

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

**ORDER WQO 2004-0005**

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In the Matter of the Petition of

**CHEVRON PRODUCTS COMPANY**

For Review of Technical Report Order

For 4000 Portola Drive, Santa Cruz

Issued by the

California Regional Water Quality Control Board,  
Central Coast Region

***SWRCB/OCC FILE A-1343***

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**BY THE BOARD:**

Chevron USA (Chevron) seeks review of a letter order from the California Regional Water Quality Control Board, Central Coast Region (Regional Board) issued on November 9, 2000, in which the Regional Board directed Chevron to submit a technical report related to monitoring, investigation, and cleanup of petroleum hydrocarbon contamination on the site of a former Chevron station in Santa Cruz. Chevron has completed some investigation of the site under prior directives from the Regional Board and contends that data indicate that elevated concentrations of gasoline constituents in groundwater are solely the result of a plume originating off-site. Chevron requests that the State Water Resources Control Board (State Board) find that Chevron is not responsible for investigation and cleanup of contamination on or emanating from the site. This order grants Chevron's request and vacates the letter order of the Regional Board.

**I. BACKGROUND**

Chevron operated a service station at 4000 Portola Drive in Santa Cruz (former Chevron site) from approximately 1953 to 1972. The station's above-ground structures and underground storage tank (UST) systems were removed in 1973. The property was acquired by the Walter Eller Company, which constructed a commercial building on the site in 1978.

A French drain and dewatering sump were installed below the building to prevent basement flooding, and the excavation extended into and below the location of the former UST system.

Another former gasoline retail site is located across the street to the north at 4001 Portola Drive. That site, Opal Cliffs Automotive (Opal Cliffs), is owned by Robert Rudolph Enterprises and has been the subject of ongoing investigation and remediation for releases of petroleum hydrocarbons since the removal of that station's USTs in 1992. The Opal Cliffs site sold gasoline from approximately 1950 through 1987, and gasoline constituents were detected in soil beneath the USTs when the tanks were removed.

Gasoline contaminated groundwater was discovered in the French drain collection sump on the former Chevron site in June 1995. The sump was sampled in response to a Regional Board directive for Opal Cliffs to delineate groundwater contamination emanating from its site. Low concentrations of benzene, toluene, ethylbenzene, and xylene (BTEX) were detected, and additional delineation of the Opal Cliffs plume ensued via borings and monitoring wells installed south and southwest of the Opal Cliffs site.

In the spring of 1998, the sump pump in the basement of the structure on the former Chevron site failed, and the basement flooded with water that had a strong gasoline odor. Analysis of the water revealed high concentrations of total petroleum hydrocarbon gasoline (TPH-g) and BTEX. The Regional Board directed termination of the sump discharge, which conveys its contents to storm drain inlets or other surface waters. The Regional Board assigned responsibility for investigation of the source of petroleum hydrocarbon contamination on the two sites to Chevron, Opal Cliffs, and the Walter Eller Company, as current property owner of the former Chevron site.

Between 1998 and 2000, Chevron and Opal Cliffs conducted soil and groundwater investigations in order to identify the source of the contamination and to characterize the extent and magnitude of contamination affecting groundwater. In September 2000, Regional Board staff concluded that two separate plumes of petroleum hydrocarbon contamination emanated from the sites of the two former service stations, including a pre-1972 release of gasoline from the USTs at the former Chevron site. The Regional Board issued a letter order signed by the Executive Officer under authority of Water Code section 13267, directing

Chevron to conduct additional groundwater monitoring and to continue subsurface investigation and cleanup activities at its former site.<sup>1</sup>

In response to the Regional Board directive, Chevron submitted an analysis by its consultant stating that the evidence showed only one plume migrating from the Opal Cliffs site that had completely enveloped the former Chevron site. On that basis, Chevron asked for reconsideration of the Regional Board's determination of responsibility for the investigation and cleanup. Chevron asked that, at a minimum, the Regional Board find that any Chevron contribution to the contamination was part of a commingled plume for which cleanup responsibility would be shared between Opal Cliffs and Chevron.

On November 9, 2000, the Executive Officer issued another letter order under section 13267, reiterating staff's conclusion that the evidence showed two separate sources of contamination. Nonetheless, the letter acknowledged some elements of a commingled plume and recommended that Chevron pursue a commingled plume agreement with Opal Cliffs in order to fund and implement the cleanup. The letter required submission of a status report on the commingled plume agreement and other aspects of the cleanup, no later than December 1, 2000.

On December 7, 2000, Chevron timely filed a petition to the State Board, seeking review of the Regional Board's determination. Chevron asked that action on the petition be held in abeyance pending negotiations with the Regional Board and other parties. On June 20, 2003, Chevron submitted a supplement to the earlier petition and asked that the State Board initiate review of the matter.

## **II. CONTENTIONS AND FINDINGS**

Contention: Chevron contends that evidence collected to date shows a single plume of petroleum hydrocarbon contamination spreading from the Opal Cliffs site onto the former Chevron site. On this basis, Chevron argues that it should not be held responsible for the continuing investigation and cleanup at the site of its former service station.

