

Caldwell Leslie

Caldwell Leslie & Proctor, PC

1000 Wilshire Boulevard, Suite 600 Los Angeles, CA 90017-2463 Tel 213.629.9040 Fax 213.629.9022 www.caldwell-leslie.com

BY FEDERAL EXPRESS

Tracking No. 7997 1033 7364,

FACSIMILE (916) 341-5199 and

EMAIL jbashaw@waterboards.ca.gov

DAVID ZAFT

zaft@caldwell-leslie.com

September 7, 2007

State Water Resources Control Board
Office of Chief Counsel
1001 "T" Street
22nd Floor
Sacramento, California 95814

Attn: Jeannette L. Bashaw

Re: *In re Equilon Enterprises LLC's Petition for Review of Regional Water Board's Request for Technical Report*

Dear Ms. Bashaw:

Enclosed please find the Petition for Review and Request for Hearing and the Request for Stay filed herewith by Equilon Enterprises LLC dba Shell Oil Products US. I have also had a complete set of these documents hand-delivered to Ms. Deborah Smith, Interim Executive Officer, Los Angeles Regional Water Quality Control Board this day.

If you have any questions about this filing, please do not hesitate to contact me.

Very truly yours,



David Zaft

Enclosures

1 CALDWELL LESLIE & PROCTOR, PC
2 MICHAEL R. LESLIE, State Bar No. 126820
3 leslie@caldwell-leslie.com
4 DAVID ZAFT, State Bar No. 237365
5 zaft@caldwell-leslie.com
6 1000 Wilshire Blvd., Suite 600
7 Los Angeles, California 90017-2463
8 Telephone: (213) 629-9040
9 Facsimile: (213) 629-9022

10 Attorneys for Petitioner
11 EQUILON ENTERPRISES LLC dba SHELL OIL
12 PRODUCTS US

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

15 In the Matter of the Petition of
16 EQUILON ENTERPRISES LLC dba SHELL
17 OIL PRODUCTS US
18 Request for Technical Report, California
19 Regional Water Quality Control Board, Los
20 Angeles Region
21 California Water Code § 13267

No.

**PETITION FOR REVIEW AND
REQUEST FOR HEARING**

22 Equilon Enterprises LLC dba Shell Oil Products US (“Shell”) hereby timely files this
23 Petition for Review and Request for Hearing. Shell also files herewith the Declaration of
24 Edward E. Freed and a Request for Stay. Petitioner alleges as follows:

25 1. Shell’s mailing address is 20945 South Wilmington Avenue, Carson, California
26 90810. Shell owns and operates the Carson Terminal facility located in Carson, California.
27 (Declaration of Edward E. Freed (attached hereto and referred to hereafter as “Freed Decl.”), ¶
28 2.) In 1997, the California Regional Water Quality Control Board, Los Angeles region (“Water
Board”) issued Cleanup and Abatement Order 97-120 directing Shell to investigate and
remediate contamination discovered on and east of the Carson Terminal. (Freed Decl., ¶ 3.)

2. Shell seeks review of a Request for Technical Report issued by the Interim
Executive Officer of the Water Board on August 10, 2007 pursuant to Section 13267 of the

1 California Water Code (the "13267 Letter").¹ The Water Board issued the 13267 Letter in
2 response to the March 30, 2007 submission by Shell of an Interim Feasibility Study.² In the
3 Interim Feasibility Study, Shell reviewed ten alternative interim measures to address the presence
4 of dissolved phase fuel oxygenates, primarily di-isopropyl ether (DIPE) and tertiary butyl alcohol
5 (TBA), located in shallow aquifers to the east of the Carson Terminal (the "off-site impacts").
6 (Freed Decl., ¶ 7.) Shell recommended the adoption of an interim measure involving the
7 extraction and ex-situ treatment of groundwater (by reverse osmosis) from the core of the off-site
8 impacts. (*Id.*) The recommended interim measure would involve the installation of two
9 groundwater extraction wells with a capacity to withdraw 150 gallons per minute (gpm) of
10 impacted water. (Freed Decl., ¶ 8.) The wells would control the core and remove contaminant
11 mass while, at the same time, permitting Shell and the Water Board to assess the potential
12 feasibility and hydrological impact of large-scale groundwater extraction on the aquifer system,
13 including various nearby, but unrelated, areas of contamination from other, non-Shell properties.
14 (*Id.*) The recommended interim measure would also allow Shell to assess the effect of monitored
15 natural attenuation on the distal DIPE and TBA impacts. (*Id.*) Finally, this interim measure
16 would be the most practicable in the short term, given not only the technological and engineering
17 requirements for installing the wells and treatment system, but also the regulatory approvals and
18 property access that would be required. (*Id.*)

19 3. In the 13267 Letter, the Water Board rejected Shell's proposed interim measure
20 and instead directed Shell to submit a supplemental report by November 15, 2007 specifying in
21 detail a schedule for completion of the design and installation of 28 groundwater extraction wells
22 by August 1, 2008 (the "Supplemental Study"). These wells would have the capacity to extract
23 3,000 gpm of impacted groundwater, twenty times the capacity of Shell's recommended interim
24 measure. The 13267 Letter also requires Shell to specify actions necessary to apply for a permit
25

26 ¹ A copy of the 13267 Letter is attached as Exhibit 1.

27 ² An electronic copy of the Interim Feasibility Study is attached to the hard copy of this
28 Petition as Exhibit 2.

1 to temporarily discharge the impacted groundwater into the municipal sewer system operated by
2 the Los Angeles County Sanitation District.

3 4. As noted above, the Water Board issued the 13267 Letter on August 10, 2007.
4 This Petition is filed pursuant to Section 13320 of the Water Code, which authorizes any
5 aggrieved person to petition the State Board to review any action (or failure to act) by a Water
6 Board. *See* Water Code § 13223 (actions of the regional board shall include actions by its
7 executive officer pursuant to powers and duties delegated to her by the regional board).

8 5. Shell challenges the 13267 Letter on the following grounds:

- 9 • The remedy directed by the 13267 Letter is not technically or logistically feasible.

10 The installation of 28 groundwater extraction wells would present technical, logistical
11 and regulatory challenges that are unlikely to be resolved within the time frame
12 required by the Water Board. For instance, if public rights of way are not available
13 for the installation of the extraction wells (which is a virtual certainty for 28 wells and
14 associated piping), access grants from private landowners will be necessary. Shell has
15 encountered significant difficulty in obtaining permission from private landowners for
16 access to install numerous off-site groundwater monitoring wells over the last three
17 years, and obtaining this access has required extensive time. (Freed Decl., ¶ 11.)

18 Shell's experience indicates that the time necessary for securing access for
19 groundwater extraction well and associated pipelines would take longer than the time
20 provided in the 13267 Letter. (*Id.*) Also, the Water Board has not taken into account
21 the additional time required to connect the 28-well extraction system to a treatment
22 facility. This makes the Water Board's deadline even more impracticable. (*Id.*)

- 23 • The high extraction rate directed in the 13267 Letter poses additional issues that
24 cannot be resolved in the required time frame. Shell is unlikely to receive the water
25 rights necessary for an extraction rate of 3,000 gpm. Shell has recently approached
26 the Water Replenishment District and the Department of Water Resources requesting
27 water rights for an extraction rate of 375 gpm for an unrelated project and was

1 informed that the regulators have serious reservations regarding even this, much
2 lower, rate of extraction. (Freed Decl., ¶ 12.)

- 3 • Groundwater extraction at a rate of 3,000 gpm would have potential hydrological
4 effects that could complicate both Shell's remedial efforts and the containment and
5 remediation of nearby (non-Shell) contaminated sites. (Freed Decl., ¶ 13.) One such
6 complication might be to draw chlorinated hydrocarbons from nearby contaminated
7 sites (under independent ownership and not related to Shell) into Shell's treatment
8 system, thus spreading such contamination and complicating Shell's efforts to contain
9 and remediate the DIPE and TBA impacts. (*Id.*)
- 10 • Similarly, the Water Board has required that Shell secure the approval from the Los
11 Angeles County Sanitation District to dispose the impacted groundwater extracted
12 from such an extensive well network (at a volume matching the extraction rate of
13 3,000 gpm) into the municipal sewer system on an interim basis. This requirement
14 poses potential issues that may not be resolved before the mandated August 1, 2008
15 deadline. Neither Shell nor the Water Board has analyzed the sewer system's ability
16 to receive such a large volume of water, or the potential environmental issues posed
17 by such a discharge plan.
- 18 • Moreover, during times of high service demand, such as during and following
19 rainstorms, Shell's access to discharge could potentially be curtailed for extended
20 periods of time. Shell's discharge might even be limited to off-peak hours during
21 normal times, thus requiring not only infrastructure to convey recovered groundwater
22 to a sewer discharge point, but aboveground tanks to store extracted groundwater for
23 later discharge at permitted times.
- 24 • Shell also projects that the cost of such disposal would be disproportionate to the
25 minimal or non-existent risk of delaying extraction until a proper treatment system
26 can be finalized. Given that the data shows that the groundwater impacts are not
27 expanding, and that accordingly any delay that might result from implementing a
28 proper treatment system for the extracted groundwater would pose little risk to the

1 environment or the public, it is Shell's position that an interim discharge of such a
2 large volume of water is not a prudent or cost-effective option. (Freed Decl., ¶ 4.)

3 Given the technical, regulatory and property access challenges facing the full scale system
4 required by the Water Board in the 13267 Letter, it makes more sense to start the off-site
5 remediation with Shell's proposed two-well core containment system, and then expand its
6 capacity and operations in conformance with operational data. Moreover, such a plan is more
7 likely to be accomplished within the Water Board's time frame and is also more in line with the
8 Water Board's directive for an interim, not final, measure. Additionally, hydrogeologic and
9 engineering data are lacking to support the Water Board's 28-well extraction system at this time.

10 In addition to these concerns, the directives described above also exceed the Water
11 Board's legal authority:

- 12 • The mandates set forth in the 13267 Letter exceed the limits placed on the Water
13 Board's authority by Water Code Section 13360. This statute states that "[n]o waste
14 discharge requirement or other order of a regional board ... shall specify the design,
15 location, type of construction, or particular manner in which compliance may be had
16 with that requirement, order, or decree." By requiring Shell to plan for the installation
17 of a 28-well system and the discharge of 3,000 gpm into the municipal sewer system,
18 the Water Board has gone far beyond specifying the water quality objective and
19 instead has directed Shell to adopt a certain design, type of construction, and
20 particular manner of environmental remediation.
- 21 • The 13267 Letter also violates Section 13267(b), which provides that the Water
22 Board may require the completion of a technical report only if "[t]he burden,
23 including costs, of these reports ... bear[s] a reasonable relationship to the need for
24 the report and the benefits to be obtained from the reports." As specifically noted by
25 the Water Board in the 13267 Letter, Shell runs the risk of incurring administrative
26 penalties if it does not produce a Supplemental Study that is "acceptable to the
27 Executive Officer." Exh. 1, p. 8. However, for the reasons explained above, Shell is
28 unable to draft a Supplemental Report that complies with the requirements set forth in

1 the 13267 Letter because these requirements specify a remedy and course of
2 investigation that are logistically infeasible and environmentally suspect. (Freed
3 Decl., ¶¶ 11-13.) The burden placed on Shell by the 13267 Letter far exceeds the
4 benefit that such a Supplemental Study would confer. The need for immediate design
5 of the 28-well system is made all the more questionable by the Water Board's
6 subsequent statements in a meeting between Shell representatives and Water Board
7 staff that took place on August 28, 2007. In that meeting, the Water Board staff stated
8 that the Water Board would permit Shell to move forward with a Supplemental Study
9 based on its originally proposed two-well core containment interim measure. (Freed
10 Decl., ¶ 14 and Exh. 3.) However, despite this agreement, the Water Board technical
11 staff stated that the Water Board refused to rescind those portions of the 13267 Letter
12 requiring Shell to submit a Supplemental Study requiring the installation of the 28-
13 well system. (Freed Decl., ¶ 15 and Exh. 3.)

