replaced by pipeline (US#223) north of Carson St. Per 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 <sub>2</sub> 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-2011).	BP Petition (BP-2011) discussed pipeline 211 (URS #23), however the abandoned segment of this pipeline was not identified.
27	NA	Air Products and Chemicals	10"	ARCO 10" H <sub>2</sub> Pipeline	H <sub>2</sub>		Air Products and Chemicals Drawing 2137-A-112 and 113 show the pipeline as active.	The pipeline travels in a parallel direction within the inventory access road of the Dominguez Channel.	1) Air Products and Chemicals, Mobil Torrance Pipeline Project, 10" H <sub>2</sub> Pipeline Alignment Drawing 2137-A-112 and 113.	

Note: Pipelines of Highlighted Rows are further addressed in Table 2

TABLE 2  
SUBMITTED PIPELINE INFORMATION MATRIX  
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(Page 1 of 3)

Response ID	URS ID	CFM ID	Owner ID	Information Submitted BY	Current Owner	Ownership History	Material	Product	Oxygenates	Pipeline Status	Integrity Test Failures	Notes	Contact	Source
01	27	Not provided	AK Products and Chemicals Line #186	AK Products and Chemicals, Inc. (APCI) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	APCI	1) Air Products and Chemicals 2) Shell Oil Company (1926 to circa 1974)	10" Carbon Steel	Hydrogen Gas (LI years)	None	Active	No	APCI notes stated, "This pipeline was installed by products and chemical and has been the most used pipeline. The pipeline transported is clean and dry gaseous hydrogen."	Jason Clark, Air Products and Chemicals 700 N. Hunt Ford Ave. Wilmington, CA, 90803 (310) 952-9172 dark@AirProducts.com	APCI stated, "Owner construction and maintenance records."
02	30	Not provided	Dominguez Hills Cude Line #6	Shell Oil Products US (Shell) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Shell	1) Shell Oil Company (1926 to circa 1974)	6" Carbon Steel	Cude	NA	Abandoned	No records available	Shell's notes stated, "1974 - Abandoned segments in the Dominguez Channel removed and remaining pipeline ends capped on either side of channel Right-of-Way."	David Lloyd, Equilon Enterprises LLC (Company) LLC - Operator 20945 S. Wilmington Ave. Carson, CA, 90810 (310) 816-2088	Shell stated, "Shell Pipeline Company LP."
03	19	0866	Carson Plant Line #21	Shell <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Tesoro	1) General Petroleum (Mobil) 1966-circa 1975 2) Shell Oil Company (circa 1975 to 1/15/1998) 3) Equilon Enterprises LLC (1/15/1998 to 2/13/2002) 4) Shell Oil Products US (2/13/2002 to 2007) 5) 2007 - Sold to Tesoro	Shell stated, "12" Carbon Steel" Tesoro edition for Line #21 identify the pipeline as 8" Carbon Steel	Other (Lean Diethanamine (DEA), Jet Fuel)	Not provided	Not provided, directed to contact Tesoro	Not provided, directed to contact Tesoro	Shell's notes stated, "Sold to Tesoro." Shapefiles provided by Shell. This pipeline appears to be the same line presented in Response 17 (submitted by Tesoro).	Not provided, directed to contact Tesoro	Shell stated, "Tesoro."
04	20	0867	Carson Plant Line #22	Shell <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Shell	1) General Petroleum (Mobil) 1966-circa 1975 2) Shell Oil Company (circa 1975 to 1/15/1998) 3) Equilon Enterprises LLC (1/15/1998 to 2/13/2002) 4) Equilon Enterprises LLC (2/13/2002 to present) (SCP US) (2/13/2002 to present)	8" Carbon Steel	Other (Fat Diethanamine (FDN), Water)	NA	Idle	No	Shell's notes stated, "Not in service. Tool run conducted in water."	David Lloyd, Equilon Enterprises LLC (Company) LLC - Operator 20945 S. Wilmington Ave. Carson, CA, 90810 (310) 816-2088 dark@AirProducts.com	Shell stated, "Shell Pipeline Company LP."
05	17	Not provided	Ventura Field to Wilmington Refinery 4" Gasoline Line #13	Shell <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Shell	1) Shell Oil Company (1926 to circa 1974)	4" Carbon Steel	Gasoline	NA	Abandoned, with section within Dominguez Channel removed	No records available	Shell's notes stated, "1974 - Abandoned segments in the Dominguez Channel removed and remaining pipeline ends capped on either side of channel Right-of-way." Pipeline segment starts at the southern ROW of the channel and terminates at the intersection of Lauder St. and S Edgar St. Pipeline segment north of the channel was not indicated by Shell Oil.	David Lloyd, Equilon Enterprises LLC (Company) LLC - Operator 20945 S. Wilmington Ave. Carson, CA, 90810 (310) 816-2088	Shell stated, "Shell Pipeline Company LP."
06	18	Not provided	Amhine Lines #7 and 8	ExxonMobil Pipeline Company (ExxonMobil) <i>(Information regarding the pipeline alignment was provided in an exhibit only.)</i>	Shell	1) Mobil Oil Corp. (1949-1975) 2) Sold to Shell 5/15/1975	(3) 8" - Steel	Amhine (1949-1975)	None	Unknown	No integrity test information up to 1975	ExxonMobil notes stated, "Mobil Oil Corp. sold to Shell May 15, 1975. Shapefiles not provided. No leak history." ExxonMobil provided pipeline alignment through an API exhibit. Shapefiles for the pipeline alignment was not provided by ExxonMobil. Shell Oil did not provide any information related to these pipelines.	Adriane Simon, ExxonMobil Pipeline Company 12851 E 166th St Carson, CA, 90703 (310) 816-2088 address.csimon@exxonmobil.com	ExxonMobil stated, "Drawing no. 4C-15, 4C-16, 4C-17, 4C-18, 4C-19 & 4C-20."
07	01,03	447	Norwalk #1 - Dominguez Gathering	Crimson Pipeline, LP (Crimson) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Crimson	1) Unocal (Original Owner) 2) Torco (1997-2001) 3) Conoco Phillips (2001-2008) 4) Crimson (2008 to Present)	6" Steel	Cude	None	Inactive	None	Shapefiles provided by Crimson. This pipeline appears to be the same line presented in Response 16 (submitted by Chevron EMC) and Response 16 (submitted by ConocoPhillips).	Nike Scullion, Crimson 2455 Redondo Ave. Long Beach, CA, 90705 (562) 595-9463	Not provided

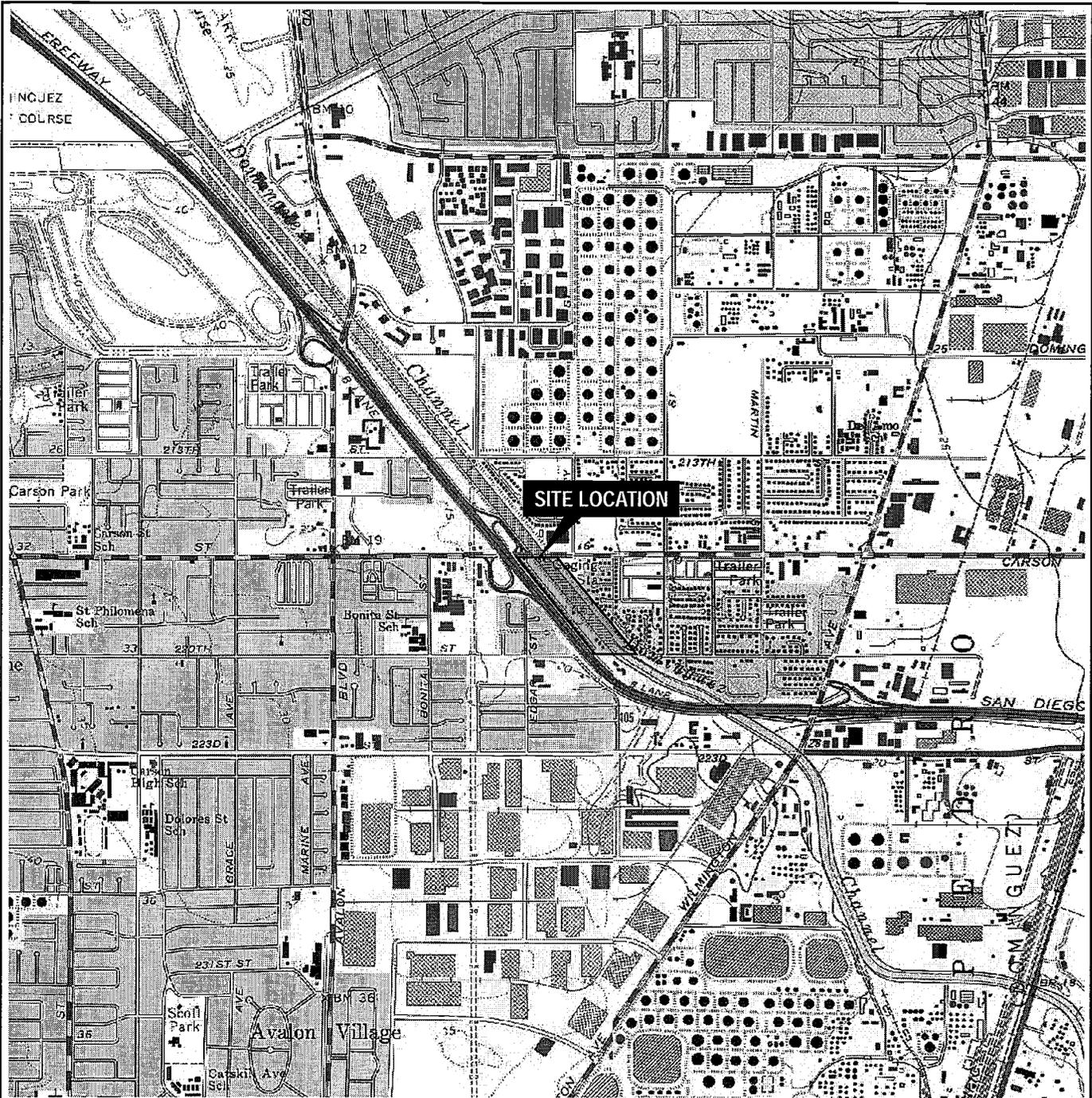
TABLE 2  
SUBMITTED PIPELINE INFORMATION MATRIX  
Dominguez Channel South of Carson Street  
Carson, California  
(Page 2 of 3)