Finding: This Board agrees. There is not substantial evidence in the administrative record to support the Regional Board's finding that high concentrations of

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<sup>1</sup> Roger W. Briggs, Executive Officer, to Mark R. Lafferty, Project Manager, Chevron Products Company, September 12, 2000.

gasoline constituents detected in soil and groundwater at the former Chevron site are a result of discharges from the Chevron facility. The weight of evidence indicates that the contamination originates from the Opal Cliffs site.

The letter order under petition was issued pursuant to the Regional Board's authority under Water Code section 13267. That section broadly authorizes the regional water quality control boards to require persons who discharge, have discharged, or are "suspected of having discharged or discharging" waste that could affect water quality to furnish technical or monitoring program reports.<sup>2</sup> When acting under this broad authority, regional boards must identify the evidence that supports requiring that person to provide the reports.<sup>3</sup> The evidence can be any relevant evidence on which responsible persons are accustomed to rely in the conduct of serious affairs.<sup>4</sup>

The Regional Board's two-plume theory depends upon a finding that the former Chevron site is not downgradient of the Opal Cliffs release. The Regional Board maintains that the groundwater flow direction has been consistently to the southwest and views this as evidence that the release from the Opal Cliffs site did not migrate onto the site of the former Chevron station. Such a southwesterly flow of the Opal Cliffs plume would completely bypass the former Chevron facility to the northwest. Hence, the Regional Board concludes that a separate plume must originate from the location of the former Chevron USTs in order to account for detections downgradient from that site.

State Board technical analysis of the evidence in the record indicates that the former Chevron facility is directly downgradient from the Opal Cliffs site. A substantial mass of gasoline is present in soil and groundwater in the eastern portion of the Opal Cliffs site, and the data show groundwater flowing to the southwest toward the former Chevron site. The Regional Board in its interpretation of this evidence appears to have considered only the direction of groundwater flow near the western portion of the Opal Cliffs site.

The distribution of contaminants in soil and groundwater also supports Chevron's contention that no appreciable releases occurred from the former Chevron USTs. Monitoring

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<sup>2</sup> Water Code § 13267(b)(1).

<sup>3</sup> *Id.*

<sup>4</sup> Water Code § 13267(e).

well data collected by Opal Cliffs in 1995 showed significant detections of gasoline constituents in groundwater wells upgradient of the Chevron site but south and southwest of Opal Cliffs. Water samples collected that year from the basement sump on the former Chevron site showed contaminant levels at very low to non-detect values.<sup>5</sup> In 1998, by contrast, water samples collected when the sump flooded showed concentrations of TPH-g and BTEX from 1,000 to 10,000 times greater than the values detected three years earlier.<sup>6</sup> The low concentrations of BTEX in the sump water in 1995, followed by high concentrations in 1998, without any new source at the former Chevron site, provide direct evidence that gasoline and groundwater with high concentrations of gasoline constituents have migrated from the Opal Cliffs site onto Chevron's site. The significant increase in contaminant levels from 1995 to 1998 is much more consistent with operation of the sump pump drawing in contaminants from the Opal Cliffs plume than from lingering contamination at the Chevron site, which had not operated for more than twenty-five years.

The subsequent investigation conducted by Chevron from 1998 to 2000 consisted of eleven soil borings dispersed across an area of about 9,600 square feet. The data showed only highly degraded and weathered diesel-range hydrocarbons in shallow soil samples. At depths of 10 feet below ground surface (bgs) and greater, the volatile hydrocarbon content reported for soil samples reflects a relatively fresh gasoline constituent profile inconsistent with a pre-1972 release. Gasoline constituents were detected in groundwater samples obtained from each of the soil borings, including very high concentrations from three borings extending south from an upgradient Opal Cliffs monitoring well, indicating the presence of separate-phase gasoline moving with groundwater. These data suggest that a past release of petroleum hydrocarbons may have occurred at the former Chevron site but that any such release does not contribute to the need for cleanup at the site.

Chevron also points to testimony of personal observations of soil conditions from persons involved with excavations at the former Chevron site. The former property owner has stated that the soil beneath the USTs was "clean" when the tanks were removed in 1973. The

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<sup>5</sup> BTEX concentrations were 2.9 parts per billion (ppb), 0.4 ppb, 0.7 ppb and 1.2 ppb, respectively. TPH-g was non-detect, or less than 50 ppb.

<sup>6</sup> BTEX concentrations were 2,500 ppb, 1,400 ppb, 670 ppb, and 2,400 ppb. TPH-g was measured at 16,000 ppb.

current property owner, Walter Eller, recalls no indication of soil contamination when he personally excavated and constructed the basement and dewatering sump to a depth of 10 to 13 feet bgs in 1978.<sup>7</sup> The Regional Board correctly responds that testimony of personal observations does not provide conclusive evidence that a release did not occur.<sup>8</sup> However, the very low odor threshold for gasoline constituents, combined with evidence of high contaminant levels in 1998, is credible evidence that a release of the magnitude detected in 1998 was not present in 1973 or 1978.<sup>9</sup>

The Regional Board relied in part on evidence regarding benzene detections downgradient of the former Chevron site coupled with data regarding the typical characteristics of benzene plumes. While the Regional Board noted that monitoring well data showed benzene concentrations downgradient of the Chevron site higher than would be expected if originating from Opal Cliffs, a State Board study on the subject of benzene does not clearly support this conclusion.<sup>10</sup> Therefore, the benzene data cited by the Regional Board are insufficient to reject the body of evidence indicating that the likely source of contamination is Opal Cliffs.