14 6. Shell is aggrieved because the 13267 Letter requires Shell to produce a
15 Supplemental Study by November 15, 2007 specifying actions related to a technically and
16 logistically infeasible interim measure, namely the implementation of a 28-well extraction system
17 by August 1, 2008 that involves discharge of untreated groundwater into the municipal sewer
18 system. Shell is further aggrieved because these requirements violate Sections 13360 and
19 13267(b) of the Water Code.

20 7. Shell requests that the State Board grant the relief requested in this Petition as set
21 forth in the Request for Relief.

22 8. Shell's statement of points and authorities in support of the issues raised by this
23 Petition commences below.

24 9. A copy of this Petition is being sent by personal messenger to the Water Board on
25 September 7, 2007, to the attention of Ms. Deborah Smith, Interim Executive Officer.

26 10. Shell requests a hearing to address the contentions in the Statement of Points and
27 Authorities and reserves the right to modify and supplement this Petition. Shell also requests an
28 opportunity to present additional evidence. *See* 23 Cal. Code Regs. § 2050.6.

1 **STATEMENT OF POINTS AND AUTHORITIES**

2 **I. BACKGROUND**

3 11. The Shell Carson Terminal is a former petroleum refinery and chemical
4 manufacturing plant located on a 420-acre site in Carson, California. (Freed Decl., ¶ 2.) Shell
5 currently operates a fuel tank farm on the western portion of the site and a chemical tank farm on
6 the eastern portion. (*Id.*) Chemical manufacturing and petroleum refining operations at the
7 Carson Terminal ended in 1986 and 1991, respectively. (*Id.*)

8 12. Shell has been cooperating with the Water Board and the United States
9 Environmental Protection Agency, Region IX, to investigate and remediate contaminants
10 discovered on and to the east of the Carson Terminal. (Freed Decl., ¶ 3.) Shell's investigation
11 and remedial work is being conducted pursuant to Cleanup and Abatement Order No. 97-120 (the
12 "CAO"). (*Id.*) Shell is in compliance with the work plans, schedules and activities developed in
13 conjunction with Water Board staff to implement that CAO. (*Id.*) Shell has made tremendous
14 progress in characterizing the environmental issues at the Carson Terminal and has implemented
15 remediation technologies to address and contain the on-site NAPL, soil, oxygenate, and
16 dissolved-phase impacts. (*Id.*) Since 2004, Shell has spent more than \$30 million to implement
17 an aggressive plan in conjunction with the Water Board to characterize off-site impacts and to
18 characterize, contain and remediate on-site impacts. (*Id.*)

19 13. While much of Shell's work involves on-site efforts, Shell has also extensively
20 investigated and characterized the presence of dissolved phase fuel oxygenates, primarily DIPE
21 and TBA, located to the east of the Carson Terminal. (Freed Decl., ¶ 4.) These off-site impacts
22 are confined to shallow aquifers at depths between 100 feet and 240 feet. (*Id.*) The impacts are
23 not presently a source of contamination to groundwater located in deeper aquifers used by water
24 producers in the area. (*Id.*) Since 2004, Shell has installed over 60 off-site groundwater
25 monitoring wells to characterize the vertical and lateral extent of the compounds, and 11 sentinel
26 wells to provide early warning of any potential migration to deeper aquifers. (*Id.*) Shell
27 estimates that the vertical and lateral extent of the off-site DIPE and TBA impacts are more than
28 90% characterized. (*Id.*) The monitoring data indicate that the impacts are not currently

1 migrating or expanding, and Shell has installed sentinel wells to ensure that any such migration
2 (if it were to occur) would be quickly detected. (*Id.*)

3 14. While the off-site characterization work was underway, the Water Board issued its
4 initial 13267 letter on March 8, 2006, directing Shell to prepare an Interim Feasibility Study that
5 would provide descriptions of alternative interim measures to contain and begin removal of the
6 off-site DIPE and TBA impacts. This was unusual given that the more typical sequence of
7 events with respect to site remediation is to first conduct an assessment of the extent of
8 groundwater and/or soil impacts. Such an assessment usually involves the characterization of the
9 lithology and petrophysical parameters of impacted vadose zone and/or aquifer soils, and the use
10 of in-field tests, such as soil vapor extraction tests and aquifer pump tests, to be used in a
11 feasibility study to evaluate remedial alternatives and support the selected alternative. (Freed
12 Decl., ¶ 5.) Nonetheless, the Water Board, in its March 8, 2006 letter, ordered Shell to prepare
13 an Interim Feasibility Study and remedial alternative evaluation without benefit of a complete set
14 of engineering and hydrogeologic data and parameters. (*Id.*)

15 15. While preparing the Interim Feasibility Study, Shell submitted three Technical
16 Memoranda to the Water Board on May 19, 2006, July 14, 2006 and January 5, 2007. (Freed
17 Decl., ¶ 6.) The purpose of these Technical Memoranda was for Shell to obtain the benefit of the
18 Water Board's input and guidance as it developed the Interim Feasibility Study.³ Shell
19 specifically requested that the Water Board review the Technical Memoranda and engage in a
20 discussion with Shell about the development of the Interim Feasibility Study. Aside from a June
21 8, 2006 response letter to the first Technical Memorandum, and a conference call in July 2006
22 regarding one aspect of the second Technical Memorandum, the Water Board did not respond to
23 Shell's requests for feedback. (Freed Decl., ¶ 6.)

24 16. On March 30, 2007, Shell submitted the Interim Feasibility Study to the Water
25 Board. (Freed Decl., ¶ 7.) The Interim Feasibility Study described ten alternatives for an interim
26

27
28 ³ Electronic copies of these Technical Memoranda are attached to the hard copy of this
Petition as Exhibit 4.

1 measure, including a “no action” alternative, a monitored natural attenuation alternative, three in-
2 situ treatment alternatives, and five ex-situ treatment alternatives. (*Id.*) Shell recommended
3 adopting the tenth interim measure, which proposed extraction of groundwater from the core of
4 the impacted area, treatment of the impacted water through reverse osmosis, and recycling of the
5 treated water for industrial use. Under this interim measure, Shell would install two extraction
6 wells with a capacity for groundwater extraction at a rate of 150 gpm, which would control and
7 remove mass from the core of the impacted area. (Freed Decl., ¶ 8.) Among the advantages
8 offered by the recommended alternative is that Shell and the Water Board would be able to
9 evaluate the feasibility and hydrological impact of large-scale groundwater extraction on the
10 aquifer system and, in particular, on nearby plumes originating from other industrial sources.
11 (*Id.*) The recommended interim measure would also allow Shell to assess the effect of monitored
12 natural attenuation on the DIPE and TBA impacts. (*Id.*) Finally, this interim measure would be
13 the most practicable in the short term, given not only the technological and logistical
14 requirements for installing the wells and treatment system, but also the regulatory approvals and
15 property access needs that would be required. (*Id.*)

16 17. Shell recommended this interim measure in response to the directive contained in
17 the Water Board’s March 30, 2007 letter requesting that Shell propose an appropriate interim
18 response given issues related to site access constraints and uncertainties regarding aquifer
19 characteristics (based on the limited aquifer testing to-date). As such, the two-well core
20 containment measure is consistent with the March 30, 2007 directive.

21 18. On August 10, 2007, the Water Board issued the 13267 Letter at issue in this
22 Petition, which contained comments on the Interim Study and further directives to Shell. In
23 particular, the Water Board directed Shell to produce a supplemental technical report by
24 November 15, 2007 (the “Supplemental Study”). The Water Board cited Section 13267 as the
25 legal basis for this directive.

26 19. Among the other requirements contained in the 13267 Letter (which Shell does
27 not challenge here), the Water Board stated that the Supplemental Study shall meet the following
28 requirements:

- 1 • The Water Board required that “[y]our supplemental technical report shall specify, in
2 detail, a schedule for completing the design and construction of the 28 extraction
3 wells no later than August 1, 2008. This schedule must indicate plans and legal
4 resources that you will employ to resolve, early on, access issues arising from the
5 extensive offsite work you are undertaking.” Exh. 1, p. 7.
- 6 • The Water Board stated that “we do not believe that the remedial action should be
7 deferred while extensive sewer lines and reverse osmosis plant and equipment are
8 designed and constructed, and we believe that, during this design and construction
9 phase, Shell should proceed with extraction and take steps to discharge the
10 contaminated groundwater to the sanitary sewer system.” Exh. 1, p. 6.
- 11 • Finally, the Water Board required that “[y]our supplemental report shall specify
12 actions necessary to apply for a permit to discharge the extracted groundwater into the
13 sanitary sewer, starting no later than August 4, 2008...” Exh. 1, p. 6.

14 20. After receiving the 13267 Letter, Shell met with the Water Board technical staff to
15 address these requirements. (Freed Decl., ¶ 14.) Shell was particularly concerned about the
16 technical, logistical and regulatory feasibility of designing and installing a 28-well groundwater
17 extraction system by August 1, 2008. These concerns include logistical challenges posed by the
18 installation of a 28-well system within the time frame envisioned by the Water Board. Shell was
19 also concerned about the potential hydrological and environmental effects resulting from the
20 extraction of 3,000 gpm from the aquifer system, including the potential that such a massive
21 groundwater extraction program might affect nearby plumes from other (non-Shell) industrial
22 sites, which contain other chemicals of concern. Shell also expressed concerns that it would be
23 extremely difficult to obtain permits for the extraction of and eventual discharge to the sewer
24 system of impacted water, and that such discharge prior to any analysis of its potential effects
25 would be imprudent even if Shell were somehow able to obtain the necessary permits.

26 21. On August 28, 2007, Shell met with the Water Board technical staff and raised
27 these and other concerns it had about the requirements contained in the 13267 Letter. (Freed
28 Decl., ¶ 14.) Shell and the Water Board technical staff were able to reach an agreement on many

1 of the requirements contained in the 13267 Letter. (Freed Decl., ¶ 14 and Exh. 3.) Most
2 significantly, the Water Board technical staff agreed that Shell could submit an implementation
3 schedule for the installation of the two-well extraction system that Shell had originally proposed
4 in its Interim Feasibility Study, and that the Water Board would consider Shell in compliance
5 with the directive contained in the 13267 Letter if it did so. (*Id.*) The Water Board technical
6 staff, however, inexplicably refused to rescind those portions of the 13267 Letter requiring Shell
7 to specify a schedule for completing the 28-well system by August 1, 2008. The Water Board
8 also refused to rescind the portion of the 13267 Letter requiring Shell to specify actions in
9 preparation for discharging impacted groundwater into the sewer system commensurate with an
10 extraction rate of 3,000 gpm. (Freed Decl., ¶ 14 and Exh. 3.) Because Shell's noncompliance
11 with the Water Board's directives contained in the 13267 Letter could subject Shell to penalties
12 under Water Code Sections 13268 and 13350, Shell informed the Water Board technical staff
13 that, despite the staff's verbal agreement with Shell's proposed interim measure, Shell had no
14 choice but to file a Petition for Review with the State Water Board. (Freed Decl., ¶¶ 15-18.)