Response ID	URS ID	CSM ID	Owner ID	Information Submitted By	Current Owner	Ownership History	Size (Inches) and Material	Product	Originatees	Pipeline Status	Integrity Test Failures	Notes	Contact	Source
08	01_03	Not provided	6" Dominguez No. 2	Chercon Environmental Management Company (Chercon EMC)  (Information regarding the pipeline alignment was provided in the Shapetteles only)	Crimson	1) Union Oil Company of California and its wholly owned subsidiary, Unocal California Pipeline Company (Unocal-CAL) (1997-2008) 2) Tesco/Phillips/ConocoPhillips (1997 to 2008)* 3) Crimson (2008 to present)  *Chercon stated, "Chercon understands that Tesco and Phillips subsequently merged on August 30, 2002 to become ConocoPhillips. Chercon is informed and believes that a Purchase and Sale Agreement was entered into between Tesco and Phillips in California Pipeline, L.P. for a package of lines, including said line on July 1, 2008."  Unocal Oil Company of California, dba Unocal merged with Chercon Corporation in 2006 and became a wholly-owned subsidiary.	6" - Steel	Crude (dates unknown)	None	Chercon EMC stated, "is believed to be active"	No records indicating integrity test failures have been identified	Chercon EMC's notes stated, "All information provided is to the best of Chercon's current knowledge after a reasonable inquiry and diligent search. The information provided in this matrix is based on information that is available to verify information for periods beyond Unocal Oil's ownership."  Shapetteles provided by Chercon EMC. This pipeline appears to be the same line presented in Response 07 (submitted by Crimson) and Response 15 (submitted by ConocoPhillips).	Chercon EMC stated, "Unknown, but believed to be currently owned by Crimson"	Crimson stated, "Union Oil Company of California drawings D4A183 and D4A124."
09	02	Not provided	6" Teas to Field Dept. for Wastewater line	Chercon EMC  (Information regarding the pipeline alignment was provided in the Shapetteles only)	Unocal  (Union Oil Company of California, dba Unocal merged with Chercon Corp. and became a wholly owned subsidiary)	1) Union Oil Company of California and its wholly owned subsidiary, Unocal California Pipeline Company (Unocal-CAL) (1997-2008) 2) Tesco/Phillips/ConocoPhillips (1997 to 2008)* 3) Crimson (2008 to present)  *Chercon stated, "Chercon understands that Tesco and Phillips subsequently merged on August 30, 2002 to become ConocoPhillips. Chercon is informed and believes that a Purchase and Sale Agreement was entered into between Tesco and Phillips in California Pipeline, L.P. for a package of lines, including said line on July 1, 2008."  Unocal Oil Company of California, dba Unocal merged with Chercon Corporation in 2006 and became a wholly-owned subsidiary.	6" - Steel	Previously used for waste water (dates unknown)	None	Inactive	No records indicating integrity test failures have been identified	Chercon EMC's notes stated, "All information provided is to the best of Chercon's current knowledge after a reasonable inquiry and diligent search. The information provided in this matrix is based on information that is available to verify information for periods beyond Unocal Oil's ownership."  Shapetteles provided by Chercon EMC. This pipeline appears to be the same line presented in Response 07 (submitted by Crimson) and Response 15 (submitted by ConocoPhillips).	Brian "Pete" Bergeron, Chercon EMC (925) 796-6519 pet.bergeron@chercon.com	Chercon EMC stated, "Union Oil Company of California drawings 04A183 and D4A124."
10	15	1103	Line 093D (Peery St. I.C.T to Sepulveda St)	Plains All American Pipeline, LP (Plains, All American)  (Information regarding the pipeline alignment was provided in an exhibit and in the Shapetteles.)	Plains All American	1) ARCO/ BP (1999) 2) Pacific Pipeline System, LLC (1995-2006) 3) Plains All American Pipeline (2006-Present)	16" - Carbon Steel	Crude Oil	None	Active	No	NA	Ngibi Giculi, Plains All American Pipeline (562) 726-2024 ngiculi@paapl.com	Plains All American Pipeline stated, "Plains Pipeline Inventory Database."
11	22	81	Line 006A	Plains All American  (Information regarding the pipeline alignment was provided in an exhibit and in the Shapetteles.)	Plains All American	1) ARCO/ BP (1999) 2) Pacific Pipeline System, LLC (1995-2006) 3) Plains All American Pipeline (2006-Present)	8" - Carbon Steel	Crude Oil	None	Inactive	Provided information unclear. Plains All American Pipeline stated, "OOO"	Pipeline alignment from Shapetteles provided by Plains All American different from the alignment from previous research. Previous research shows pipeline crossing the Dominguez Channel at north of Carson St. bridge (see URS#23), while Plains All American Pipeline Shapetteles shows it as crossing beneath the Carson St bridge.	Ngibi Giculi, Plains All American Pipeline (562) 726-2024 ngiculi@paapl.com	Plains All American Pipeline stated, "Plains Pipeline Inventory Database."
12	23	Not provided	Line 211	BP Pipelines (North America), Inc. (BP)  (Information regarding the pipeline alignment was provided in an exhibit and in the Shapetteles.)	BP (Carson Logistics Assets)	1) Richfield Oil (1960) 2) Chevron Hills Pipeline (1960-1992) 3) ARCO (March 1982-April 1994) 4) Four Corners (1962-1994) 5) Plains All American Pipeline Company (1994-2000) 6) BP (2000 - Present)	12" - Carbon Steel	Crude (1960-1994) 2) Oil (1994-1999) 3) Natural Gas (2000-Present)	No	Active	1) Integrity tests completed in 1983, 1990, and 1992. 2) Hydrotest on 12/28/1992 to prepare pipeline for natural gas in 2000. 3) Internal Line Inspection (ILI) in Nov. 2007. 4) Pig got stuck. Made repairs. Ran pig again successfully.	Pipeline alignment from Shapetteles provided by BP differ than AECOM's exhibit. Pipelines historically or Currently Owned by BP or its Affiliated Companies within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel are shown in the section of pipe beneath Carson St.  Atlantic Richfield Company is the entity that manages remediation activities for BP, who in turn obtained petroleum for reviews services from AECOM.	Donna M. DiRocco, BP (562) 499-2302 donna.dirocco@bp.com	BP stated: 1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764 2) Construction Material of all pipelines are to be carbon steel based on basis of pipe size. 3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OD (Operational Integrity Database) 4) Information regarding the historic pipelines is derived from historical records. 5) Integrity test information is derived from project files

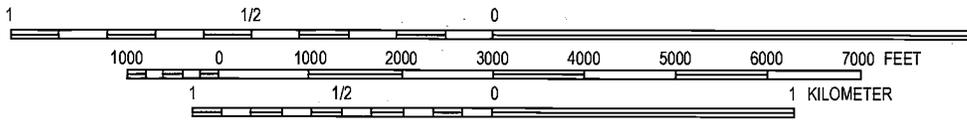
TABLE 2  
SUBMITTED PIPELINE INFORMATION MATRIX  
Dominguez Channel South of Carson Street  
Carson, California  
(Page 3 of 3)

Response ID	URS ID	CFRM ID	Owner ID	Information Submitted By	Current Owner	Ownership History	Site (Inches) and Material	Product	Degradates	Pipeline Status	Integrity Test Failures	Notes	Contact	Source
13	21	Not provided	Line 1A	BP <i>(Information regarding the pipeline alignment was provided in an exhibit only)</i>	BP (US Pipelines)	<ul style="list-style-type: none"> <li>1) Midway Gas (1912-1924)</li> <li>2) LA Midway Pipeline Co. (1924-1928)</li> <li>3) Richfield Oil Co. (1928-1966)</li> <li>4) ARCO (1966-1978)</li> <li>5) Four Corners (1978-1994)</li> <li>6) ARCO Pipeline Co. (1994-2000)</li> <li>7) BP (2000-Present)</li> </ul>	10" - Carbon Steel	<ul style="list-style-type: none"> <li>1) Crude Oil (1928-1963)</li> <li>2) Abandoned (1968-Present)</li> </ul>	No	Abandoned <i>(BP states, "It refers to the portion of Line 1 that had to be widened and rerouted in 1963 due to the widening of the Dominguez Channel. It also includes the remainder of the line within the one-mile radius. It was subsequently abandoned in 1994 due to the horizontal earthquake. It was subsequently merged with Norwalk-7")</i>	Hydrotested June 1992	<p>Pipeline alignment was depicted in AECOM's exhibit "Pipelines Historically or Currently Owned by BP or its Affiliated Companies Within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel."</p> <p>Shapefiles for the pipeline alignment was not provided by BP. Therefore the pipeline alignment shown is a combination of the shape file alignment of Line 211 with the assumption of AECOM's exhibit, that Line 1A parallels the alignment of Line 211.</p> <p>Atlantic Richfield Company (ARCO) is the entity that manages remediation activities for BP, who in turn obtained petroleum forensics review services from AECOM.</p>	Donna M. DiRocco, BP (562) 499-2202 donna.dirocco@bp.com	<p>BP stated:</p> <ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>
14	24	Not provided	Line 1 (aka R266-1)	BP <i>(Information regarding the pipeline alignment was provided in an exhibit only)</i>	BP (US Pipelines)	<ul style="list-style-type: none"> <li>1) Midway Gas (1912-1924)</li> <li>2) LA Midway Pipeline Co. (1924-1928)</li> <li>3) Richfield Oil Co. (1928-1966)</li> <li>4) ARCO (1966-1978)</li> <li>5) Four Corners (1978-1994)</li> <li>6) ARCO Pipeline Co. (1994-2000)</li> <li>7) BP (2000-Present)</li> </ul>	10" - Carbon Steel	<ul style="list-style-type: none"> <li>1) Crude Oil (1928-1963)</li> <li>2) Abandoned (1968-Present)</li> </ul>	No	Abandoned <i>(BP states, "Abandoned in 1963 due to widening of Dominguez Channel. 7")</i>	No data available	<p>Pipeline alignment was depicted in AECOM's exhibit "Pipelines Historically or Currently Owned by BP or its Affiliated Companies Within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel."</p> <p>Shapefiles for the pipeline alignment was not provided by BP. Therefore the pipeline alignment shown is only an approximation based on AECOM's exhibit.</p> <p>Atlantic Richfield Company (ARCO) is the entity that manages remediation activities for BP, who in turn obtained petroleum forensics review services from AECOM.</p>	Donna M. DiRocco, BP (562) 499-2202 donna.dirocco@bp.com	<p>BP stated:</p> <ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>
15	25	Not provided	Line 6 (aka R266-6)	BP <i>(Information regarding the pipeline alignment was provided in an exhibit only)</i>	BP (US Pipelines)	<ul style="list-style-type: none"> <li>1) Pan American Oil prior to 1928</li> <li>2) Richfield Oil Co. (1928-1966)</li> <li>3) ARCO (1966-1978)</li> <li>4) Four Corners (1978-1994)</li> <li>5) Pacific Pipeline Co. (1994-2000)</li> <li>6) Pacific Pipeline (1999-Present, except abandoned portion)</li> <li>7) BP (2000-Present, abandoned portion)</li> </ul>	8" - Carbon Steel	<ul style="list-style-type: none"> <li>1) Crude Oil (1928-1963)</li> <li>2) Abandoned (1968-Present)</li> </ul>	No	Abandoned <i>(BP states, "Portion abandoned in 1967 due to widening of the Dominguez Channel. Remains used for Pacific Pipeline (Priority in 2007)")</i>	Hydrotested July 1983	<p>Pipeline alignment was depicted in AECOM's exhibit "Pipelines Historically or Currently Owned by BP or its Affiliated Companies Within a One-Mile Radius of the Intersection of Carson Street and the Dominguez Channel."</p> <p>Shapefiles for the pipeline alignment was not provided by BP. Therefore the pipeline alignment shown is only an approximation based on AECOM's exhibit.</p> <p>Atlantic Richfield Company (ARCO) is the entity that manages remediation activities for BP, who in turn obtained petroleum forensics review services from AECOM.</p>	Donna M. DiRocco, BP (562) 499-2202 donna.dirocco@bp.com	<p>BP stated:</p> <ul style="list-style-type: none"> <li>1) Locations of pipelines can be found on Los Angeles Thomas Guide, page 764</li> <li>2) Construction Material of all pipelines is assumed to be carbon steel based on age of pipelines</li> <li>3) Information regarding pipeline size, commodity, status, and current ownership is derived from an ARCO database known as the OID (Operational Integrity Database)</li> <li>4) Information regarding the historic right-of-ways records</li> <li>5) Integrity test information is derived from project files</li> </ul>
16	01_03	Not provided	200A2-001 (Dominguez Estates Portion of Norwalk Trunk Line)	ConocoPhillips Company (ConocoPhillips) <i>(Information regarding the pipeline alignment was provided in an exhibit and in the Shapefiles.)</i>	Cimason	<ul style="list-style-type: none"> <li>1) Installed in 1923 by Unocal</li> <li>2) Sold from ConocoPhillips to Cimason in July 7, 2008</li> </ul> <p><i>*A) Union Oil Company of California, dba Unocal. B) Tesco merged into Phillips Petroleum in 2001, and Conoco and Phillips subsequently merged on August 30, 2002, to become ConocoPhillips.</i></p>	4 1/2" - Steel	Records with Cimason	Inactive	Records with Cimason	<p>Shapefiles provided by ConocoPhillips. This pipeline appears to be the same line presented in Response 07 (submitted by Cimason) and Response 08 (Chevron EMQ).</p>	ConocoPhillips provide the following contact: Larry Alexander, Cimason 2459 Redondo Ave. Long Beach, CA 90735	<p>ConocoPhillips stated, "Escrow Agreement effective 8/31/2007 between ConocoPhillips Pipeline Company and Cimason California Pipeline, L.P. January 26, 2007 meeting with ConocoPhillips."</p>	
17	19	Not provided	Carson Plant Line #21	Tesoro <i>(Information regarding the pipeline alignment was provided in Shapefiles only)</i>	Tesoro	Not provided	8" - Steel	Jet Fuel	Not provided	Active	Not provided	<p>Shapefiles provided by Tesoro. This pipeline appears to be the same line presented in Response 03 (submitted by Shell).</p>	Dan Gabel, Tesoro Refining & Marketing Company 3900 E. Pacific Coast Highway Wilmington, CA 90744-2911	<p>ConocoPhillips stated, "Escrow Agreement to asset purchase and sale agreement effective 8/31/2007 between ConocoPhillips Pipeline Company and Cimason California Pipeline, L.P. January 26, 2007 meeting with ConocoPhillips."</p>