We note that the Regional Board's authority to require investigation under Water Code section 13267 is extremely broad. The Regional Board need only cite evidence sufficient to suspect that a discharge has occurred. In most cases, evidence of petroleum hydrocarbon contamination in the vicinity of a former service station would easily meet this standard, and the Regional Board in the initial phases appropriately ordered Chevron to conduct an investigation on its former site. For sites where insufficient data are available to make a determination as to

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<sup>7</sup> Deposition of Walt Eller, December 18, 2002.

<sup>8</sup> Regional Board Response to Petition, September 11, 2003, at p. 3.

<sup>9</sup> The odor threshold for gasoline is 10 ppb for a strong odor. In addition, a sump pump operated periodically between 1978 and 1996, discharging water to a paved swale where it flowed about 200 feet to a storm drain. The current property owner has testified that he did not observe or smell any petroleum hydrocarbons in the discharged water.

<sup>10</sup> The Regional Board's September 12, 2000, letter, which set forth findings confirmed in the directive of November 9, 2000, cited an American Petroleum Institute (API) publication showing that most BTEX groundwater plumes are less than 200 feet in length. The Regional Board in its response to the petition cites unstable benzene concentrations in a downgradient monitoring well located more than 400 feet from the Opal Cliffs site. The API report is a compilation of data and findings published by state agencies that manage UST sites, and the report includes findings and conclusions from a State Board study titled *California Leaking Underground Fuel Tank Historical Case Analysis* (1995). In that study, the length of a benzene plume was measured not from the leaking UST, but from the plume's "center of mass", or the monitoring well showing the highest concentration of benzene.

responsibility, it is imperative that regional boards pursue all available avenues for gathering the necessary information to proceed to cleanup. This clearly includes requiring that all parties with potential responsibility participate in investigating the sources and extent of pollution. In this case, however, evidence gathered pursuant to the earlier investigations does not support continuing requirements that Chevron investigate and remediate petroleum hydrocarbon contamination at its former site.

The Chevron station may have had minor surface releases during its operations. Low detections of hydrocarbons and trace concentrations of toluene and xylene in shallow soil may be remnants of such releases. However, there is sufficient evidence available in the record to determine that the magnitude of any possible releases prior to 1972 were minor in nature, did not materially contribute to the plume, and would not warrant further investigation or remediation. Under these circumstances, we are unable to conclude that the Regional Board appropriately named Chevron as a party responsible for the ongoing investigation and remediation of a plume originating off-site. The State Board has previously found that “it is appropriate and responsible for a Regional Board to name all parties for which there is reasonable evidence of responsibility, even in cases of disputed responsibility” in a cleanup order.<sup>11</sup> However, the Regional Board must show substantial evidence to support naming a party in a cleanup order, and this conclusion may be applied to later phases of investigation orders where a substantial body of evidence has been produced.<sup>12</sup> Chevron has complied with earlier stages of an investigation that has produced evidence showing another party’s responsibility for discharges affecting groundwater. This evidence outweighs the evidence relied upon by the Regional Board to name Chevron in the letter order. Under these facts, Chevron should not be required to participate in the continuing investigation and remediation of those discharges.<sup>13</sup> The conclusions of this Order are based upon the unique facts presented and are not intended to have precedential effect on investigation or cleanup activities at other sites.

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<sup>11</sup> State Board Order No. WQ 85-7, at p. 11.

<sup>12</sup> See, State Board Order No. WQO 2003-0020, at p. 8.

<sup>13</sup> If Opal Cliffs’ continuing investigation and cleanup produces substantial new evidence that the former Chevron station or any other source has discharged or may have discharged waste that contributes to the need for cleanup at the site, the Regional Board should require any such entities to participate in appropriate phases of the investigation and remediation.

### III. CONCLUSIONS

For the reasons explained above, the State Board concludes that:

1. The evidence in the existing record indicates that elevated levels of contamination from gasoline constituents on the site of the former Chevron station are the result of releases from the Opal Cliffs site.

2. The Regional Board cannot, at this time, require Chevron to further investigate or remediate contamination from gasoline constituents at the former Chevron site.

### ORDER

IT IS HEREBY ORDERED that Chevron's petition is granted and the Regional Board's letter order of November 9, 2000, is vacated.

### CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 20, 2004.

AYE: Arthur G. Baggett, Jr.  
Peter S. Silva  
Richard Katz  
Gary M. Carlton  
Nancy H. Sutley

NO: None.

ABSENT: None.

ABSTAIN: None.

  
Debbie Irvin  
Clerk to the Board