15 **II. THE REQUIREMENTS FOR A 28-WELL SYSTEM AND DISCHARGE TO THE**
16 **SEWER SYSTEM ARE TECHNICALLY AND LOGISTICALLY INFEASIBLE**
17 **AND VIOLATE THE WATER CODE**

18 ***A. The Implementation Schedule and Disposal Requirement Are Technically***
19 ***Infeasible and Were Required by the Water Board without Any Analysis***
20 ***of the Potential Environmental Issues Associated with such Disposal***

21 22. The directive contained in the 13267 Letter for Shell to "specify, in detail, a
22 schedule for completing the design and construction of the 28 extraction wells no later than
23 August 1, 2008," presents numerous substantial issues that are proper for the State Board's
24 review.

25 23. First, such an undertaking would involve numerous impracticalities, including
26 difficulties obtaining the necessary permits, negotiating access to the numerous private parcels
27 upon which the extraction wells (and associated piping) would be located, and constructing the
28 necessary infrastructure to support such a large-scale extraction system. For instance, it is a near

1 certainty that Shell would be unable to secure the necessary permitting for both the withdrawal
2 and discharge of such a large volume of groundwater by the required August 1, 2008 date.
3 (Freed Decl., ¶ 12.) Shell has recently approached the Water Master—in this case, the California
4 Department of Water Resources and the Water Replenishment District—seeking approval for the
5 withdrawal of water at an extraction rate of 375 gpm for an unrelated project and has been
6 informed that the agencies have serious reservations about even this much lower rate of
7 extraction. (*Id.*) This process has taken five months thus far and has not been completed. (*Id.*)
8 Given this fact, it is extremely unlikely that these agencies would quickly approve an extraction
9 rate of 3,000 gpm from Water Board’s proposed 28-well extraction system. Moreover, the
10 agencies will likely have the same questions Shell has regarding the potential hydrological effects
11 such a large extraction rate would have on the aquifer system.

12 24. The infrastructure issues associated with the implementation of such an excessive
13 groundwater extraction system would also be enormous. The 28-well system mandated in the
14 13267 Letter would necessitate the installation of literally miles of pipelines, which would
15 require permitting from the City of Carson and access grants from private landowners. (Freed
16 Decl., ¶ 11.) Given the presence of numerous other pipelines in all nearby available rights-of-
17 way, the 28-well system would be very complex to plan and install. (*Id.*)

18 25. Access issues would also pose a significant challenge. If public rights of way are
19 not available (which is virtually certain for a 28-well system), access grants from private
20 landowners would be necessary. The difficulty Shell has experienced in obtaining access to
21 install the off-site groundwater monitoring wells it has constructed over the last three years
22 indicates that the time necessary for securing access for 28 groundwater extraction wells would
23 take longer than the time provided for by the 13267 Letter. (*Id.*) And Shell’s past experience
24 does not account for the increased resistance many landowners can be expected to have to the
25 installation of groundwater *extraction* wells and conveyance pipelines on their property, as
26 opposed to less intrusive monitoring wells.

27 26. Shell is also concerned that the extraction of groundwater at a rate of 3,000 gpm
28 would produce hydrological effects that are difficult to predict given limited aquifer testing to-

1 date, and which could complicate both Shell's remedial efforts and the containment and
2 remediation of other nearby (non-Shell) impacts. (Freed Decl., ¶ 13.) Hydrogeologic parameters
3 and aquifer characteristics must be investigated prior to implementation of the 28-well system so
4 that contaminant fate and transport in this specific system is known. One such potential
5 complication is the possibility that a 3,000 gpm extraction rate would result in the introduction of
6 chlorinated hydrocarbons from nearby non-Shell sites into the groundwater impacted by DIPE
7 and TBA and then into Shell's treatment system. (*Id.*)

8 27. Similarly, the Water Board's requirement that Shell secure the approval to dispose
9 of impacted groundwater (at a volume matching the extraction rate of 3,000 gpm) into the
10 municipal sewer system is not only unrealistic, but also was issued with no analysis of the
11 potential environmental issues resulting from such a discharge. This is an unacceptable option,
12 especially given that the data shows that the off-site groundwater impacted by DIPE and TBA is
13 not expanding. (Freed Decl., ¶ 4.) In addition, the existing impacted groundwater poses no risk
14 to potential nearby receptors—*i.e.*, no vapor intrusion risk to overlying property owners and no
15 hydraulic connection to deeper potable aquifers. (*Id.*) Accordingly, there would be minimal, if
16 any, risk from waiting for the design and construction of a proper treatment system for the
17 extracted groundwater. Shell also projects that the cost of disposal into the sewer system would
18 be disproportionate to the minimal or non-existent risk of delaying extraction until a treatment
19 system can be finalized.

20 ***B. These Requirements Exceed the Limits Placed on the Water Board by***
21 ***Sections 13360 and 13267(b)***

22 28. Shell strongly objects to the portions of the Water Board's 13267 Letter requiring
23 Shell to undertake a Supplemental Study specifying the schedule and steps it would take to
24 implement the 28-well system by August 1, 2008. This requirement is not only technically
25 infeasible, environmentally suspect and unduly burdensome on Shell, but it also exceeds the clear
26 limits placed on the Water Board's authority under Water Code Section 13360. Water Code §
27 13360 specifically provides that "[n]o waste discharge requirement or other order of a regional
28 board ... shall specify the design, location, type of construction, or particular manner in which

1 compliance may be had with that requirement, order, or decree.” *See also* State Water Board
2 Resolution No. 92-49 (“Water Code § 13360 prohibits the Regional Water Boards from
3 specifying, but not suggesting, methods that a discharger may use to achieve compliance with
4 requirements or orders.”).

5 29. Section 13360 has been described as permitting the Regional Board to tell
6 dischargers “what to do” but not “how to do it.” 2 Manaster & Selmi, *Cal. Env. Law and Land*
7 *Use Practice*, § 32.39 (Matthew Bender, 2006). *See also In re Dr. Virgie Shore*, SWB Res. No.
8 86-10 at 3 n.1 (“The Regional Board is prohibited by Water Code Section 13360 from specifying
9 design of facilities in waste discharge requirements.”); *In re Operating Industries, Inc.*, SWB
10 Res. No. 85-4 at 5 (Regional Board prohibited by Section 13360 from specifying the method
11 used to dispose of leachate). As one Court of Appeal put it, “Section 13360 is a shield against
12 unwarranted interference with the ingenuity of the party subject to a waste discharge requirement
13 ... It preserves the freedom of persons who are subject to a discharge standard to elect between
14 available strategies to comply with that standard.” *Tahoe-Sierra Preservation Council v. State*
15 *Water Resources Control Board*, 210 Cal.App.3d 1421, 1439 (1989).

16 30. By requiring Shell to “specify, in detail, a schedule for completing the design and
17 construction of the 28 extraction wells no later than August 1, 2008,” the Water Board is doing
18 exactly what is prohibited by Section 13360: *i.e.*, “specifying the design, location, type of
19 construction, or particular manner in which compliance may be had.” That the Water Board has
20 done this is made all the more bewildering by the fact that its technical staff have subsequently
21 agreed to Shell’s original proposal of a two-well core containment interim measure.

22 31. The 13267 Letter also runs afoul of the requirement in the Water Code that a
23 regional board may require a discharger to “furnish under penalty of perjury, those technical or
24 monitoring program reports as the board may specify” only so long as “[t]he burden, including
25 costs, of these reports shall bear a reasonable relationship to the need for the report and the
26 benefits to be obtained from the reports.” Section 13267(b). As explained above, Shell will not
27 be able to draft a Supplemental Study that complies with the Implementation Schedule required
28 by the Water Board, given the substantial technical, logistical, access, and environmental

1 obstacles associated with implementing a 28-well, 3,000 gpm groundwater extraction system in
2 the manner specified by the Water Board. Given that the Water Board technical staff has already
3 agreed to Shell's original two well core containment proposal, it has effectively conceded that there
4 is no pressing need for a Supplemental Study that complies with the Implementation Schedule
5 contained in the 13267 Letter. Nevertheless, Shell is still obligated to incur substantial costs to
6 draft the Supplemental Study that complies with the 13267 Letter as written, or face the risk of
7 costly administrative sanctions. Thus, the burden on Shell is high, while the need for the
8 Supplemental Study specified in the 13267 Letter is minimal at best. This violates Section
9 13267(b).

10 **REQUEST FOR RELIEF**

11 For the reasons set forth above, Shell respectfully requests that the State Board grant
12 Shell the following relief:

- 13 1. That the State Board grant Shell's Request for Stay, filed concurrently herewith,
14 pending the State Board's decision on this Petition.
15 2. That the 13267 Letter, as written, be rescinded by the State Board.
16 3. Such other relief as the State Board may deem just and proper.

17 DATED: September 7, 2007

18 Respectfully submitted,

19 CALDWELL LESLIE & PROCTOR, PC
20 MICHAEL R. LESLIE
21 DAVID ZAFT

22 By 

23 MICHAEL R. LESLIE

24 Attorneys for Petitioner EQUILON ENTERPRISES
25 LLC dba SHELL OIL PRODUCTS US
26
27

DECLARATION OF EDWARD E. FREED

1 **DECLARATION OF EDWARD E. FREED**

2 I, Edward E. Freed, declare and state:

3 1. I am a Project Manager employed by Equilon Enterprises, LLC dba Shell Oil
4 Products US ("Shell"). My duties include environmental remediation project direction and
5 management. I have personal knowledge of the facts stated herein, and could and would testify
6 competently thereto if called as a witness in this matter.

7 2. Shell's Carson Terminal facility is a former petroleum refinery and chemical
8 manufacturing plant located on a 420-acre site in Carson, California. Shell currently operates a
9 fuel tank farm on the western portion of the site and a chemical tank farm on the eastern portion.
10 Chemical manufacturing and petroleum refining operations at the Carson Terminal ended in
11 1986 and 1991, respectively.

12 3. Shell has been cooperating with the California Regional Water Quality Control
13 Board, Los Angeles region ("Water Board") and the United States Environmental Protection
14 Agency, Region IX, to investigate and remediate contaminants discovered on and to the east of
15 the Carson Terminal. Shell's investigation and remedial work is conducted pursuant to Cleanup
16 and Abatement Order No. 97-120 (the "CAO"). Shell is in compliance with the work plans,
17 schedules and activities developed in conjunction with Water Board staff to implement that
18 CAO. Shell has made tremendous progress in characterizing the environmental issues at the
19 Carson Terminal and has implemented remediation technologies to address and contain the on-
20 site NAPL, soil, oxygenate, and dissolved-phase impacts. Since 2004, Shell has spent more than
21 \$30 million to implement an aggressive plan in conjunction with the Water Board to characterize
22 off-site impacts and to characterize, contain and remediate on-site impacts.