SCALE 1:24,000



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

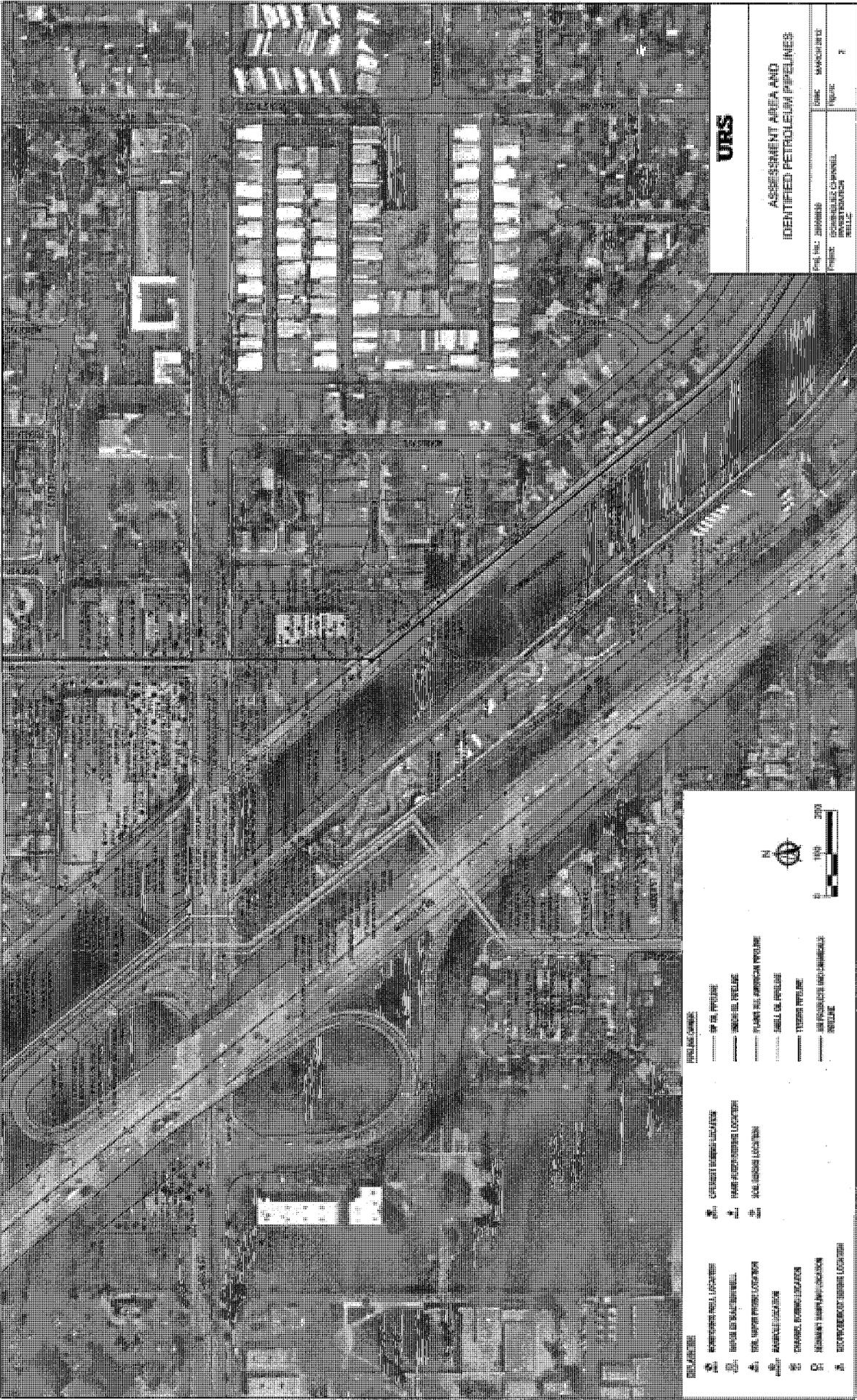
Date: August 2011

Project: DOMINGUEZ CHANNEL INVESTIGATION  
 RESOURCE ENVIRONMENTAL LLC (RELLC)

Figure 1

K12011Dominguez Channel\Figure 1 Site Vic Map Dominguez Channel





**URS**

**ASSESSMENT AREA AND IDENTIFIED PETROLEUM PIPELINES**

Date: 2/20/08  
 Project: Environmental Channel Investigations  
 Figure: 7

- SYMBOLS**
- 1. WASTEWATER POND LOCATION
  - 2. STORAGE TANK LOCATION
  - 3. TOWER LOCATION
  - 4. TOWER SUPPORT STRUCTURE LOCATION
  - 5. MAINLINE LOCATION
  - 6. TRENCH LOCATION
  - 7. EXISTING DRAINAGE LOCATION
  - 8. EXISTING DRAINAGE LOCATION
- PIPELINE SYMBOLS**
- 9. 18" PIPELINE
  - 10. 24" PIPELINE
  - 11. 30" PIPELINE
  - 12. 36" PIPELINE
  - 13. 42" PIPELINE
  - 14. 48" PIPELINE
  - 15. 60" PIPELINE
  - 16. 72" PIPELINE
  - 17. 84" PIPELINE
  - 18. 96" PIPELINE
  - 19. 108" PIPELINE
  - 20. 120" PIPELINE
  - 21. 132" PIPELINE
  - 22. 144" PIPELINE
  - 23. 156" PIPELINE
  - 24. 168" PIPELINE
  - 25. 180" PIPELINE
  - 26. 192" PIPELINE
  - 27. 204" PIPELINE
  - 28. 216" PIPELINE
  - 29. 228" PIPELINE
  - 30. 240" PIPELINE
  - 31. 252" PIPELINE
  - 32. 264" PIPELINE
  - 33. 276" PIPELINE
  - 34. 288" PIPELINE
  - 35. 300" PIPELINE
  - 36. 312" PIPELINE
  - 37. 324" PIPELINE
  - 38. 336" PIPELINE
  - 39. 348" PIPELINE
  - 40. 360" PIPELINE
  - 41. 372" PIPELINE
  - 42. 384" PIPELINE
  - 43. 396" PIPELINE
  - 44. 408" PIPELINE
  - 45. 420" PIPELINE
  - 46. 432" PIPELINE
  - 47. 444" PIPELINE
  - 48. 456" PIPELINE
  - 49. 468" PIPELINE
  - 50. 480" PIPELINE
  - 51. 492" PIPELINE
  - 52. 504" PIPELINE
  - 53. 516" PIPELINE
  - 54. 528" PIPELINE
  - 55. 540" PIPELINE
  - 56. 552" PIPELINE
  - 57. 564" PIPELINE
  - 58. 576" PIPELINE
  - 59. 588" PIPELINE
  - 60. 600" PIPELINE
  - 61. 612" PIPELINE
  - 62. 624" PIPELINE
  - 63. 636" PIPELINE
  - 64. 648" PIPELINE
  - 65. 660" PIPELINE
  - 66. 672" PIPELINE
  - 67. 684" PIPELINE
  - 68. 696" PIPELINE
  - 69. 708" PIPELINE
  - 70. 720" PIPELINE
  - 71. 732" PIPELINE
  - 72. 744" PIPELINE
  - 73. 756" PIPELINE
  - 74. 768" PIPELINE
  - 75. 780" PIPELINE
  - 76. 792" PIPELINE
  - 77. 804" PIPELINE
  - 78. 816" PIPELINE
  - 79. 828" PIPELINE
  - 80. 840" PIPELINE
  - 81. 852" PIPELINE
  - 82. 864" PIPELINE
  - 83. 876" PIPELINE
  - 84. 888" PIPELINE
  - 85. 900" PIPELINE
  - 86. 912" PIPELINE
  - 87. 924" PIPELINE
  - 88. 936" PIPELINE
  - 89. 948" PIPELINE
  - 90. 960" PIPELINE
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  - 100. 1080" PIPELINE
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  - 104. 1128" PIPELINE
  - 105. 1140" PIPELINE
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  - 108. 1176" PIPELINE
  - 109. 1188" PIPELINE
  - 110. 1200" PIPELINE
  - 111. 1212" PIPELINE
  - 112. 1224" PIPELINE
  - 113. 1236" PIPELINE
  - 114. 1248" PIPELINE
  - 115. 1260" PIPELINE
  - 116. 1272" PIPELINE
  - 117. 1284" PIPELINE
  - 118. 1296" PIPELINE
  - 119. 1308" PIPELINE
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  - 123. 1356" PIPELINE
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  - 127. 1404" PIPELINE
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  - 130. 1440" PIPELINE
  - 131. 1452" PIPELINE
  - 132. 1464" PIPELINE
  - 133. 1476" PIPELINE
  - 134. 1488" PIPELINE
  - 135. 1500" PIPELINE
  - 136. 1512" PIPELINE
  - 137. 1524" PIPELINE
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  - 140. 1560" PIPELINE
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  - 142. 1584" PIPELINE
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  - 144. 1608" PIPELINE
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  - 151. 1692" PIPELINE
  - 152. 1704" PIPELINE
  - 153. 1716" PIPELINE
  - 154. 1728" PIPELINE
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  - 160. 1800" PIPELINE
  - 161. 1812" PIPELINE
  - 162. 1824" PIPELINE
  - 163. 1836" PIPELINE
  - 164. 1848" PIPELINE
  - 165. 1860" PIPELINE
  - 166. 1872" PIPELINE
  - 167. 1884" PIPELINE
  - 168. 1896" PIPELINE
  - 169. 1908" PIPELINE
  - 170. 1920" PIPELINE
  - 171. 1932" PIPELINE
  - 172. 1944" PIPELINE
  - 173. 1956" PIPELINE
  - 174. 1968" PIPELINE
  - 175. 1980" PIPELINE
  - 176. 1992" PIPELINE
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**URS**

**ASSESSMENT AREA AND SUBMITTED PIPELINE INFORMATION**

Page No.	0000000000	Date	March 2011
Project	COASTAL RICE CHANNEL IMPROVEMENT	Figure	0

**LEGEND**

**EXISTING PIPELINE LOCATIONS**

- UP PIPELINE
- DOWN PIPELINE
- PLUMB ALL AMERICAN PIPELINE
- SMALL PIPELINE
- TERRACE PIPELINE
- NEW PROPOSED AND COMMERCIAL PIPELINE
- EXISTING PIPELINE

**NEW LOCATIONS**

- OFFSHORE CHANNEL LOCATION
- WATER EXTENSION WALL
- SOIL BORING LOCATION
- MARKABLE LOCATION
- CHANNEL JUNCTION LOCATION
- SEGMENT DAMPING LOCATION
- RECYCLEDUST TRENCH LOCATION

**NOTES**

1. MARKABLE LOCATIONS ARE INDICATED BY A CIRCLE WITH A NUMBER INSIDE.
2. CHANNEL JUNCTIONS ARE INDICATED BY A TRIANGLE WITH A NUMBER INSIDE.
3. SEGMENT DAMPING LOCATIONS ARE INDICATED BY A SQUARE WITH A NUMBER INSIDE.
4. RECYCLEDUST TRENCH LOCATIONS ARE INDICATED BY A RECTANGLE WITH A NUMBER INSIDE.