23 4. While much of Shell's work involves on-site efforts, Shell has also extensively
24 investigated and characterized the presence of dissolved phase fuel oxygenates, di-isopropyl
25 ether (DIPE) and tertiary butyl alcohol (TBA), located to the east of the Carson Terminal. These
26 off-site impacts are confined to shallow aquifers at depths between 100 feet and 240 feet. The
27 impacts are not presently a source of contamination to groundwater located in deeper aquifers
28 used by water producers in the area. Since 2004, Shell has installed over 60 off-site groundwater
monitoring wells to characterize the vertical and lateral extent of the compounds, and 11 sentinel

1 wells to provide early warning of any potential migration to deeper aquifers. Shell estimates that
2 the vertical and lateral extent of the off-site DIPE and TBA impacts are more than 90%
3 characterized. The monitoring data indicate that the impacts are not currently migrating or
4 expanding, and Shell has installed sentinel wells to ensure that any such migration (if it were to
5 occur) would be quickly detected. The existing impacted groundwater poses no risk to potential
6 nearby receptors—*i.e.*, no vapor intrusion risk to overlying property owners and no hydraulic
7 connection to deeper potable aquifers.

8 5. While the off-site characterization work was underway, the Water Board issued its
9 initial 13267 letter on March 8, 2006, directing Shell to prepare an Interim Feasibility Study that
10 would provide descriptions of alternative interim measures to contain and begin removal of the
11 off-site DIPE and TBA impacts. I considered this unusual given the more typical sequence of
12 events with respect to site remediation is to first conduct an assessment of the extent of
13 groundwater and/or soil impacts. Such an assessment usually involves the characterization of the
14 lithology and petrophysical parameters of impacted vadose zone and/or aquifer soils, and the use
15 of in-field tests, such as soil vapor extraction tests and aquifer pump tests, to be used in a
16 feasibility study to evaluate remedial alternatives and support the selected alternative. Thus, the
17 Water Board, in its March 8, 2006 letter, ordered Shell to prepare an Interim Feasibility Study
18 and remedial alternative evaluation without benefit of a complete set of engineering and
19 hydrogeologic data and parameters.

20 6. While preparing the Interim Feasibility Study, Shell submitted three Technical
21 Memoranda to the Water Board on May 19, 2006, July 14, 2006 and January 5, 2007. True and
22 correct copies of these Technical Memoranda are attached to the hard copy of this Petition on a
23 compact disc as Exhibit 4. The purpose of these Technical Memoranda was for Shell to obtain
24 the benefit of the Water Board's input and guidance as it developed the Interim Feasibility Study.
25 Shell specifically requested that the Water Board review the Technical Memoranda and engage in
26 a discussion with Shell about the development of the Interim Feasibility Study. Aside from a
27 June 8, 2006 response letter to the first Technical Memorandum, and a conference call in July
28 2006 regarding one aspect of the second Technical Memorandum, the Water Board did not
respond to Shell's requests for feedback.

1 7. On or about March 30, 2007, Shell submitted an Interim Feasibility Study to the
2 Water Board. A true and correct copy of the Interim Feasibility Study is attached to the hard
3 copy of this Petition on a compact disc as Exhibit 2. In the Interim Feasibility Study, Shell
4 reviewed ten alternative interim measures to address the off-site DIPE and TBA impacts: Shell
5 also recommended the adoption of an interim measure involving the extraction and ex-situ
6 treatment of groundwater (by reverse osmosis) from the core of the off-site impacts.

7 8. The recommended interim measure would involve the installation of two
8 groundwater extraction wells with a capacity to withdraw 150 gallons per minute (gpm) of
9 impacted water. The wells would control the core of the off-site impacts and remove
10 contaminant mass while, at the same time, permit Shell and the Water Board to assess the
11 potential feasibility and hydrological impact of large-scale groundwater extraction on the aquifer
12 system, including various nearby, but unrelated, areas of contamination from other properties.
13 The recommended interim measure would also allow Shell to assess the effect of monitored
14 natural attenuation on the distal DIPE and TBA impacts. Finally, this interim measure would be
15 the most practicable in the short term, given not only the technological and engineering
16 requirements for installing the wells and treatment system, but also the regulatory approvals and
17 property access that would be required.

18 9. The Water Board issued a letter on August 10, 2007 (the "13267 Letter") in which
19 it rejected Shell's proposed interim measure and instead directed Shell to submit a supplemental
20 report by November 15, 2007 (the "Supplemental Study") specifying in detail a schedule for
21 completion of the design and installation of 28 extraction wells by August 1, 2008. A true and
22 correct copy of the 13267 Letter is attached to the Petition as Exhibit "1."

23 10. These wells would have the capacity to extract 3,000 gpm of impacted
24 groundwater, twenty times the capacity of Shell's recommended interim measure. The 13267
25 Letter also requires Shell to specify actions necessary to apply for a permit to discharge the
26 impacted groundwater into the municipal sewer system operated by the Los Angeles County
27 Sanitation District.

28 11. The remedy directed by the 13267 Letter is not logistically feasible. For instance,
the installation of 28 extraction wells would present technical, logistical and regulatory

1 challenges that are unlikely to be resolved within the time frame set out by the Water Board. If
2 public rights of way are not available for the installation of the extraction wells (which is a
3 virtual certainty for 28 wells and associated piping), access grants from private landowners will
4 be necessary. Shell has encountered significant difficulty, which has required extensive time, in
5 obtaining permission from private landowners for access to install numerous off-site groundwater
6 monitoring wells over the last three years. Shell's experience indicates that the time necessary
7 for securing access for groundwater extraction well and associated pipelines would take longer
8 than the time provided in the 13267 Letter. Also, the additional time required for the
9 construction of the 28 wells and the attendant pipelines connecting the system to a treatment
10 facility would further increase the time for the project. Given the presence of numerous other
11 pipelines in all nearby available rights-of-way, moreover, the 28-well system would be very
12 complex to plan and install.

13 12. The high extraction rate directed in the 13267 Letter poses additional issues that
14 are unlikely to be resolved in the required time frame. Shell is unlikely to receive the water
15 rights necessary for an extraction rate of 3,000 gpm. Shell has recently approached the Water
16 Replenishment District and the Department of Water Resources requesting water rights for an
17 extraction rate of 375 gpm for an unrelated project and was informed that the regulators have
18 serious reservations regarding even this, much lower, rate of extraction. This process has taken
19 five months thus far and still has not been completed.

20 13. A groundwater extraction at a rate of 3,000 gpm would have probable
21 hydrological effects that could complicate both Shell's remedial efforts and the containment and
22 remediation of nearby (non-Shell) contaminated sites. One such complication might be to draw
23 chlorinated hydrocarbons from nearby contaminated sites (under independent ownership and not
24 related to Shell) into Shell's treatment system, thus spreading such contamination and
25 complicating Shell's efforts to contain and remediate the DIPE and TBA impacts.

26 14. After receiving the 13267 Letter, Shell agreed to a meeting with the Water Board
27 to address these requirements. On August 28, 2007, Shell met with the Water Board technical
28 staff and raised these and other concerns it had about the requirements contained in the 13267
Letter. A true and correct copy of a letter from Mark D. Schultheis (one of Shell's environmental

1 consultants) to Ms. Wendy Phillips of the Water Board, dated August 30, 2007, and an attached
2 memorandum of the minutes of the August 28, 2007 meeting are attached hereto as Exhibit 3.
3 Shell and the Water Board technical staff were able to reach an agreement on many of the
4 requirements contained in the 13267 Letter. Most significantly, the Water Board technical staff
5 agreed that Shell could submit an implementation schedule for the installation for the two-well
6 extraction system that Shell had originally proposed in its Interim Feasibility Study, and that the
7 Water Board would consider Shell in compliance with the directive contained in the 13267
8 Letter.

9 15. Based on the agreements reached at this meeting, I asked the Water Board
10 technical staff to rescind the 13267 Letter. The Water Board technical staff refused to rescind
11 those portions of the 13267 Letter requiring Shell to specify a schedule for completing the 28-
12 well system by August 1, 2008, or the portion requiring Shell to specify actions in preparation for
13 discharging impacted groundwater into the sewer system commensurate with an extraction rate
14 of 3,000 gpm. Because Shell's noncompliance with the Water Board's directives contained in
15 the 13267 Letter would subject Shell to penalties under Water Code Sections 13268 and 13350, I
16 informed the Water Board technical staff that, despite the staff's verbal agreement with Shell's
17 proposed interim measure, Shell had no choice but to file a Petition for Review with the State
18 Water Board.

19 16. Shell has already begun to comply with those portions of the 13267 Letter that it
20 does not challenge, and fully intends to begin work on a Supplemental Study in accordance with
21 its informal agreement reached with the Water Board technical staff on August 28, 2007
22 regarding the installation of an interim two-well core containment system.

23 17. The drafting of the Supplemental Study required by the 13267 Letter as written
24 will involve substantial costs and will have to take place at the same time Shell is drafting a
25 second version of the Supplemental Study that the Water Board has now agreed to accept—one
26 based on Shell's originally proposed interim remedial measure involving a two-well core
27 containment model.

28 18. Because Shell does not believe it can in good faith provide an implementation
regime that complies with the requirements contained in the 13267 Letter, it will still face the

1 possibility of administrative sanctions even if does submit a Supplemental Study that complies as
2 much as possible with the 13267 Letter, as written.

3 I declare under penalty of perjury under the laws of the State of California that the
4 foregoing is true and correct, and that this Declaration was executed on September 7, 2007 in Los
5 Angeles, California.

6
7 
8 _____
9 EDWARD E. FREED
10
11
12
13
14

EXHIBIT 1



California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Cal/EPA Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

August 10, 2007

Mr. Jason Burnett
Area Manager
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

Eastside Plume, associated with Shell Carson Terminal, 20945 S. Wilmington Avenue, Carson (SLIC No. 229b; Site ID No. 2040079)

Dear Mr. Burnett:

Introduction

You are subject to Cleanup and Abatement Order No. 97-120, in which the California Regional Water Quality Control Board, Los Angeles (Water Board) directed Shell Oil Products US (Shell) to investigate and clean up contaminants released from operations on a 420-acre site known as the Shell Carson Terminal. You are further subject to a directive, issued pursuant to section 13267 of the California Water Code in a letter dated March 8, 2006, to prepare a feasibility study, by March 30, 2007, of interim remedial actions for the Eastside plume. The purpose of this letter is to provide guidance to you on your submittal, dated March 30, 2007, and to direct you to prepare and submit a supplemental technical report with your proposed plan for interim remedial action, as set forth in the conditions below.

While the Water Board is the lead agency for oversight of Shell's Carson Terminal, we have prepared this letter with input and review by staff at the US Environmental Protection Agency (EPA), Region IX.

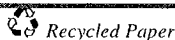
Background

By way of background, the Eastside plume is a mass of dissolved phase fuel oxygenates, composed primarily of DIPE¹ and TBA.² These contaminants form a plume with an offsite extent of about 5,000 feet to the southeast, generally at depths between 100 feet and 200 feet below ground surface (bgs), but in a few cases up to 240 feet bgs. DIPE and TBA concentrations

¹ DIPE – di-isopropyl ether.

² TBA – tertiary butyl alcohol.

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

EXHIBIT 1

**Mr. Jason Burnett
Shell Oil Products**

- 2 -

August 10, 2007

are up to 73,000 micrograms per liter (ug/L) and 8,200 ug/L, respectively. Although you have expedited offsite investigations in the last two years, you have not yet completed full delineation and characterization of the Eastside plume. We do understand, however, that Shell has completed a soil vapor survey, which indicates that land uses over the surface area of the Eastside plume do not face an increased toxicological vapor exposure risk from fuel oxygenates.

Accordingly, our oversight is now focused on restoration of beneficial uses of groundwater that may be affected by the Eastside plume. Despite the fact that you have not completed full delineation and characterization of the Eastside plume, we issued the March 8, 2006 directive for a feasibility study, with the goal of expediting interim corrective action, to achieve three-dimensional hydraulic containment and mass reduction. In response to your request for additional time, we extended, in a letter dated June 7, 2006, the deadline for submitting a technical report to March 30, 2007. In accordance with this deadline, you submitted a technical report, dated March 30, 2007, intended to meet the terms of the Water Board's directive.

Also by way of background, we note that, in a separate but related effort, you have worked, on a cooperative basis, to construct a sentinel groundwater monitoring system consisting of seven wells that are intended to provide an early warning, along anticipated flow paths, of further migration toward five municipal wells that pump from the Silverado aquifer in areas beneath or near the Eastside Plume. And one of the five wells (277-1) appears to also pump from the Lynwood aquifer.

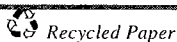
Evaluation of Ex-Situ Interim Remedial Measures

In Shell's Feasibility Study, you have concluded that in-situ technologies are infeasible due to the relatively limited radii of influence of each injection well (on the order of up to 50 to 100 feet) and the large number of wells (up to 900) that Shell would need to construct to cover critical portions of the surface area of the Eastside plume, not to mention off-site access problems and buildings and other infrastructure that make in-situ technologies infeasible. In addition, you have indicated concerns about the effectiveness of in-situ processes, such as air sparging and soil vapor extraction, on TBA.

We also understand that you have concluded that relatively passive alternatives, such as monitoring of natural attenuation and/or institutional controls, are not adequate, stand-alone measures to accomplish interim remedial goals.

As a result, you have indicated, in Shell's Feasibility Study, a preference for interim remedial measures that rely on ex-situ (extraction) technologies supplemented by monitoring of the natural attenuation of the DIPE and TBA. In your report, you describe several extraction scenarios for pumping contaminated groundwater and piping the extracted contaminated groundwater for off-site treatment. For ease of reference, we have summarized the three extraction scenarios below.

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Extraction Scenario	Number of Extraction Wells	Extraction Rate (gallons per minute)	Piping	Construction Time for Extraction Wells
Plume core containment	2	150 gpm	3,100 feet	3 to 5 months
Plume Containment	5	450 gpm	7,100 feet	4 to 6 months
Plume Reduction	28	3,000 gpm	11,600 feet	6 to 9 months

As the plume in your proposed area of extraction contains total dissolved solids of up to 5,000 ug/l, you have indicated that you prefer to treat the contaminated groundwater from the Eastside plume with reverse osmosis at the Juanita Millender-MacDonald Carson Water Recycling Facility (Recycling Facility), to a level sufficient to allow for beneficial reuse of the treated groundwater. However, the treatment capacity at this facility would need to be significantly expanded to accept your proposed influent at a level that will achieve a significant degree of mass reduction in the plume's hot spots.

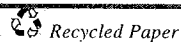
Joint Water Board and EPA Comments

We are pleased to see many remedial measures, ranging from no action to extraction (pump and treat) technologies, that you evaluated, on a conceptual basis, in your Feasibility Study. And we concur with your conclusions about the infeasibility of in-situ technologies and the limited effectiveness of a strategy that relies solely upon monitoring of natural attenuation. We look forward to developing an appropriate extraction strategy on a cooperative basis. However, we note that you have not included a change in pumping patterns as one of your alternatives, and we believe that, depending on plume migration and trends, this may need evaluation at a future point, in conjunction with stakeholders and other agencies.

And while we note that the topics listed in your technical report match, in general, the outline for the scope set forth in the Water Board's directive, your feasibility study needs to be supplemented in several areas, as summarized below.

- **Conceptual Model:** In Section 2, you have presented information on the hydrogeology, which relies to a large degree on schematic information from a water supply publication, published in 1961 (California Department of Water Resources – Bulletin 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles). And while we note that you have included, in appendix B, cross-sections that are augmented with

California Environmental Protection Agency



Simulprobe and CPT data, you have not presented site specific hydraulic parameters and boundaries of aquifers in the area of the Eastside plume, nor have you included, with regard to the fate and transport of DIPE and TBA within the semi-confined and Gaspar aquifers, estimates of horizontal and vertical migration rates and mass flux. Likewise, your contaminant migration model, depicted in Figure 2-3, does not include the detail you should have accumulated by now to more precisely depict contaminant pathways and migration.

- **Numerical Modeling:** Remedial measures evaluating in your feasibility study rely largely on a numerical flow and transport model you have developed. However, you have not stated that you have taken steps to confirm and validate your numerical model; nor have you submitted a model output report.
- **Sources:** As you are aware, through our oversight of other Shell investigations, we are concerned that not all sources have been adequately identified and eliminated. In particular, we are concerned that the cut-off system of 17 barrier extraction wells (10 of which are currently operating) along Shell's eastern boundary may not be fully effective in preventing release of additional masses of contaminants, especially in the upper portion of the Gaspar aquifer.
- **Interim Cleanup Goals for TBA and DIPE:** Pursuant to the *Water Quality Control Plan (Basin Plan)* for the Los Angeles Region, which incorporates the *Sources of Drinking Water Policy*, the Water Board's goal is to clean up pollution to protect the existing and potential beneficial uses of groundwater in the West Basin. The Action Level for TBA is 12 ug/L, which is based upon a public health goal developed by OEHHA. However, as regulators have not yet established an MCL (maximum contaminant level, for protection of drinking water) for these contaminants, we expected that your feasibility study would contain information on DIPE and TBA, which could be used by a toxicologist at EPA or OEHHA (Office of Environmental and Human Health Assessment) to develop site specific interim cleanup goals for TBA and DIPE and, eventually, that such data could be used to help develop final cleanup goals.

Also, we disagree with your statement, on page 31, that "there is no significant possibility of use of the Semi-Confined / Gaspar aquifer for drinking water use in the West Coast Groundwater Basin." This relatively shallow groundwater does contribute to replenishment of deeper, production aquifers. And, even though it may be considered shallow groundwater, it is nevertheless designated, in the *Basin Plan*, as a source of drinking water, and subject to water quality objectives based on drinking water standards.

Conclusion

California Environmental Protection Agency



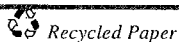
We do not believe that interim remedial measures should stop at containment of the Eastside plume (and, likewise, containment of just the core of the plume). Rather, we believe that the goal of interim remedial measures needs to include mass removal in plume hot spots, until such time that you can demonstrate that characterization is complete, that contaminant pathways are well understood, and that the plume is stable and shrinking in a predictable manner.

Accordingly, and pursuant to the California Water Code, Section 13267, you are hereby directed to submit a supplemental technical report, by November 15, 2007. In this report, you shall complete the design of interim remedial measures and present a schedule for implementation of these remedial measures no later than August 15, 2008. The design of the remedial measures must factor in the following parameters, intended to expedite control of the Eastside plume and remove mass in the plume's hotspots.

1. **Conceptual Model:** In your supplemental technical report, you shall upgrade your conceptual model, in both vertical and horizontal dimensions, to more precisely depict boundaries, hydraulic parameters, and contaminant pathways.
2. **Numerical Model:** We need to have discussions on the status of your numerical model, and the steps you have taken to confirm and validate this model.
3. **Plume Delineation:** In your supplemental technical report, you shall include recent data from nearby production wells, including the Rhodia production well (which we understand was last sampled for TBA and DIPE in November 2003), and also quarterly data from the sentinel monitoring network and from the California Water Service wellfield. Also, in light of the presence of acetone (which can be a breakdown product from TBA) in many spots throughout the Eastside plume, we plan to meet with you to discuss the need to track this constituent.
4. **Extraction Technique:** Your Feasibility Study considers three extraction scenarios, with goals ranging from containment of the core of the plume to mass removal (see the table on page 3). However, information is lacking about the total mass of the plume and contaminants, the rates of mass removal and timing through extraction, and the rates and timing of natural attenuation that you assume may be a significant factor in controlling and remediating the plume.

As noted above, we believe you should be extracting at a rate commensurate with the goal of mass removal of the plume's hotspots, until such time that you can demonstrate, with a high degree of confidence, that characterization is complete and that contaminant pathways are well understood.

California Environmental Protection Agency



Furthermore, we do not believe that the remedial action should be deferred while extensive sewer lines and reverse osmosis plant and equipment are designed and constructed, and we believe that, during this design and construction phase, Shell should proceed with extraction and take steps to discharge the contaminated groundwater to the sanitary sewer system. (See #6 below.)

5. **Treatment of Extracted Groundwater:** Your Feasibility Study recommends treatment, through reverse osmosis, and recycling of the extracted groundwater. We commend your (long-term) proposal to treat and recycle the treated groundwater, and we shall try to help facilitate efforts toward recycling. Toward this end, you need to more fully develop your proposal, including pipeline conveyance and plant design, regulatory steps, and estimates of the capital costs and operating costs of implementing recycling (and including the extent to which these costs will be offset by the revenue from the sale of the recycled water).

Should you decide, by November 1, 2007, that reverse osmosis is not your preferred alternative, you must submit, by January 4, 2008, a proposal for an alternative method for treating the extracted groundwater, such as treatment through oxidation (chemical or UV) or bioreactors, and/or a combination of various technologies. Your proposal must include pipeline conveyance and plant design, regulatory steps, and estimates of the capital costs and operating costs of implementing the treatment system, including waste disposal. Again, we encourage treatment to a level that will allow for recycling, and expect that, in your feasibility evaluation, that you will offset cost estimates with the anticipated revenue from the sale of the recycled water.

6. **Interim Discharge to the Sanitary Sewer:** Your supplemental report shall specify actions necessary to apply for a permit to discharge the extracted groundwater into the sanitary sewer, starting no later than August 4, 2008 and for an interim period (until other discharge capabilities or – preferably – recycling infrastructure can be developed). We believe this is necessary to avoid a delay in extraction that would occur during the time needed to develop the infrastructure (piping) and off-site treatment capacity for recycling.

In the event that it is infeasible to discharge to the sanitary sewer at a rate of 3,000 gpm by August 4, 2008, you must provide evidence of diligent efforts to obtain permission to discharge to the sewer, and propose a discharge rate that is still adequate to control the Eastside plume and remove hot spot mass.

7. **Groundwater Monitoring Plan:** While not required in your supplemental technical report, due on November 15, 2007, you shall need to submit, once the extraction system is designed, a proposed groundwater monitoring plan with the objectives of:

California Environmental Protection Agency



- confirming the effectiveness of the extraction wells in removing pollutant mass and achieving large scale containment.
- evaluating the possibility that the oxygenate pollutants may be naturally attenuating and, if so, to what degree vis a vis the entire mass of contaminants.
- validating the numerical model you have used to characterize the Eastside plume.

And, in designing this monitoring plan, you shall consider ways to augment and coordinate with other monitoring plans – in particular, the monitoring plans to: (a) evaluate the effectiveness of the barrier extraction wells along Shell's eastern boundary; (b) complete investigations that will characterization of the Eastside plume; (c) protect nearby municipal wells (i.e. the sentinel monitoring project), and (d) add valuable information that may be obtained from other existing wells, such as wells owned by the County and Water Replenishment District.