**SCALE**

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SCALE IN FEET

**DATE**

03/01/11

**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 Environmental Management Company (CEMC)	01, 03	Crude Oil	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	Named as a successor to Union Oil Company of California and Unocal California Pipeline Company which previously owned the pipeline.
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).
	04	Gasoline	Owner of inter-refinery pipeline.
Shell Oil Products US (Shell)	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
21		Crude Oil	Successor to Richfield Oil Company, Atlantic Richfield Company (ARCO), Four Corners Pipeline Company, and ARCO Pipeline Company, which formerly owned the pipeline.
22		Crude Oil	Former owner of the pipeline.
23		Crude Oil; Natural Gas	Successor to Richfield Oil Company, Cheviot Hills Pipeline Company, Atlantic Richfield Company (ARCO), Four Corners Pipeline Company, and ARCO Pipeline Company, which formerly owned the pipeline.

**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
Plains All American Pipeline, L.P. (Plains)	24	Crude Oil	Former owner of the pipeline and successor to Richfield Oil Company, Atlantic Richfield Company (ARCO), Four Corners Pipeline Company, and ARCO Pipeline Company, which formerly owned the pipeline.
	25	Crude Oil	Successor to Pan American Oil, Richfield Oil Company, Atlantic Richfield Company (ARCO), Four Corners Pipeline Company, and ARCO Pipeline Company, which formerly owned the pipeline.
	15	Crude Oil	Owner of pipeline and parent company of Pacific Pipeline System, LLC which previously owned the pipeline.
	22	Crude Oil	Owner of pipeline and parent company of Pacific Pipeline System, LLC which previously owned the pipeline.
	25	Crude Oil	Owner of pipeline and parent company of Pacific Pipeline System, LLC which previously owned the pipeline.
ExxonMobil Corporation (ExxonMobil)	18	Amine	Named as a successor to Mobil Oil Corporation, which previously owned the pipeline.
	19	Lean Diethanolamine (DEA); Jet Fuel	Named as a successor to General Petroleum and Mobil Oil Corporation, which previously owned the pipeline.
	20	Fat Diethanolamine (DEA); Water	Named as a successor to General Petroleum and Mobil Oil Corporation, which previously 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**

**General Area Around the Watson Center**

# GENERAL AREA AROUND THE WATSON CENTER

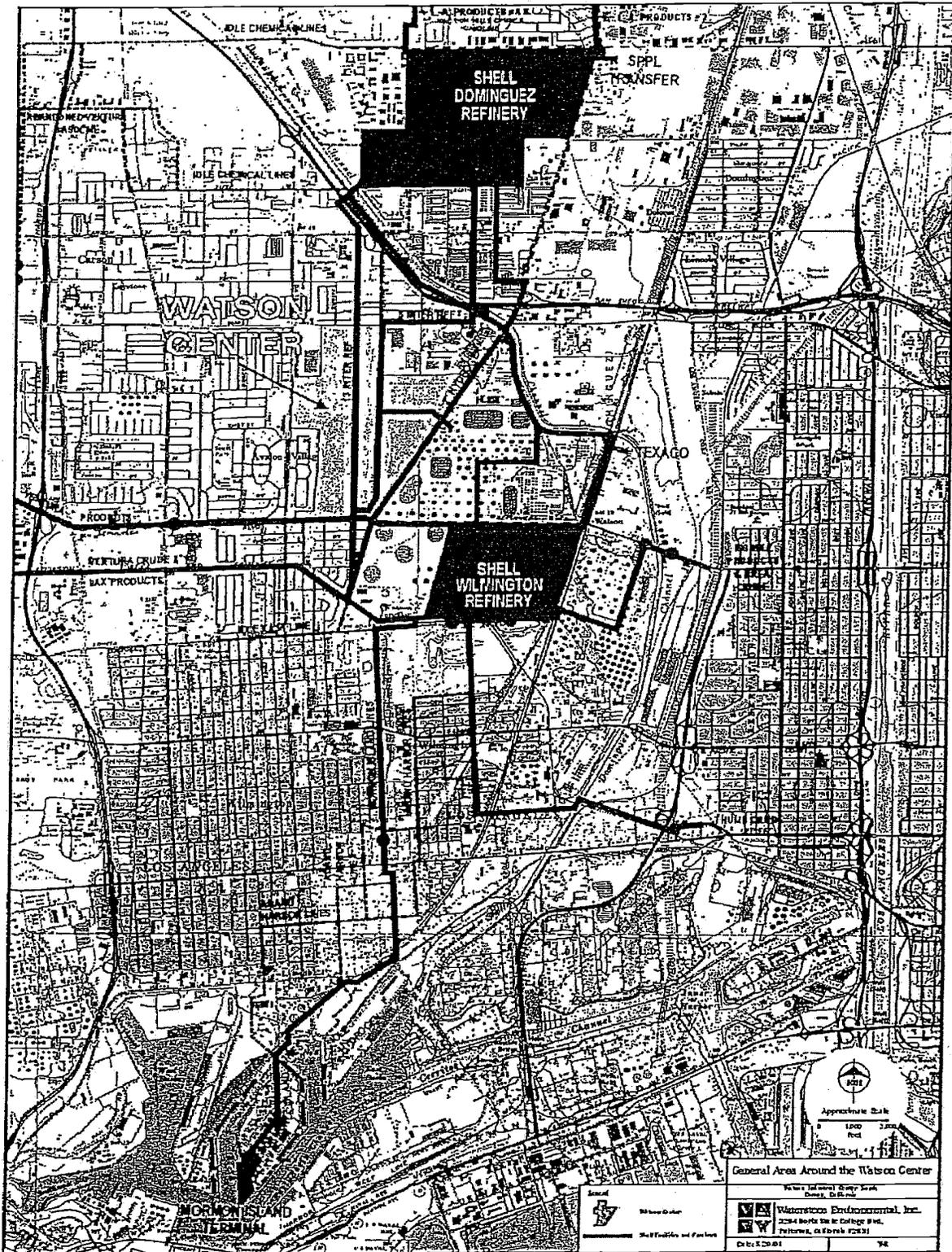


Exhibit 1495

**EXHIBIT D**

**Time Schedule**

**TIME SCHEDULE**  
**CLEANUP AND ABATEMENT ORDER NO. R4-2012-0103**

<b>Directive</b>		<b>Due Date</b>
1	Submit a work plan for containment of petroleum hydrocarbons and associated wastes.	<b>September 28, 2012</b>
	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.	<b>September 28, 2012</b>
	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.	<b>October 30, 2012</b>
	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)	<b>June 28, 2013</b> or sooner if needed to justify actions proposed in the IRAP (Directive 3)
	Provide SCM updates in future technical reports.	To be determined
5	Complete Delineation of Wastes	
5a	Submit a Master Work Plan	<b>September 7, 2012</b>
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
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 approved 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

Directive		Due Date						
8	Conduct Groundwater Monitoring							
	Submit a Work Plan for groundwater sampling and monitoring.	<b>September 28, 2012</b>						
	Submit an initial groundwater monitoring report for the July to December 2012 period	<b>January 31, 2013</b>						
	Submit periodic groundwater monitoring reports in accordance with the following schedule:	<b>January 31 (each year) July 31 (each year)</b>						
<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							

**EXHIBIT E**

**Monitoring and Reporting Program**

**MONITORING AND REPORTING PROGRAM FOR  
CLEANUP AND ABATEMENT ORDER NO. R4-2012-0103**

This Monitoring and Reporting Program is part of Cleanup and Abatement Order (CAO) No. R4-2012-0103. Failure to comply with this program constitutes noncompliance with the CAO and 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-SFVCleanupProgram\\_Sept2008\\_QAPP.pdf](http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/Board_SGV-SFVCleanupProgram_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 3



# California Regional Water Quality Control Board Los Angeles Region



Linda S. Adams  
Acting Secretary for  
Environmental Protection

320 West Fourth Street, Suite 200, Los Angeles, California 90013  
(213) 576-6600 • FAX (213) 576-6640  
<http://www.waterboards.ca.gov/losangeles>

Edmund G. Brown Jr.  
Governor

May 17, 2011

Mr. Gary Hildebrand  
Assistant Deputy Director  
Los Angeles County Department of Public Works  
900 S. Fremont Avenue  
Alhambra, CA 91803

**SUBJECT: CLEANUP AND ABATEMENT ORDER NO. R4-2011-0065  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13304**

**SITE/CASE: DOMINGUEZ CHANNEL, SOUTH OF CARSON STREET  
CARSON, CALIFORNIA (SCP NO. 1058; FILE NO. 11-061)**

Dear Mr. Hildebrand:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of Los Angeles County and Ventura County, including the above-referenced site. I am in receipt of your letter dated April 28, 2011, which replies to the Regional Board's directive under the Municipal Separate Storm Sewer System Permit dated April 15, 2011, to develop a plan to remove hydrocarbons from County of Los Angeles Flood Control District's (LAFCD) subdrain systems that have been observed to be discharging waste into Dominguez Channel. Your letter notes that you will not develop a plan until you gain further understanding to determine "if there is a connection between LNAPL found in the subdrains and the LNAPL found in the submerged channel sediment release area".

I understand and share your concerns regarding potential light non-aqueous phase liquid (LNAPL) sources from groundwater and the Regional Board has issued eight investigative orders to responsible parties in the vicinity of the LNAPL discharge. The Regional Board will certainly share the work plans and results from the groundwater investigations with you. However, I am surprised that your response did not provide a plan to remove LNAPL from the subdrain systems. I met with you prior to issuing the directive and you informed me that the LAFCD understood the necessity of addressing LNAPL in the subdrain, which LAFCD owns and operates. The Regional Board continues to find that LNAPL removal from the subdrain and groundwater investigation should proceed independently and simultaneously to address the issues of LNAPL discharge to Dominguez Channel.

Consequently, enclosed is Cleanup and Abatement Order No. R4-2011-0065 (CAO), directing the LAFCD to assess, monitor, cleanup the waste, and abate the effects of the ongoing discharge of LNAPL and any other wastes within the Dominguez Channel, approximately 400 feet south of Carson Street in Carson, California. More specifically, the CAO requires a work plan for initial extraction of petroleum hydrocarbons from the subdrain system; a work plan to perform the evaluation proposed by LAFCD; a

*California Environmental Protection Agency*

May 17, 2011

work plan to revise the subdrain extraction techniques based upon the evaluation results; if appropriate, a work plan to implement remedial action on contaminants that may have migrated within the subdrain system, possibly onto other properties; and reporting for existing and other future sampling work performed by LAFCD. This Order is issued pursuant to section 13304 of the California Water Code.

Should you have any questions, please contact Mr. Greg Bishop at (213) 576-6727 or [gbishop@waterboards.ca.gov](mailto:gbishop@waterboards.ca.gov).

Sincerely,



Samuel Unger, P.E.

Executive Officer

Cc: Mr. Lalo Bakhoun, South Coast Air Quality Management District  
Mr. Christian Corbo, California Department of Fish and Game  
Mr. Mario Benjamin, Los Angeles County Fire Department  
Mr. Hector Bordas, Los Angeles County Department of Public Works  
Mr. James Flynn, The Carson Companies  
Mr. Bob Gorham, Cal Fire  
Ms. Sheri Repp Loadsman, City of Carson  
Mr. Martin Powell, United States Environmental Protection Agency  
Ms. Diane Wachi, City of Carson

**STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**CLEANUP AND ABATEMENT ORDER NO. R4-2011-0065  
REQUIRING**

**COUNTY OF LOS ANGELES**

**FLOOD CONTROL DISTRICT**

**TO CLEANUP WASTE AND ABATE THE EFFECTS OF WASTE  
DISCHARGED TO WATERS OF THE STATE  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13304  
AT THE DOMINGUEZ CHANNEL  
CARSON, CALIFORNIA**

**(CASE NO. 1258; FILE NO. 11-061)**

This Cleanup and Abatement Order No. R4-2011-0065 (Order) is issued to the County of Los Angeles Flood Control District (LAFCD, hereinafter, the "Discharger") 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 LADPW to cleanup and abate the discharges of petroleum hydrocarbons to the Dominguez Channel and observed within the sub-drain pipe system located in the Dominguez Channel levees (hereinafter, the "Site") located southeast of East Carson Street in Carson, California.

The Regional Board herein finds:

**BACKGROUND**

1. **Location:** Petroleum hydrocarbons have discharged, 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 (that is adjacent to the former Go Kart World business at 21830 Recreation Road), and west of the former Active RV business (located at 1152 East Carson Street).
2. **Discharger:** LAFCD is operated under the authority and responsibility of the County of Los Angeles Department of Public Works. LAFCD owns the infrastructure of the Dominguez Channel, through which wastes are discharging, and operates the Channel pursuant to a long-term lease with the property owners. As the owner and operator of this infrastructure, LAFCD is a Responsible Party and is required to contain and clean up the petroleum hydrocarbons in the channel and channel infrastructure (including the sub-drain piping) and prevent further discharges of the petroleum hydrocarbons. LAFCD is also a permittee under Waste Discharge Requirements Order No. 01-182, the Los Angeles County Municipal Separate Storm Sewer System (MS4) permit. Section 4.G of the MS4 permit, Illicit Connections and Illicit Discharges

Elimination Program, requires the LAFCD to respond to the discovery of an illicit discharge with activities to clean up all illicit discharges.

3. **Water Quality Control Plan:** The Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) designates beneficial uses, establishes water quality objectives to protect those uses, and includes implementation programs to attain the water quality objectives.
4. **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 approximately at 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, and Silverado aquifer. The designated beneficial uses set forth in the Basin Plan include municipal, industrial, process, and agricultural supply uses.
5. **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 Estuary. 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.
6. As detailed in the findings below, the Discharger's activities at the Site have caused or permitted the discharge of waste resulting in pollution and nuisance or threat of pollution or nuisance in Dominguez Channel, including discharges of waste to the waters of the state.

#### SITE HISTORY

7. Since January 2011, light non-aqueous phase liquid (LNAPL) has been appearing within the Dominguez Channel in Carson, California, approximately 400 feet south of East Carson Street. The product 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.
8. This Regional Board has been working under United States Environmental Protection Agency (USEPA) lead to facilitate the assessment and remedy to the discharges of waste. As the channel owner and operator, the LAFCD has been performing containment operations using booms and absorbent pads in the channel. In addition to the recovery of petroleum hydrocarbons discharged to channel waters, this Regional Board has requested that LADPW extract LNAPL from the sub-drain piping systems on both sides of the channel. The Regional Board's initial request was made verbally to LAFCD personnel on March 3, 2011. The Regional Board sent a written request to the LAFCD on April 15, 2011.

### AUTHORITY - LEGAL REQUIREMENTS

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

“Any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirements 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. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the regional 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.”

10. 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.”

11. 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. . .”

12. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the 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. 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. Resolution 92-49 directs that investigation proceed in a progressive sequence. To the extent practical, it directs the Regional Water Board to require and review for adequacy written work plans for each element and phase, and the written reports that describe the results of each phase, of the investigation and cleanup.

#### EVIDENCE OF DISCHARGES OF WASTE AND BASIS FOR ORDER

13. Samples of petroleum hydrocarbons entering channel waters from sediments in the bottom of the channel have been analyzed by USEPA and determined to contain primarily gasoline-range hydrocarbons, with smaller fractions of heavier-end (diesel- and oil-range) hydrocarbons. Petroleum hydrocarbons 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. Petroleum hydrocarbons examined from the eastern sub-drain system was observed to be dark brown to black and translucent.
14. The constituents found at the Site as described in Finding 5 constitute "waste" as defined in Water Code section 13050(d). 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 prohibition on discharge of oil and grease and taste and odor. 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. 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."* Individuals in the vicinity of the Dominguez Channel have observed odors and other impacts due to the discharge of waste.
15. **Need for Technical Reports:** This Order requires the submittal of technical or monitoring reports pursuant to Water Code section 13267<sup>2</sup>. The Discharger is required to submit the reports because, as described in the Findings in this Order, the Discharger is 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. As noted in Finding 8, LAFCD has been conducting containment operations and has the information identifying the nature of the discharges of waste. The Regional Board's records contain additional information concerning the ownership and operation of the infrastructure under the control of the LADPW.

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

### CONCLUSION

16. **Pollution of Waters of the State:** The Discharger has caused or permitted 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. As described in this Order and the record of the Regional Board, the Discharger owned and/or operated the Site in a manner that resulted in the discharges of waste.
17. Although requested by the Discharger, the Regional Board is declining to name additional potentially responsible parties (PRPs) in this Order at this time. Substantial evidence indicates that the Discharger caused or permitted waste to be discharged into waters of the state and is therefore appropriately named as a responsible party in this Order. The Regional Board will continue to investigate whether additional PRPs (including, but not limited to, Chevron Pipeline (former Union Oil Pipeline), Chevron Environmental Management Company (former Texaco gasoline station), ConocoPhillips, Crimson Pipeline, Shell Oil Products US, Tesoro, Prowell Family Trust, and BP Pipelines) 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 has issued orders pursuant to Water Code 13267 to the owners of pipelines and other petroleum facilities in the vicinity of the Dominquez Channel that may be contributing to the discharges of petroleum hydrocarbons at the Site. The Regional Board may amend this Order or issue a separate order or orders in the future as a result of this investigation. Although investigation concerning additional PRPs is ongoing, the Regional Board desires to issue this Order as waiting will only delay remediation of the Site.
18. Issuance of this Order is being 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 Discharger 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 Discharger's 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.
19. Pursuant to section 13304 of the California Water Code, 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.
20. 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](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 Discharger may seek reconsideration by the Regional Board. Note, however, that if the Discharger fails to file a petition within 30 days, in accordance with the State Water Board regulations, the Discharger will lose its right to review of this Order by the State Water Board.

**THEREFORE, IT IS HEREBY ORDERED**, pursuant to California Water Code sections 13304 and 13267, that the County of Los Angeles Flood Control District shall cleanup the waste and abate the effects of the discharge of waste, including, but not limited to, petroleum hydrocarbons and other wastes discharged to waters of Dominguez Channel in accordance with the following requirements:

1. Continue containment and recovery operations within the channel of petroleum hydrocarbons discharging into the channel. Adjustments to the recovery system may be made in coordination with Regional Board staff, provided that such adjustments are deemed to be effective in achieving containment goals.
2. By **May 31, 2011**, develop an interim remedial action plan (IRAP), including a proposed schedule, to remove and legally dispose of petroleum hydrocarbons within both channel sub-drain systems. The IRAP 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 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.

3. By **June 8, 2011**, you are required to submit a work plan to accomplish an evaluation of the subdrain system. Specifically, the work plan shall:
  - a. propose techniques to evaluate whether the subdrains are providing a conduit for LNAPL from offsite sources or if the subdrains are recirculating LNAPL originating from the submerged channel sediments;
  - b. propose a technique to determine the lateral extent of the LNAPL-impacted subdrains;
  - c. propose a technique to determine the extent of soil, groundwater, and soil vapor impact from LNAPL and other waste constituents transported within the subdrain system;
  - d. include a provision to modify the IRAP for petroleum hydrocarbon recovery efforts within the subdrain system based upon investigation results;

- e. include a provision to prepare an additional work plan to remediate soil, groundwater, and soil vapor that may have been impacted due to petroleum hydrocarbon transport within the subdrain systems; and
- f. include a proposed schedule for implementation of the proposed tasks and for submittal of reports for these tasks 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.

4. The State Water Resources Control Board (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 hard copy 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. 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](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal)

5. 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.
6. **Contractor/Consultant Qualification:** A California licensed professional civil engineer or geologist, or a certified engineering geologist or hydrogeologist shall conduct or direct the subsurface investigation and cleanup program. All technical documents required by this Order shall be signed by and stamped with the seal of the above-mentioned qualified professionals.
7. This Order is not intended to permit or allow the Discharger 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.
8. 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.

9. 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.
10. None of the obligations imposed by this Order on the Discharger 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: May 17, 2011

# EXHIBIT 4



# California Regional Water Quality Control Board Los Angeles Region



320 West Fourth Street, Suite 200, Los Angeles, California 90013

(213) 576-6600 • FAX (213) 576-6640

<http://www.waterboards.ca.gov/losangeles>

Linda S. Adams  
Acting Secretary for  
Environmental Protection

Edmund G. Brown Jr.  
Governor

August 16, 2011

Mr. Gary Hildebrand  
Assistant Deputy Director  
Los Angeles County Department of Public Works  
900 S. Fremont Avenue  
Alhambra, CA 91803

**SUBJECT: RESCISSION OF CLEANUP AND ABATEMENT ORDER NO. R4-2011-0065**

**SITE/CASE: DOMINGUEZ CHANNEL, SOUTH OF CARSON STREET  
CARSON, CALIFORNIA (SCP NO. 1258; FILE NO. 11-061)**

Dear Mr. Hildebrand:

This letter serves to rescind Cleanup and Abatement Order (CAO) No. R4-2011-0065 issued by the Regional Water Quality Control Board, Los Angeles Region, (Regional Board) on May 17, 2011, to the County of Los Angeles Flood Control District (LAFCD).

Since January 2011, petroleum hydrocarbons, including light non-aqueous phase liquid (hydrocarbons), have been appearing within the Dominguez Channel in Carson, California, approximately 400 feet south of East Carson Street. The hydrocarbons have been observed (1) entering into channel waters through 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 hydrocarbons within the sub-drain pipe systems have been observed discharging into the channel waters. The LAFCD maintains that portion of the Dominguez Channel into which pollutants are discharging from the underlying property.

On May 17, 2011, this Regional Board issued CAO No. R4-2011-0065 to the LAFCD. The CAO directed LAFCD to perform tasks associated with extracting hydrocarbons from the subdrain system, including associated subsurface assessment work, to prevent potential migration of hydrocarbons via the subdrain system.