8. **Implementation Schedule:** Your supplemental technical report shall specify, in detail, a schedule for completing the design and construction of the 28 extraction wells no later than August 1, 2008. This schedule must indicate plans and legal resources that you will employ to resolve, early on, access issues arising from the extensive offsite work you are undertaking.
9. **Public Participation:** You shall be responsible for a community meeting that we tentatively suggest take place in early November 2007. The goal of this meeting will be to inform the public about investigations of the Eastside plume and environmental projects to bring the plume under control, and to seek public input. The outreach for this meeting must target groundwater receptors at risk, i.e. the pumping community in this portion of the West Basin that is affected by the presence and possible migration of the Eastside plume. In addition, your outreach must include property owners and operators whose cooperation you need in order to procure assess for investigations and remedial actions.
10. **Cleanup Goals for DIPE and TBA:** Although your interim remedial action does not represent a final remedy for the Eastside plume, we believe that you need to begin preparation of a workplan and schedule for gathering toxicity data that can be used to conduct a risk assessment for DIPE and TBA. The data and risk assessment shall focus on the fate, transport, and risks of TBA and DIPE that:
 - (a) remains in a groundwater environment after extraction efforts and after natural attenuation occurs (over a period to be specified), and
 - (b) is discharged into a marine environment, in the area of a sewer outfall.

Mr. Jason Burnett
Shell Oil Products

- 8 -

August 10, 2007

Your workplan for gathering toxicity data and preparing risk assessments shall propose and justify comprehensive risk-based cleanup goals for DIPE and TBA including sufficient technical detail for EPA and/or OEHHA review.

11. **Other:** In your report, you included a map of the Shell Carson Terminal, covering 420 acres in the city of Carson. In the supplemental technical report, please quantify and depict the maximum historical size of operations associated with Shell's operations at this location.

We propose that we meet in late August or early September, to review the latest results of the Eastside monitoring program, to discuss the need to track acetone, to clarify the status of the numerical model, to consider your approach to the supplemental technical report and proposed interim remedial plan, and to respond to questions and comments you may have. Please contact Wendy Phillips to schedule a meeting at a mutually convenient time.

Pursuant to section 13268 and 13350 of the California Water Code, should you fail to submit a supplemental technical report acceptable to the Executive Officer by November 15, 2007, you shall be subject to penalties, including administrative civil liability.

You may contact Paul Cho (213-576-6721), Dr. Kwang-il Lee (213-576-6734), or Wendy Phillips (213-576-6618) should you have questions.

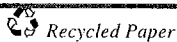
Sincerely,

/s/

Deborah Smith
Interim Executive Officer

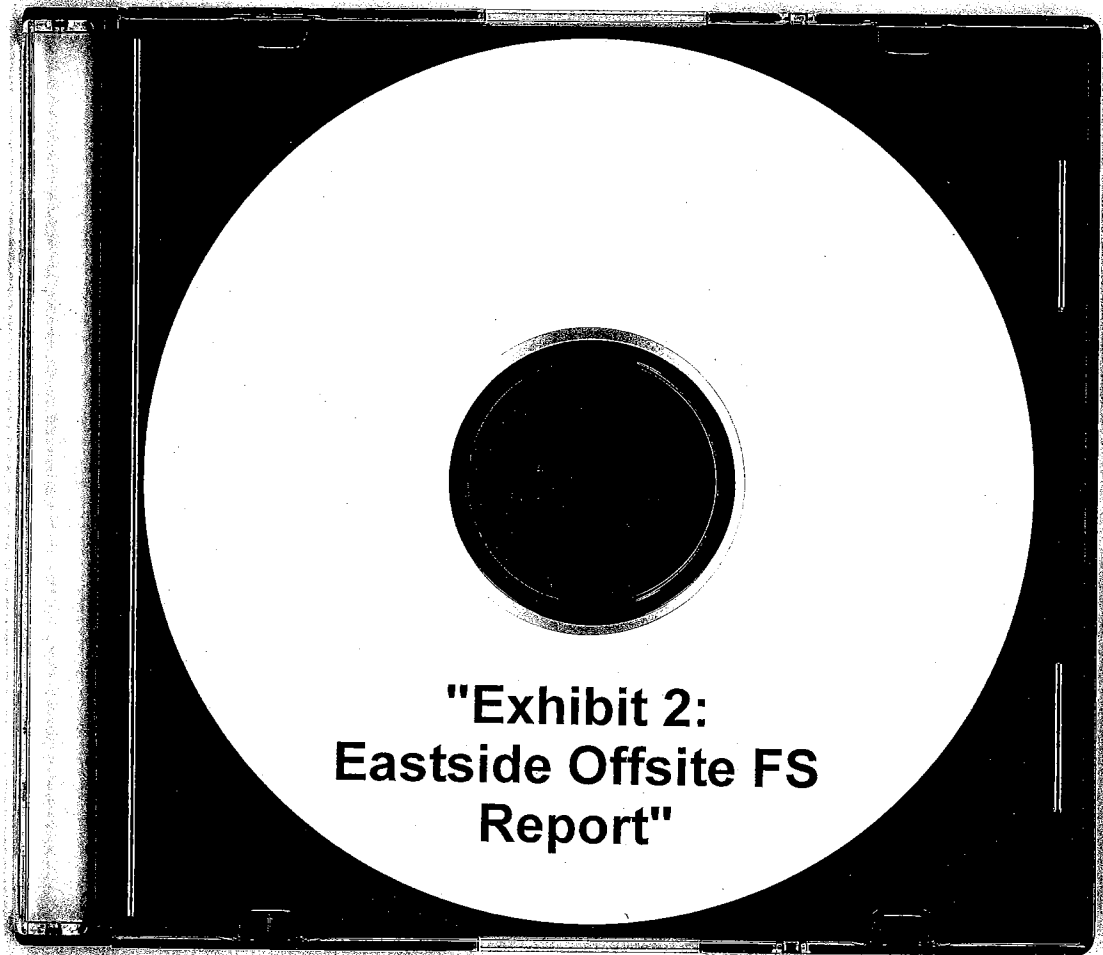
cc: Ray Saracino, US EPA Region IX
Brent Perry, Los Angeles County Sanitation Districts of Los Angeles County
Nancy Matsumoto, Water Replenishment District of Southern California
Ed Paden, Shell Oil Products US
Terry Tamble, California Water Service Company
Mark Grivetti, GeoSyntec Consultants

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

EXHIBIT 2



**"Exhibit 2:
Eastside Offsite FS
Report"**

EXHIBIT 3

30 August 2007

Ms. Wendy Phillips
California Regional Water Quality Control Board – Los Angeles Region
320 W. 4th Street
Suite 200
Los Angeles, CA 90013

**Subject: Eastside Off-site Plume Feasibility Study, associated with Shell Carson Terminal, 20945 S. Wilmington Avenue, Carson (SLIC No. 229b; Site ID No. 2040079)
Minutes of Meeting held 28 August 2007**

Dear Ms. Phillips:

On behalf of Shell Oil Products US (SOPUS), I am pleased to submit the attached minutes of our meeting held in your offices on 28 August 2007 to discuss the Draft Interim FS Report response letter received from RWQCB dated 10 August 2007. We appreciate your courtesy in discussing the issues raised in the letter.

If you have any questions or clarifications regarding the meeting minutes and agreements reached, please don't hesitate to contact me. Thank you.

Sincerely,



Mark D. Schultheis, PE
Project Manager

Attachments: Minutes of 28 August 2007 Meeting

SUBJECT/COVER LETTER FOR AUG 28 MEETING MINUTES.DOC

Ms. Wendy Phillips
30 August 2007
Page 2

Copies to: Ray Saracino, USEPA Region 9
Dave Bacharowski, RWQCB
Paul Cho, RWQCB
Brent Perry, County Sanitation Districts of Los Angeles County
Nancy Matsumoto, Water Replenishment District of Southern California
Terry Tamble, California Water Service Company
Karen Lyons, Shell Oil Products US
Eugene Freed, Shell Oil Products US
Dan Walsh, Shell Global Solutions
Ed Paden, Shell Oil Products US
Mark Grivetti, Geosyntec Consultants

SUBJECT/COVER LETTER FOR AUG 28 MEETING MINUTES.DOC

Minutes of Meeting
August 28, 2007
Regional Water Quality Control Board – Los Angeles Region
Shell Carson Terminal – Eastside Offsite Feasibility Study

ATTENDEES:

Ray Saracino – USEPA Region 9
David Bacharowski – LARWQCB
Wendy Phillips – LARWQCB
Paul Cho – LARWQCB
Karen Lyons – Shell Oil Products US
Eugene Freed – Shell Oil Products US
Dan Walsh – Shell Global Solutions
Ed Paden – Shell Oil Products US
Mark Schultheis - Geosyntec Consultants

PURPOSE OF MEETING:

To discuss the letter received from LARWQCB dated August 10, 2007 transmitting comments on the Shell Carson Terminal Eastside Offsite Feasibility Study (FS) submitted by Shell Oil Products US on March 30, 2007.

Ray Saracino provided copies of two letters from Cal Water Service Company to USEPA. The first letter, dated March 27, 2007, committed Cal Water Service Company to perform annual monitoring of fuel oxygenates in specified water production wells located in Cal Water's Dominguez District. The second letter, dated June 13, 2007, transmitted the sampling results. Results for all four analytes (DIPE, ETBE, MtBE, and TAME) were non-detect (ND).

INITIAL SHELL REMARKS AND CONCERNS:

Gene Freed expressed disappointment with the RWQCB's August 10 letter, recounting that the process established for preparation of the Eastside Offsite Draft Interim FS Report was to include a discussion after submittal of each of three Technical Memos by Shell Oil Products US (SOPUS) prior to submittal of the Draft Interim FS Report. Despite SOPUS' repeated requests, only one such discussion occurred, and SOPUS submitted the Draft Interim FS Report on March 30, 2007. Nearly five months after receiving the Draft Interim FS Report, RWQCB issued its August 10 comment letter, in which RWQCB indicated a preference for installation and operation of a 28-well pump-and-treat system; SOPUS views this option as impossible to achieve in the timeframe

specified (by August 2008), and SOPUS also believes this option is inappropriate as an "interim" step.

INITIAL AGENCY REMARKS AND CONCERNS:

Dave Bacharowski stated that RWQCB intended to send a strong message about the need to begin implementing a remedy "as soon as possible", but that there is room for discussion on the appropriate size of an interim system. Initially, RWQCB and USEPA view the issue of pumping volume as of less importance than: (1) identifying a clear path forward to get an interim remedy installed in a timely fashion; and (2) addressing the issue of plume containment (related to EPA's Environmental Indicator Groundwater "in control" goal). Mr. Saracino noted the presence of a detection of TBA in a recently-installed Sentinel Well as a concern regarding plume containment.