Previously, the Regional Board issued orders pursuant to Water Code Section 13267 (13267 Orders) to eight other parties, requiring them to delineate the vertical and lateral extent of hydrocarbons in the vicinity of the discharge, including determining (1) the extent of the hydrocarbons from the site and (2) if their facilities had contributed to the discharge in the channel.

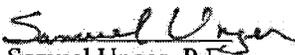
The Regional Board notes that subsurface delineation in the vicinity of the discharge is now being performed by BP Pipelines, Tesoro Refining and Marketing Company, and Resource Environmental LLC (RELLC; on behalf of Shell Oil Products US and Chevron Corporation). In addition, RELLC is taking actions to remove hydrocarbons and prevent the possible migration of hydrocarbons within the sub-drain systems. Provided that (1) these tasks continue to be completed by these or other parties, (2) that containment and recovery of surface hydrocarbons within the Dominguez Channel continues to be

*California Environmental Protection Agency*

performed by LAFCD or other parties, and (3) LAFCD continues to cooperate by providing information and access to parties requiring it, this Regional Board considers the requirements of CAO No. R4-2011-0065 to be addressed by the actions being taken as described above. Should LAFCD and the other parties cease to implement these actions in an effective manner, the Regional Board may consider further actions.

Should you have any questions, please contact Mr. Greg Bishop at (213) 576-6727 or [gbishop@waterboards.ca.gov](mailto:gbishop@waterboards.ca.gov).

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Cc: Mr. Larry Alexander, Crimson Pipeline  
Ms. Mary Jo Anzia, AECOM  
Mr. Lalo Bakhoum, South Coast Air Quality Management District  
Mr. Hector Bordas, Los Angeles County Department of Public Works/Flood Control District  
Mr. Edward Boyes, California Dept. of Fish and Game  
Mr. Jojo Comandante, Los Angeles County Fire Department  
Mr. Christian Corbo, California Dept. of Fish and Game  
Ms. Adriana Crasnean, Cal Fire  
Ms. Donna DiRocco, BP Pipelines  
Mr. Jack Draper, Law Offices of Jack A. Draper, P.C.  
Ms. Patricia Elkins, City of Carson  
Mr. John Englehardt, Resource Environmental, LLC  
Mr. Mark Fahan, Holguin, Fahan & Associates, Inc.  
Mr. Dan Fischman, ConocoPhillips Company  
Mr. Eugene Freed, Shell Oil Products US  
Ms. Rebecca Frend, URS Corporation  
Mr. Daniel Gabel, Tesoro Refining and Marketing Company  
Ms. Amy Gaylord, Pillsbury Winthrop Shaw Pittman LLP  
Mr. Bob Gorham, Cal Fire  
Mr. Marc Greenberg, Keesal, Young & Logan  
Mr. John Hawkinson, Carson Estate Companies  
Mr. Gary Hildebrand, Los Angeles County Department of Public Works/Flood Control District  
Mr. Matt Himmelstein, URS Corporation  
Mr. Corey Kong, California Dept. of Fish and Game  
Mr. Tarus Kruk, URS Corporation  
Mr. Todd Littleworth, Chevron Corporation, Chevron Law Group  
Mr. Ed Long, Ocean Blue Environmental  
Mr. Chuck MacDonald, Cal Fire  
Mr. Sean Moe, California Dept. of Fish and Game  
Mr. Louis Mosconi, ConocoPhillips Company  
Mr. George Phair, Resource Environmental, LLC  
Mr. Martin Powell, USEPA

Mr. Courtland Prowell, Prowell Family Trust  
Ms. Holly Quasem, ConocoPhillips Company  
Mr. David Randall, URS Corporation - North Carolina  
Mr. Ian Robb, Chevron Environmental Management Company  
Mr. Bob Sinclair, Plaines Pipeline  
Mr. Rob Speer, Chevron Environmental Management Company  
Mr. Robert Stechmann, Stechmann Geoscience, Inc.  
Mr. Fred Stroud, USEPA  
Mr. Ben Terry, Chevron Environmental Management Company  
Mr. Greg Vogelpohl, Resource Environmental, LLC  
Ms. Diane Wachi, City of Carson  
Mr. Barry White, City of Carson

# EXHIBIT 5



# California Regional Water Quality Control Board Los Angeles Region



Matthew Rodriguez  
Secretary for  
Environmental Protection

320 West Fourth Street, Suite 200, Los Angeles, California 90013  
(213) 576-6600 • FAX (213) 576-6640  
<http://www.waterboards.ca.gov/losangeles>

Edmund G. Brown Jr.  
Governor

December 13, 2011

Mr. Louis Mosconi  
ConocoPhillips Company  
3900 Kilroy Airport Way, Suite 210  
Long Beach, CA 90806

**SUBJECT: REQUIREMENT FOR TECHNICAL REPORT ON PIPELINE INVENTORY –  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13267 ORDER**

**SITE/CASE: DOMINGUEZ CHANNEL, SOUTH OF CARSON STREET  
CARSON, CALIFORNIA**

Dear Mr. Mosconi:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility for the protection of groundwater and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura counties, including the referenced Site. To accomplish this, the Regional Board oversees the investigation and cleanup of discharges of waste adversely affecting the State's water, authorized by the Porter-Cologne Water Quality Control Act (California Water Code [CWC], Division 7).

Since January 2011, light non-aqueous phase liquids (LNAPL) have been appearing within the Dominguez Channel in Carson, California, approximately 400 feet south of Carson Street. At various times, the petroleum product 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.

Assessment data indicate that the product entering the channel and affecting nearby shallow groundwater is primarily comprised of naphtha-range hydrocarbons, with smaller fractions of crude oil. The naphtha-range hydrocarbons and crude oil are assumed to have originated from one or more pipeline releases in the vicinity of the Dominguez Channel south of Carson Street.

A deeper groundwater zone has also been identified as having gasoline impacts, which may have originated from one or more pipeline releases, but which could have also originated from other sources.

In order to determine the source of the hydrocarbons and to protect the waters of the state for their beneficial uses, an inventory of pipelines is needed in the vicinity of the Dominguez Channel release.

Enclosed is a Regional Board Order requiring, pursuant to section 13267 of the CWC, that you provide this Regional Board with information regarding pipelines operated by your company or any affiliated companies for which you may have access to records in the vicinity of the Site.

*California Environmental Protection Agency*

Mr. Louis Mosconi  
ConocoPhillips Company

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December 13, 2011

If you have any questions, please contact Mr. Greg Bishop at (213) 576-6727 or  
gbishop@waterboards.ca.gov.

Sincerely,



Samuel Unger, P.E.  
Executive Officer

Enclosure

Cc: Mr. Larry Alexander, Crimson Pipeline  
Ms. Mary Jo Anzia, AECOM  
Mr. Lalo Bakhoum, South Coast Air Quality Management District  
Mr. Hector Bordas, Los Angeles County Department of Public Works/Flood Control District  
Mr. Edward Boyes, California Dept. of Fish and Game  
Mr. Jojo Comandante, Los Angeles County Fire Department  
Mr. Christian Corbo, California Dept. of Fish and Game  
Ms. Adriana Crasnean, Cal Fire  
Ms. Donna DiRocco, BP Pipelines  
Mr. Matthew Dunne, Exxon-Mobil Corporation  
Ms. Patricia Elkins, City of Carson  
Mr. John Englehardt, Resource Environmental, LLC  
Mr. Darrell Fah, Atlantic Richfield Company  
Mr. Mark Fahan, Holguin, Fahan & Associates, Inc.  
Mr. Dan Fischman, ConocoPhillips Company  
Mr. Gene Freed, Shell Oil Products US  
Ms. Rebecca Frend, URS Corporation  
Mr. Daniel Gabel, Tesoro Refining and Marketing Corporation  
Ms. Amy Gaylord, Pillsbury Winthrop Shaw Pittman LLP  
Mr. James Glick, Air Products and Chemicals, Inc.  
Mr. Bob Gorham, Cal Fire  
Mr. Marc Greenberg, Keesal, Young & Logan  
Mr. John Hawkinson, Carson Estate Companies  
Mr. Gary Hildebrand, Los Angeles County Department of Public Works/Flood Control District  
Mr. Matt Himmelstein, URS Corporation  
Mr. Corey Kong, California Dept. of Fish and Game  
Mr. Taras Kruk, URS Corporation  
Mr. Jim Jacoby, Plains All American Pipeline, L.P.  
Mr. Joe Liles, URS Corporation  
Mr. Todd Littleworth, Chevron Corporation, Chevron Law Group  
Mr. Ed Long, Ocean Blue Environmental  
Mr. Chuck MacDonald, Cal Fire  
Mr. Sean Moe, California Dept. of Fish and Game  
Mr. Louis Mosconi, ConocoPhillips Company  
Mr. George Phair, Resource Environmental, LLC  
Mr. Martin Powell, USEPA

*California Environmental Protection Agency*

Mr. Louis Mosconi  
ConocoPhillips Company

- 3 -

December 13, 2011

Mr. Courtland Prowell, Prowell Family Trust  
Ms. Holly Quasem, ConocoPhillips Company  
Mr. David Randall, URS Corporation - North Carolina  
Mr. Ian Robb, Chevron Environmental Management Company  
Mr. Bob Sinclair, Plaines Pipeline  
Mr. Rob Speer, Chevron Environmental Management Company  
Mr. Robert Stechmann, Stechmann Geoscience, Inc.  
Mr. Fred Stroud, USEPA  
Mr. Ben Terry, Chevron Environmental Management Company  
Mr. Greg Vogelpohl, Resource Environmental, LLC  
Ms. Diane Wachi, City of Carson  
Mr. Barry White, City of Carson  
Mr. Jerome R. Zimmerle, URS Corporation



Matthew Rodriguez  
Secretary for  
Environmental Protection

# California Regional Water Quality Control Board Los Angeles Region

320 West Fourth Street, Suite 200, Los Angeles, California 90013  
(213) 576-6600 • FAX (213) 576-6640  
<http://www.waterboards.ca.gov/losangeles>



Edmund G. Brown Jr.  
Governor

## REQUIREMENT TO PROVIDE A TECHNICAL REPORT ON PIPELINE INVENTORY (CALIFORNIA WATER CODE SECTION 13267<sup>1</sup>)

DIRECTED TO "CONOCOPHILLIPS COMPANY"

PIPELINES NEAR THE INTERSECTION OF  
CARSON STREET AND THE DOMINGUEZ CHANNEL  
CARSON, CALIFORNIA

(SCP CASE NO. 1264)

The Regional Water Quality Control Board, Los Angeles Region (Regional Board) makes the following findings and issues this Order pursuant to California Water Code section 13267.

1. California Water Code section 13267(b)(1) states, in part: In conducting an investigation, . . . 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 . . . 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.
2. Since January 2011, light non-aqueous phase liquids (LNAPL) have been appearing within the Dominguez Channel in Carson, California, approximately 400 feet south of Carson Street. At various times, the petroleum hydrocarbons have 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.
3. Assessment data indicate that the petroleum hydrocarbons entering the channel and affecting nearby shallow groundwater is primarily comprised of naphtha-range hydrocarbons, with smaller fractions of crude oil. The naphtha-range hydrocarbons and crude oil are suspecting of having originated from one or more pipeline release in the vicinity of the Dominguez Channel south of Carson Street. A deeper groundwater zone has also been identified as having gasoline impacts, which may have originated from one or more pipeline releases, but which could have also originated from other sources.