There was discussion regarding the Agency's concern that the existing Eastside Onsite Containment System was not effective at containing source area impacts, based on increasing DIPE trends at some monitoring wells located downgradient/east of Wilmington Avenue. Dan Walsh explained the design/purpose of the onsite containment system, and illustrated monthly calibrated modeling results indicated full hydraulic capture of onsite impacts. High concentrations already off-site were not expected to be pulled back/captured by the onsite containment system; hence SOPUS' desire to implement the Plume Core Containment option as an interim remedy for the offsite plume. This option has as its goals: (1) maximizing off-site mass removal in the short-term; (2) containing the highest concentrations off-site; and (3) providing additional aquifer hydraulic characterization data for subsequent remedial expansion, if needed. Mr. Walsh agreed to provide the Agencies with copies of Shell's ModFlow groundwater modeling files for both the Eastside Onsite Containment System, and the Eastside Offsite model used to evaluate Interim FS remedial options.

Mr. Saracino mentioned a general concern that the Draft Interim FS Report did not include an implementation schedule, and that the Plume Core Containment option does not address full plume control. EPA would like to see leading edge control. SOPUS responded that the Plume Core Containment option will contain the highest concentration portion of the off-site plume, that the distal portions of the plume already appear to be stable, and that these observations could be confirmed during implementation of the Plume Core Containment option. If continued stability of the plume is not apparent, and/or if future Sentinel Well monitoring indicates continued plume migration, SOPUS would respond with additional containment extraction near the leading edge of the plume (near Carson Street). The Plume Core Containment option is an initial interim remedy, not necessary the only active approach anticipated by SOPUS. Rather, the need for, and nature of, subsequent action will be determined by subsequent monitoring and remedial performance data.

Wendy Phillips indicated a desire for the RWQCB and SOPUS to meet with local water agencies to develop a common understanding of the situation; she thought this may help reduce potential roadblocks to implementing remedial action.

COMMON GROUND AND PATH FORWARD:

There was discussion and agreement on many of the issues identified by SOPUS in the Draft Interim FS Report regarding remedy implementation. There was also discussion and agreement on the merit of the two-well Plume Core Containment option as an interim remedy, with a path forward being outlined to address the technical issues SOPUS identified with any remedy. The path forward will consist of several elements to be developed by SOPUS, and submitted in a supplemental technical report by November 15, 2007. The elements of the supplemental technical report are as follows:

- **Conceptual Model:** SOPUS will upgrade its conceptual model, in both vertical and horizontal dimensions, to more precisely depict boundaries, hydraulic parameters, and contaminant pathways.
- **Numerical Model:** SOPUS will submit its Eastside On-site and Off-site numerical groundwater flow models to the Agencies, and include information on the following:
 - Potential mass removal rates for the Plume Core Containment option
 - Pumping effects on offsite plumes
 - Boundary conditions
 - Model limitations
 - Model validation/calibration
 - Other model parameters to aid in the Agencies' understanding.
- **Plume Delineation:** SOPUS will continue to submit periodic monitoring data from nearby production wells, including the Rhodia production well, and also quarterly data from the sentinel monitoring network and from the California Water Service wellfield.
- **Extraction/Treatment/Discharge:** SOPUS will include in its November 15 supplemental technical report the following elements for implementation:
 - A basis for selection of a two-well, 150 gpm extraction system, defined in the Draft Interim FS Report as the Plume Core Containment option
 - A listing of the tasks to be addressed prior to installation of the Plume Core Containment extraction system. Such tasks will include at least the following:
 - Well design details
 - Piping details for conveyance of extracted water
 - Proposed treatment options, to include the following:

- Recycle at West Basin Municipal Water District (WBMWD)
 - Treatment at an on-site Shell Carson Terminal location
 - Proposed discharge options, to include the following:
 - Recycle at WBMWD
 - Discharge to sanitary sewer
 - ReInjection
 - Proposed piping routes
 - Access issues for wells and piping
 - Discussion of water recycling
 - SOPUS will continue working with WBMWD to assess feasibility of recycle of extracted water
 - Discussion of water withdrawal issues
 - Shell will approach the Watermaster to discuss issues associated with withdrawing the volume of water required for the Plume Core Containment option (150 gpm)
 - Discussion of water discharge issues
 - Shell will approach County Sanitation Districts of Los Angeles County on the issue of discharging the volume of water required for the Plume Core Containment option (150 gpm)
 - Discussion of hydraulic pumping issues
 - Discussion of offsite plume contaminant issues
 - Types of data to be collected during interim remedy operation
 - Types of decisions to be made based upon those data
 - Discussion of data needed for assessing the efficacy of plume containment
 - Types of decisions to be made regarding plume containment
 - Timing of decisions regarding a next phase of the remedy
- **Groundwater Monitoring Plan:** SOPUS will submit, once the extraction system is designed, a proposed groundwater monitoring plan with the objectives of:
 - Confirming the effectiveness of the Plume Core Containment extraction wells in removing mass and facilitating large-scale plume containment.
 - Evaluating the possibility that the oxygenate constituents of concern (COCs) may be naturally attenuating and, if so, to what degree *vis a vis* the entire mass of contaminants.
 - **Implementation Schedule:** SOPUS will provide a detailed schedule for implementation of the Plume Core Containment remedy. Much of the schedule will be contingent upon site access approvals and operator/Agency acceptance of an appropriate discharge option.
 - **Public Participation:** RWQCB desires that a public meeting be held in or around November 2007 to inform the public about investigations of the Eastside plume and environmental projects and the planned interim remedy, and to seek

public input. SOPUS will conduct outreach for this meeting, which will target potential groundwater receptors, i.e., the pumping community in this portion of the West Basin that may be affected by the presence and possible migration of the Eastside plume. In addition, outreach by SOPUS will include property owners and operators whose cooperation SOPUS will need in order to procure site assess approvals for future investigations and remedial actions.

- **Cleanup Goals for DIPE and TBA:** SOPUS will gather available toxicity data for DIPE and TBA, and lead the discussion on development of appropriate technically-based, site-specific cleanup standards for the remedy.
- **Other Issues:**
 - SOPUS will evaluate potential use of reinjection immediately east of Wilmington Avenue to augment the Eastside On-site Containment System. ReInjection could create a hydraulic barrier to help contain Carson-related sources while precluding capture of non-oxygenate impacts (such as chlorinated VOCs associated with operations at the Rhodia facility). SOPUS mentioned that reinjection would be more feasible if the Agency would permit reinjecting water containing TDS and inorganics at similar levels to those naturally occurring in the aquifer (need to minimize chemistry changes to prevent well plugging and ensure good performance for injection wells). Mr. Bacharowski indicated this is something the Agency should be able to work with SOPUS to develop.
 - Ms. Phillips requested that SOPUS consolidate all future periodic monitoring reports for the Carson facility into a single deliverable.
 - SOPUS noted that Pioneer, thus far, has refused access for installation of transducers to help monitor ongoing extraction efforts associated with the Eastside On-site Containment System. Mr. Bacharowski requested that SOPUS transmit to RWQCB the legal status of SOPUS' efforts to gain access. This will assist RWQCB in its 13267 efforts. Mr. Bacharowski also requested that SOPUS look for an alternate location for transducer installation/monitoring.
 - RWQCB suggested that some parts of the remediation effort may require a regional approach. SOPUS agreed, and particularly sees the benefit in bringing Kinder Morgan, Rhodia, Western Tube, etc. into the discussion so that we can assemble a complete picture of the problems facing the area.
 - Although not discussed at the meeting, SOPUS will include in its supplemental technical report a map of the Shell Carson Terminal that quantifies and depicts the maximum historical size of operations associated with Shell's operations in the City of Carson.

STATUS OF AUGUST 10, 2007 COMMENT LETTER

Given the general agreement to proceed with the Plume Core Containment option as presented in the Draft Interim FS Report as a near-term interim remedy for the Eastside offsite plume, Mr. Freed requested that the RWQCB rescind the August 10, 2007 letter, since it contains a directive to implement a 28-well system, which is not consistent with the outcome of the subject meeting. Mr. Bacharowski indicated that RWQCB would not rescind the letter. Mr. Freed stated that Shell would then formally appeal the letter.

All parties agreed the meeting was productive and a general consensus had been reached regarding the validity and appropriateness of the Plume Core Containment option as an initial interim remedy. The participants generally agreed that any Shell appeal of the August 10, 2007 letter would not adversely affect the agreements reached during the subject meeting to pursue the two-well Plume Core Containment interim solution.

EXHIBIT 4



**"Exhibit 4:
Technical Memoranda"**

1 CALDWELL LESLIE & PROCTOR, PC
MICHAEL R. LESLIE, State Bar No. 126820
leslie@caldwell-leslie.com
2 DAVID ZAFT, State Bar No. 237365
zaft@caldwell-leslie.com
3 1000 Wilshire Blvd., Suite 600
Los Angeles, California 90017-2463
4 Telephone: (213) 629-9040
Facsimile: (213) 629-9022

5 Attorneys for Petitioner
6 EQUILON ENTERPRISES LLC dba SHELL OIL
PRODUCTS US
7

8 **STATE WATER RESOURCES CONTROL BOARD**
9 **FOR THE STATE OF CALIFORNIA**
10

11 In the Matter of the Petition of
12 EQUILON ENTERPRISES LLC dba SHELL
OIL PRODUCTS US
13 Request for Technical Report, California
14 Regional Water Quality Control Board, Los
Angeles Region
15 California Water Code § 13267
16

No.

REQUEST FOR STAY

17
18 In accordance with Water Code section 13321(a) and section 2053 of Title 23 of the
19 California Code of Regulations, Equilon Enterprises LLC dba Shell Oil Products US (“Shell”)
20 hereby requests a stay of the Request for Technical Report issued to Shell on August 10, 2007 by
21 the Interim Executive Officer of the California Regional Water Quality Control Board, Los
22 Angeles Region (“Water Board”). This Request was issued pursuant to Section 13267 of the
23 California Water Code (and shall be referred to hereinafter as “the 13267 Letter”). A copy of the
24 13267 Letter is attached as Exhibit 1 to the Petition for Review and Request for Hearing
25 (“Petition”) filed herewith.

26 The grounds for stay are set forth below and in the Petition and supporting Declaration of
27 Edward E. Freed filed herewith and incorporated herein by reference. Because of the imminent
28 deadline contained in the 13267 Letter, Petitioners request that the State Board issue the
requested stay and conduct a hearing on this matter as soon as possible.

CALDWELL
LESLIE &
PROCTOR

1 **I. INTRODUCTION**

2 In its concurrent Petition for Review, Shell explains why the 13267 Letter issued by the
3 Water Board on August 10, 2007 exceeds the Water Board’s authority and should be rescinded.
4 While this Petition is under review by the State Water Board, however, Shell still faces a
5 November 15, 2007 deadline to submit the technical report upon pain of potential administrative
6 penalties. For this reason, Shell respectfully requests that the State Water Board stay the 13267
7 Letter until it has an opportunity to address Shell’s Petition on the merits.

8 As explained below, Shell satisfies the three requirements for a stay set forth in 23 Cal.
9 Code Regs. § 2053. First, without a stay, Shell will have to either draft the Supplemental Study
10 which satisfies the requirements of the 13267 Letter as written as best it can—despite the
11 informal agreement by the Water Board technical staff not to enforce the challenged provisions
12 of the 13267 Letter—or face the threat of administrative sanctions. Either way, Shell will incur
13 substantial harm

14 Second, there is no risk of substantial harm to the public or to water quality if the stay is
15 granted. This is because the 13267 Letter as written requires Shell to specify implementation and
16 disposal regimes (1) that are logistically infeasible within the required time frame (and therefore
17 could not be implemented in any case); (2) that pose unanalyzed environmental and technical
18 issues; and (3) that the Water Board has since disavowed.

19 Third, Shell’s Petition raises substantial questions of law and fact, namely whether or not
20 the Water Board exceeded its authority in issuing the 13267 Letter and whether the work
21 required by the 13267 Letter is feasible. For these reasons, a stay of the 13267 Letter is
22 warranted.

23 **II. BACKGROUND**

24 On March 30, 2007, Shell submitted an Interim Feasibility Study to the Water Board in
25 which Shell reviewed ten alternative interim remedial measures to address the presence of
26 dissolved phase fuel oxygenates, primarily di-isopropyl ether (DIPE) and tertiary butyl alcohol
27 (TBA), located in shallow aquifers to the east of Shell’s Carson Terminal facility. After
28 reviewing the ten alternatives, Shell recommended the adoption of one interim measure aimed at

1 containing the core of the off-site DIPE and TBA impacts. The recommended measure would
2 involve the installation of two groundwater extraction wells that would be used to withdraw
3 groundwater for transport to a nearby treatment facility, where the contaminants would be
4 removed through reverse osmosis, and the treated water then recycled for industrial use. The two
5 wells would have an anticipated extraction rate of 150 gallons per minute (gpm) of impacted
6 groundwater. In addition to containing the core of the off-site impacts, this alternative would
7 also permit Shell and the Water Board to assess the hydrological effect of large-scale
8 groundwater extraction on the aquifer system, including the effect it might have on other, nearby
9 groundwater impacts from non-Shell sites. It would also allow Shell additional time to assess the
10 effect of natural attenuation on the DIPE and TBA impacts. Finally, this alternative would be
11 technically feasible in the short term, given not only the technological and engineering
12 requirements for installing the wells and treatment system, but also the regulatory approvals and
13 property access needs that would be required.

14 On August 10, 2007, the Water Board responded to Shell's Interim Study by issuing the
15 13267 Letter, in which the Water Board rejected Shell's proposed two-well core containment
16 interim measure. Instead, the 13267 Letter requires Shell to submit a supplemental report by
17 November 15, 2007 specifying in detail a schedule for completion of the design and installation
18 of a 28-well groundwater extraction system (the "Supplemental Study"). The mandated system
19 would have the capacity to extract 3,000 gpm of impacted groundwater—twenty times the rate
20 proposed in Shell's recommended two-well interim measure. Such a large extraction rate would
21 likely create hydrological effects on the aquifer system, including effects on nearby non-Shell
22 groundwater impacts. The 13267 Letter directs Shell to include a deadline of August 1, 2008 for
23 the installation of the 28-well system. The 13267 Letter also requires Shell to specify actions
24 necessary to apply for a permit to temporarily discharge the untreated impacted groundwater into
25 the municipal sanitary sewer system, which eventually discharges into the marine environment.

26 After receiving the 13267 Letter, Shell agreed to a meeting with the Water Board to
27 address these requirements. Shell had numerous concerns regarding the technical and regulatory
28 feasibility of installing a 28-well extraction system by August 1, 2008, and the potential for

1 adverse hydrological effects resulting from the extraction of 3,000 gpm from the aquifer system,
2 including the potential for affecting nearby plumes. Shell was also concerned that it would be
3 extremely difficult to obtain permits for the discharge of impacted water into the municipal sewer
4 system, and that the discharge of such a large volume of untreated water into the municipal sewer
5 system would pose potential environmental issues even if it were somehow permitted.

6 On August 28, 2007, Shell met with the Water Board technical staff and raised these and
7 other concerns it had about the requirements contained in the 13267 Letter. The Water Board
8 technical staff agreed to accept Shell's proposal for a two-well extraction system as the selected
9 interim measure, as Shell had originally proposed in its Interim Study. Nevertheless, the Water
10 Board refused to rescind those sections of the 13267 Letter requiring Shell to specify a schedule
11 for completing the 28-well system by August 1, 2008, or the sections requiring Shell to specify
12 actions in preparation for discharging untreated impacted groundwater into the sewer system
13 commensurate with an extraction rate of 3,000 gpm.

14 Thus, Shell is still obligated to submit a Supplemental Study by November 15, 2007,
15 which must specify the following:

- 16 • "a schedule for completing the design and construction of the 28 extraction wells no
17 later than August 1, 2008. This schedule must indicate plans and legal resources that
18 you will employ to resolve, early on, access issues arising from the extensive offsite
19 work you are undertaking." Exh. 1 to Petition, p. 7.
- 20 • "actions necessary to apply for a permit to discharge the extracted groundwater into
21 the sanitary sewer, starting no later than August 4, 2008..." Exh. 1 to Petition, p. 6.

22 Because Shell's noncompliance with the Water Board's directives contained in the 13267
23 Letter would subject Shell to potential penalties under Water Code Sections 13268 and 13350,
24 Shell informed the Water Board technical staff that Shell had no choice but to file a Petition for
25 Review with the State Water Board, given the Water Board's refusal to rescind the 13267 Letter
26 and reissue a new letter in accordance with the agreement reached at the August 28, 2007
27 meeting.

1 **III. A STAY OF THE EFFECT OF THE 13267 LETTER IS WARRANTED IN THIS**
2 **CASE**

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

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

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

10 **A. *Shell Will Suffer Substantial Harm If a Stay Is Not Granted***

11 Without the requested stay, Shell will be put in a position where it will have to comply
12 with the requirements contained in the 13267 Letter or face the possibility of administrative
13 sanctions. Shell would thus be required to draft a Supplemental Study specifying
14 implementation and disposal regimes for a 28-well groundwater extraction system to be installed
15 by August 1, 2008, that is logistically infeasible within the required timeframe, highly unlikely to
16 receive regulatory approval, carries the possibility of creating adverse environmental effects, and
17 has since been informally disavowed by the Water Board technical staff. The drafting of such a
18 report will involve substantial costs and will have to take place at the same time Shell is drafting
19 the report that the Water Board has now agreed to accept—one based on Shell's originally
20 proposed interim remedial measure involving a two-well core containment model. (Declaration
21 of Edward E. Freed (attached to the Petition for Review, incorporated herein by reference, and
22 referred to hereafter as the "Freed Decl."), ¶¶ 14-17 and Exh. 3 to Petition.) Moreover, because
23 Shell does not believe it can in good faith provide an implementation regime that complies with
24 the requirements contained in the 13267 Letter, Shell will still face the possibility of
25 administrative sanctions even if it does submit a Supplemental Study that complies as much as
26 possible with the 13267 Letter, as written. (*Id.*, ¶ 18.)

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

2 The requested stay will pose no risk of substantial harm to the public or water quality, but
3 instead will simply maintain the status quo pending a decision on the merits. First, as explained
4 in the Petition, the DIPE and TBA impacts at issue are located in shallow aquifers that are not
5 utilized by groundwater users (who draw from deeper aquifers). (*Id.*, ¶ 4.) The monitoring data
6 indicate that the impacts are not currently migrating or expanding, and Shell has installed sentinel
7 wells to ensure that any such migration (if it were to occur) would be quickly detected. (*Id.*)

8 Second, even if it were logistically feasible to install 28 extraction wells and obtain the
9 necessary water rights by August 1, 2008, as the 13267 Letter requires, doing so would create its
10 own environmental risks. Extracting 3,000 gpm would likely have a hydrological effect on the
11 aquifer system, and could affect groundwater flow and the effectiveness of the containment and
12 remediation of nearby non-Shell plumes. (*Id.*, ¶ 13.) Such a large extraction rate could also draw
13 contaminants from nearby sites into the DIPE and TBA impacts, thereby spreading the non-Shell
14 contamination, and complicating Shell’s remediation efforts. (*Id.*, ¶ 13.) The Water Board’s
15 requirement that Shell specify steps to obtain permission to discharge such a large volume of
16 water into the municipal sewer system (until infrastructure is installed to allow discharge and
17 treatment at the nearby recycling facility) would likewise carry with it possible risks that neither
18 Shell nor the Water Board have analyzed.

19 Third, the Water Board technical staff has already agreed to allow Shell to forego the 28-
20 well alternative and instead pursue planning for its original two well core containment interim
21 measure. (*Id.*, ¶ 14 and Exh. 3.) In fact, Shell fully intends to comply with those portions of the
22 13267 Letter that it does not challenge, and will begin work on a Supplemental Study in
23 accordance with its informal agreement reached with the Water Board technical staff on August
24 28, 2007 regarding the installation of an interim two-well core containment system. (*Id.*, ¶¶ 16-
25 17.) Thus, the requested stay would not delay any actual remedial action taken by Shell, but
26 would only relieve Shell of the burden of having to comply with those portions of the 13267
27 Letter that Shell challenges in its Petition—which the Water Board has informally stated it does
28 not intend to enforce, yet which still exposes Shell to administrative sanctions.

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

2 Shell’s Petition raises substantial questions regarding the Water Board’s legal authority to
3 require Shell to specify the implementation and disposal regimes contained in the 13267 Letter.
4 In its Petition, Shell poses the fundamental question of whether the Water Board has authority
5 under Section 13267 to require Shell to produce a technical report requiring the 28-well
6 extraction and disposal system, in the face of Section 13360’s prohibition against the Water
7 Board “specify[ing] the design, location, type of construction, or particular manner in which
8 compliance may be had with that requirement, order, or decree.” *See also* State Water Board
9 Resolution No. 92-49 (“Water Code § 13360 prohibits the Regional Water Boards from
10 specifying, but not suggesting, methods that a discharger may use to achieve compliance with
11 requirements or orders.”). Similarly, Shell’s Petition explains that the 13267 Letter also violates
12 the requirement that the Water Board may only require a technical report where “[t]he burden,
13 including costs, of these reports shall bear a reasonable relationship to the need for the report and
14 the benefits to be obtained from the reports.” Section 13267(b). As explained in the Petition, the
15 28-well plan is logistically infeasible, unlikely to receive regulatory approval, environmentally
16 suspect, and has in fact been informally disavowed by the Water Board technical staff. (*Id.*, ¶¶
17 11-14.) Therefore, the benefit from Shell producing the required extraction and disposal system
18 is minimal, while the burden—both in preparing a no-longer-required Supplemental Study, and
19 in operating in the face of potential administrative sanctions—is substantial. (*Id.*, ¶¶ 15-18.)

20 Similarly, Shell’s Petition raises substantial questions of fact, including whether the
21 installation of a 28-well system is feasible, what hydrological effects a 3,000 gpm extraction rate
22 would cause, and whether discharge of such a large volume of untreated impacted groundwater
23 would adversely affect the sanitary sewer system and pose unanalyzed environmental issues.
24 (*Id.*, ¶¶ 11-13.)

25 **IV. CONCLUSION**


26 For the foregoing reasons, Shell respectfully requests that the State Board stay the 13267
27 Letter pending a decision on the merits of the concurrently filed Verified Petition for Review.

1 Shell requests that the State Board expeditiously issue a stay as soon as possible in order to avoid
2 irrecoverable investment of resources in advance of a decision on the merits.

3
4 DATED: September 7, 2007

Respectfully submitted,

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

7
8 By 
MICHAEL R. LESLIE
9 Attorneys for Petitioner EQUILON ENTERPRISES
LLC dba SHELL OIL PRODUCTS US

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
CALDWELL
LESLIE &
PROCTOR