4. This Order identifies **CONOCOPHILLIPS COMPANY** as the entity suspected of being responsible for the discharges of waste identified in paragraphs 2 and 3, because you own or operate pipelines within the vicinity of the Dominguez Channel release.
5. This Order requires the persons named herein to prepare and submit technical and/or monitoring reports to identify locations of the pipelines.
6. The burdens, including costs, of these reports bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The information is necessary to identify the sources of discharges of waste to the Dominguez Channel and to protect the waters of the state.
7. The issuance of this Order is an enforcement action by a regulatory agency and is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to section 15321(a)(2), Chapter 3, Title 14 of the California Code of Regulations. This Order requires submittal of technical and/or monitoring reports that will not have adverse impacts on the environment.
8. Any person aggrieved by this action of the Regional Water 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

Pursuant to section 13267(b) of the California Water Code (CWC), you are hereby directed to submit the following:

1. By **January 31, 2012**, an inventory of all pipelines ever owned or operated by your company or any affiliated company that you are able to reasonably obtain records from that are located within one mile of the intersection of Carson Street and the Dominguez Channel in Carson, California. The inventory shall be in tabular format containing the following columns:
  - a. ID No. (sequentially from 1: e.g., 1, 2, 3, ...)
  - b. Owner ID (name or identification number used by the pipeline owner)
  - c. Current Owner (name of company currently owning the pipeline)
  - d. Ownership History (list of all companies that ever owned the pipeline with years of ownership noted parenthetically)
  - e. Size (pipeline diameter in inches)
  - f. Material (material used for construction of pipeline – e.g., steel)
  - g. Product<sup>2</sup> (list of all products ever transported through the pipeline with years of transport for each product noted parenthetically)

<sup>2</sup> Pipeline product should be identified as one of the following: "gasoline", "crude oil", "diesel fuel", "jet fuel", "refinery intermediate", or "other". If "other" is used to identify a product, include a description of that product.

- h. Oxygenates (list of all fuel oxygenates ever transported through the pipeline with years of transport for each oxygenate noted parenthetically)
- i. Status (active or inactive)
- j. Integrity Test Failures<sup>3</sup> (indicate "yes" or "no" to indicate if the pipeline has failed any integrity tests within one mile of the Dominguez Channel and Carson Street)
- k. Contact (name, company name, address, telephone number, and e-mail address for the pipeline contact)
- l. Notes (any other relevant information regarding the pipeline)
- m. Source (source(s) of information describing the pipeline)

The inventory shall be accompanied by a scaled map clearly identifying the location of each identified pipeline.

2. By **January 31, 2012**, a Shape file for use with a geographic information system (GIS) containing the location of each pipeline identified under Item 1 of this Order. The Shape file shall contain polyline data indicating the location of each pipeline. Each pipeline shall be a single polyline. The Shape file shall comply with the following specifications:

- a. It shall be accompanied by a projection (.prj) file;
- b. The Shape file data table shall include the following columns from Item 1 above:

- i. ID No.
- ii. Owner ID
- iii. Current Owner
- iv. Size
- v. Status

Items 1 and 2 shall be e-mailed to:

Mr. Greg Bishop, P.G.  
Engineering Geologist  
Regional Water Quality Control Board – Los Angeles Region  
320 W. 4<sup>th</sup> Street, Los Angeles, CA 90013  
(213) 576-6727  
gbishop@waterboards.ca.gov

Pursuant to section 13268(b)(1) of the CWC, failure to submit the required technical or monitoring report described in paragraph 1 above may result in the imposition of monetary civil liability by the Regional Board, without further warning, of up to \$1,000 per day for each day the report is not received after the due dates.

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<sup>3</sup> If a pipeline has failed an integrity test, indicate when the integrity test failed, provide a description of the integrity test methodology, and indicate what product was transported in the pipeline both immediately prior to the integrity test failure and immediately following its failure (if the pipeline was returned to service).

Mr. Louis Mosconi  
ConocoPhillips Company

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December 13, 2011

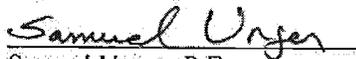
Please note that effective immediately, the Regional Board, under the authority given by California Water Code (CWC) section 13267, subdivision (b)(1), requires you to include a perjury statement in all reports submitted under the 13267 Order. The perjury statement shall be signed by a senior authorized Chevron Company representative (not by a consultant). The perjury statement shall be in the following format:

"I, [NAME], do hereby declare, under penalty of perjury under laws of State of California, that I am [JOB TITLE] for Chevron Company, that I am authorized to attest, that veracity of the information contained in [NAME AND DATE OF THE REPORT] is true and correct, and that this declaration was executed at [PLACE], [STATE], on [DATE]."

The State Water Resources Control Board (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 electronic copy reports required in this Order, but also to comply by uploading all reports and correspondence prepared to date on to the GeoTracker data management system. The text of the regulations can be found at the URL:

[http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal).

SO ORDERED.

  
Samuel Unger, P.E.  
Executive Officer

# EXHIBIT 6



Richard G. Horn  
Team Lead  
Marketing Business Unit

Chevron Environmental  
Management Company  
6101 Bollinger Canyon Road  
Room 5202  
San Ramon, CA 94583  
Tel (925) 790-6234  
RHorn@chevron.com

February 8, 2012

Via Electronic Mail

gbishop@waterboards.ca.gov

Greg Bishop, P.G.  
Engineering Geologist  
Regional Water Quality Control Board,  
Los Angeles Region  
320 W. 4th Street  
Los Angeles, CA 90013

Re: December 13, 2011 Requirement for Technical Report on Pipeline Inventory  
Dominguez Channel, South of Carson Street, Carson, California

Dear Mr. Bishop:

I write on behalf of Chevron U.S.A. Inc., Texaco Inc. and Union Oil Company of California (collectively, 'Chevron') in response to the above-referenced Technical Report requirement under Water Code section 13267. Chevron has undertaken a diligent search of the available files that it was reasonably able to identify and locate pertaining to pipelines currently and formerly owned and operated by Chevron entities within one-mile of the intersection of Carson Street and the Dominguez Channel. Enclosed herewith is a table providing the information Chevron has been able to ascertain, in the format requested. Also enclosed is a Shape file meeting the specifications provided in your December 13, 2011 letter for the identified pipelines. These materials are concurrently being uploaded into GeoTracker.

If you have any further questions, please feel free to contact me, or the Chevron Project manager for this investigation, Ben Terry.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard G. Horn".

Richard G. Horn

cc: A. Todd Littleworth (via email)  
Ben Terry (via email)

bcc: **Pete Bergeron (via email)**  
**Amy E. Gaylord (via email)**

Perjury Statement

I, Richard G. Horn, declare under penalty of perjury of the laws of the State of California, that I am an authorized officer for Chevron Environmental Management Company and that the information contained in the enclosed documents is true to the best of the company's current knowledge. However, I make no representations as to the veracity of the information provided on information and belief.

This declaration was executed at San Ramon, California on February 8, 2012.



---

Richard G. Horn  
Assistant Secretary

**Chevron's Response to RWQCB's December 13, 2011 Technical Report Requirement**

ID No.	Owner ID	Current Owner	Ownership History	Size	Material	Product	Oxygenates	Status	Integrity Test Failures	Contact	Notes	Source
1	Current ID unknown. Union Oil Company of California drawings identify it as "6" leased to field dept. for waste water line." This line runs adjacent to Perry Street.	Chevron is informed and believes that the current owner is Union Oil Company of California.	Union Oil Company of California and its wholly-owned subsidiary, Unocal California Pipeline Company (unknown date to present), except as follows:  In 1969 a 2,687 ft. section of the line was sold to Shell (portion through Shell refinery) and subsequently Shell removed a 10 ft. section of the line.	6-inch	Steel	Previously used for crude then waste water (dates unknown)	None	Inactive	No records indicating integrity test failures have been identified.	Brian "Pete" Bergeron, Chevron Environmental Management Company; <a href="mailto:pete.bergeron@chevron.com">pete.bergeron@chevron.com</a>  (925)790-6519	All information provided is to the best of Chevron's current knowledge after a reasonable inquiry and diligent search. Where indicated, the information is provided on information and belief.	Union Oil Company of California drawings D4A183 and D4A124
2	Current ID unknown. Union Oil Company of California drawings identify it as "6" Dominguez No. 2." This line runs adjacent to Perry Street.	Chevron is informed and believes that the current owner is Crimson California Pipeline, L.P.	Union Oil Company of California and its wholly-owned subsidiary, Unocal California Pipeline Company (unknown date to 1997)  Tosco/Phillips/ConocoPhillips (1997 to 2008) <sup>1</sup>  Crimson California Pipeline, L.P. (2008 to present)	6-inch	Steel	Crude (dates unknown)	None	Believed to be active	No records indicating integrity test failures have been identified.	Unknown, but believed to be currently owned by Crimson California Pipeline, L.P.	All information provided is to the best of Chevron's current knowledge after a reasonable inquiry and diligent search. Where indicated, the information is provided on information and belief. Chevron is unable to verify information for periods beyond Union Oil's ownership.	Union Oil Company of California drawings D4A183 and D4A124

ID No.	Owner ID	Current Owner	Ownership History	Size	Material	Product	Oxygenates	Status	Integrity Test Failures	Contact	Notes	Source
3	Current ID unknown. Union Oil Company of California drawings identify it as "6" Prod. Line." This line runs adjacent to Wilmington Ave.	Chevron is informed and believes that the current owner is Crimson California Pipeline, L.P.	Union Oil Company of California and its wholly-owned subsidiary, Unocal California Pipeline Company (unknown date to 1997) Tosco/Phillips/ConocoPhillips (1997 to 2008) Crimson California Pipeline, L.P. (2008 to present)	6-inch	Steel	Product (dates unknown)	Unknown	Unknown	No records indicating integrity test failures have been identified	Unknown, but believed to be currently owned by Crimson California Pipeline, L.P.	All information provided is to the best of Chevron's current knowledge after a reasonable inquiry and diligent search. Where indicated, the information is provided on information and belief. Chevron is unable to verify information for periods beyond Union Oil's ownership.	Union Oil Company of California drawings D4A183 and D4A124

<sup>1</sup> Chevron understands that Tosco merged into Phillips Petroleum in 2001, and Conoco and Phillips subsequently merged on August 30, 2002 to become ConocoPhillips. Chevron is informed and believes that a Purchase and Sale Agreement was entered between ConocoPhillips and Crimson California Pipeline, L.P. for a package of lines, including those identified in this chart as items 2 and 3, on July 1, 2008.

# EXHIBIT 7



Pillsbury Winthrop Shaw Pittman LLP  
50 Fremont Street | San Francisco, CA 94105-2228 | tel 415.983.1000 | fax 415.983.1200  
MAILING ADDRESS: P. O. Box 7880 | San Francisco, CA 94120-7880

Amy E. Gaylord  
tel 415.983.7262  
amy.gaylord@pillsburylaw.com

August 17, 2012

Via Email & First-Class Mail

Greg Bishop  
Los Angeles Regional Water Quality Control Board  
320 West 4th Street, Suite 200  
Los Angeles, CA 90013  
gbishop@waterboards.ca.gov

Re: LARWQCB Draft Order No. R4-2012-0103  
Dominguez Channel, South of Carson Street  
Carson, California (SCP No. 1264, File No. 11-184)

Dear Mr. Bishop:

I write on behalf of Chevron Environmental Management Company (“CEMC”) in response to the Regional Board’s June 20, 2012 draft Cleanup and Abatement Order No. R4-2012-0103 (“Draft Order”). CEMC responds to the Draft Order on behalf of Union Oil Company of California (“Unocal”) and Phillips 66 (“Phillips”).<sup>1</sup> As set forth below, since there is no credible evidence that they are “dischargers” as the term is used by Water Code § 13304, the Draft Order was improperly directed to CEMC (on behalf of Unocal) and Phillips. The Draft Order also is overbroad in how it defines the term “Site” and would require cleanup which is not properly tailored to the discharge in the Dominguez Channel on which it is premised. CEMC accordingly requests that the Draft Order be rescinded

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<sup>1</sup> CEMC 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. As stated in a May 6, 2011 letter from CEMC to Samuel Unger, CEMC is not a successor to Unocal, but 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.

insofar as it is directed to CEMC, Unocal, and Phillips.

**History of Dominguez Channel Release Does Not Support Naming CEMC or Phillips as "Dischargers"**

In early 2011, a petroleum sheen was discovered in waters of the Dominguez Channel. An investigatory order under Water Code § 13267 was issued to numerous owners and operators of facilities in the vicinity. CEMC complied with that Investigatory Order by participating in funding the investigation and interim remedial work completed by URS for RELLC, which CEMC understands has largely eradicated the sheen on the Channel, and by complying with the subsequent Technical Report requirement to identify Chevron-related pipelines currently or formerly operated in the vicinity of the petroleum release in the Dominguez Channel.

The following information was presented in CEMC's Technical Report response with regard to Chevron-entity pipelines in the vicinity of the Dominguez Channel release:

- 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. The lines do not cross the Dominguez Channel. URS has labeled these as Pipelines 01 and 02.<sup>2</sup>
- Pipeline 01 may have carried crude oil. Pipeline 02 was a wastewater line.
- Pipeline 01 was sold to Tosco in 1997, and CEMC believes it was thereafter sold to Crimson California Pipeline in 2008.<sup>3</sup>
- Pipeline 02 is inactive, and records indicate that a section of the line was sold to Shell in 1969.
- 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.

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<sup>2</sup> URS and the Regional Board have concluded that Pipeline 03, which is idle and now owned by Crimson, is the same as the line identified as Pipeline 01. In this letter, CEMC refers simply to Pipeline 01.

<sup>3</sup> Although the Draft Order acknowledges that Crimson itself admits to owning a pipeline that meets this description, the 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.

Greg Bishop  
August 17, 2012  
Page 3

As part of the investigatory work that has been undertaken to date, a forensic study of the petroleum identified in and near the Channel was undertaken. As stated in the Draft Order, 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%)." (Draft Order at ¶ 7.) The evidence demonstrates Pipelines 01 and 02 are not a source of the naphtha observed in the Dominguez Channel. In fact, these pipelines are not reasonably considered a source of the contaminants in the Channel at all.

In spring of 2011, potholing activities were undertaken to daylight Pipelines 01 and 02 as they cross the Active RV property. Visual observations of the uncovered pipelines indicated they are located approximately 83 inches (roughly 7 feet) below ground surface. CEMC's understanding of the results of the potholing and trenching activities is that there was no significant hydrocarbon contamination observed in soils surrounding the daylighted lines. This is consistent with the soil samples which have been collected by URS for RELLC as part of the investigation of the Dominguez Channel release.

Furthermore, the data collected by URS at varying depths and varying locations in soil and groundwater in and around the Dominguez Channel (including both sides of the Channel) demonstrate a consistent ratio of TPHg/TPHd. Naphtha-range hydrocarbons extend into both 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. If the product in the Channel was from multiple pipelines, one would expect differing TPHg/TPHd concentration ratios, depending on sampling locations and depths. This is not what has been observed. Since Pipelines 01 and 02 did not carry refined product, they cannot be the single source of naphtha-range hydrocarbons observed in the subsurface.

The evidence demonstrates that Pipelines 01 and 02 are not the source of contamination in the Dominguez Channel. As such, identification of CEMC (on behalf of Unocal) and Phillips as dischargers does not rest on substantial evidence and is improper.

**The Draft Order Fails to Identify "Substantial Evidence" that Pipelines 01 and 02 are the Source of Discharge**

Basing a cleanup and abatement order 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 cleanup order, there must be "substantial evidence" that the named party has caused or permitted waste to be discharged into the waters of the State:

Any person 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.

Water Code § 13304 (emphasis added). Although the Draft Order uses the boilerplate language that “[s]ubstantial evidence” indicates that Unocal and Phillips “caused or permitted waste to be discharged into waters of the state” it fails to identify *any evidence of causation or permission to discharge* by Unocal or Phillips. As indicated above, there is no such evidence. (Draft Order at p. 8.) On the contrary, the Draft Order expressly admits that the Regional Board lacks sufficient evidence of a discharge from these pipelines:

[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 naptha-range and crude oil materials, to be suspected discharge points.

(Draft Order at p. 5, ¶11 (emphasis added).) 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 a discharge to order a cleanup:

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.

*In re Exxon Company, et al.*, WQ 85-7, 1985 WL20026 (Cal.St.Wat.Res.Bd.) at \*6 (emphasis added). In rejecting a regional board’s attempt to issue a cleanup order 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. It stated:

We recognize the difficult position in which this places the Regional Board. In this case the Regional Board was searching to find responsible parties who could effectuate the cleanup. Fewer parties named in the order may well mean no one is able to clean up a demonstrated water quality problem. We also recognize that the Regional Board does not have infinite resources available to it to extensively search through various county files in a quest for additional information. ... However, in order to name parties such as Exxon and Phelps, we believe there should be more evidence than we have before us currently.

*Id.* The State Board has been consistent in upholding cleanup orders *only* where there is “substantial evidence” that the named party met the Water Code § 13304 requirements of having caused or permitted the discharge. For example, it reasoned that if a party did not use or store the contaminants in issue, it “obviously” could not have caused or permitted a discharge. *In re Sanmina Corporation*, WQ 93-14, 1993 WL 456494 (Cal. St. Wat. Res. Bd., 1993)(finding that “obviously if, as Sanmina claims, Sanmina did not use or store the VOCs, Sanmina could not have caused or permitted their discharge, and therefore, would not be responsible for their cleanup.”)

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 In re Stinnes-Western Chemical Corporation*, 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.<sup>4</sup>

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) Pipelines 01 and 02 did not carry

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<sup>4</sup> The Draft Order identified 27 pipelines, but as stated in note 2, URS has concluded that Pipelines 01 and 02 are the same.

naptha-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. Accordingly, the conclusion that they are dischargers is premised on admitted speculation, not "substantial evidence", and will likely be overturned by the State Board if CEMC is forced to submit a petition.

**The Draft Order Does Not Properly Tailor the Definition of "Site" or the Scope of the Cleanup to the Evidence.**

Although CEMC, Unocal, and Phillips would object to the issuance of a cleanup order to any one of them based on the lack of evidence that they caused or permitted the discharge that the Draft Order addresses, the companies point out the additional errors in the scope of the Draft Order, below, to avoid waiving the right to do so.

The impropriety of the Draft Order is evidenced by its scope. 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 to which the Order is directed. (See Draft Order at p. 1, ¶ 1, Ex. A., and ¶ 5). The parties cannot determine from the language of the Draft Order the exact area to be addressed, and it would appear that the area covered by the Draft Order is inappropriately broad given the localized discharge in the Dominguez Channel which it seeks to remedy.

In addition to failing to sufficiently define the term "Site", the scope of the cleanup directed in the Draft Order is not sufficiently tailored to the discharge in the Dominguez Channel. Specifically, the Draft Order overreaches by including the remediation a geographic scope which is undefined and overly broad given the failure to identify a source of the release. Furthermore, 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 historic releases. It is inappropriate to order a regional cleanup for a localized problem, especially when the source has not been identified. Cal. Wat. Code § 13304 (permitting the regional board to issue orders to "clean up *the* waste or abate *the* effects of the waste" which the discharger caused or permitted to occur (emphasis added)).

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. However, the Draft Order nevertheless incorporates cleanup of groundwater within its scope, stating that gasoline constituents, "including di-isoproyl ether (DIPE) have been detected" in groundwater at concentrations up to 1,400 µg/L. (Draft Order at p. 5) To CEMC's knowledge there is no indication that DIPE was identified in the Dominguez

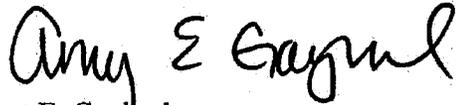
Greg Bishop  
August 17, 2012  
Page 7

Channel. Sweeping an unrelated groundwater problem into the Draft Order to address the release from the Dominguez Channel is improper. More importantly, because there is no evidence that refined product that might have contained DIPE 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.

**Conclusion**

For the foregoing reasons, CEMC (on behalf of Unocal) and Phillips are improperly named as dischargers in the Draft Order because there is no evidence that they caused or permitted the discharge of LNAPL in the Dominguez Channel. CEMC therefore requests that the Draft Order be rescinded insofar as it is directed at them.

Sincerely,



Amy E. Gaylord

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2 PROOF OF SERVICE BY MAIL

3 I, Rita M. Breaux, the undersigned, hereby declare as follows:

4 1. I am over the age of 18 years and am not a party to the within cause. I am  
5 employed by Pillsbury Winthrop Shaw Pittman LLP in the City of San Francisco, California.

6 2. My business address is Four Embarcadero Center, 22nd Floor, San Francisco,  
7 California 94111-5998. My mailing address is P. O. Box 2824, San Francisco, CA 94126-2824.

8 3. I am familiar with Pillsbury Winthrop Shaw Pittman LLP's practice for collection  
9 and processing of correspondence for mailing with the United States Postal Service; in the  
10 ordinary course of business, correspondence placed in interoffice mail is deposited with the  
11 United States Postal Service with first class postage thereon fully prepaid on the same day it is  
12 placed for collection and mailing.

13 4. On March 11, 2013, at Four Embarcadero Center, 22nd Floor, San Francisco,  
14 California, I served a true copy of the attached document(s) titled exactly:

15 • **CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY'S**  
16 **PETITION FOR REVIEW OF CLEANUP AND ABATEMENT ORDER TO PHILLIPS**  
17 **66 COMPANY; REQUEST FOR HEARING, AND REQUEST FOR STAY**

18 • **DECLARATION OF DAN FISCHMAN IN SUPPORT OF CHEVRON**  
19 **ENVIRONMENTAL MANAGEMENT COMPANY'S PETITION FOR REVIEW OF**  
20 **CLEANUP AND ABATEMENT ORDER TO PHILLIPS 66 COMPANY; REQUEST FOR**  
21 **HEARING, AND REQUEST FOR STAY**

22 • **DECLARATION OF RICHARD G. HORN IN SUPPORT OF CHEVRON**  
23 **ENVIRONMENTAL MANAGEMENT COMPANY'S PETITION FOR REVIEW OF**  
24 **CLEANUP AND ABATEMENT ORDER TO PHILLIPS 66 COMPANY; REQUEST FOR**  
25 **HEARING, AND REQUEST FOR STAY**

26 • **DECLARATION OF TODD LITTLEWORTH IN SUPPORT OF CHEVRON**  
27 **ENVIRONMENTAL MANAGEMENT COMPANY'S PETITION FOR REVIEW OF**

1 **CLEANUP AND ABATEMENT ORDER TO PHILLIPS 66 COMPANY; REQUEST FOR**  
2 **HEARING, AND REQUEST FOR STAY**

3 by placing it/them in an addressed, sealed envelope clearly labeled to identify the person being  
4 served at the address shown below and placed in interoffice mail for collection and deposit in the  
5 United States Postal Service on that date following ordinary business practices:

6 **[See Attached Service List]**

7 I declare under penalty of perjury that the foregoing is true and correct. Executed this 11th  
8 day of March, 2013, at San Francisco, California.

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11 Rita M. Breaux

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