

ASTARTA ALEXANDER OIL COMPANY

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June 8, 2016

Mr. Joshua Cwikla
Engineering Geologist
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Investigative Order No. R4-2015-0443

Dear Mr. Cwikla:

As you requested in your email dated 5/20/16, Astarta Alexander Oil Company (“Astarta”) submits this revised response to Investigative Order No. R4-2015-0443 dated 12/18/15.

Astarta certifies it has had no occurrences of discharges to land of well-drilling fluids, well-completion fluids, or oil-production fluids during the period of its ownership and operation of its oil field, and there have been no subsidiaries during that period.

As you directed, Astarta more specifically responds as follows to items 1-9 in the Order:

1. Astarta has no “current ... sumps” in its area of operations, as no fluids are currently discharged to land. All water produced from oil production in the Astarta field is currently disposed of by way of three gravity-feed injection wells. Water produced from oil production in the Astarta field has always been disposed of by means of injection wells during the period of Astarta’s ownership and operation of the field.

It has been 30 years since the last well was drilled in the Astarta field, so neither well-drilling fluids nor well-completion fluids has been used in the field for decades. No well-drilling fluids or well-completion fluids have been discharged to land during the period of Astarta’s ownership and operation of the field.

The oldest wells in the Astarta field were drilled over a century ago—several during the late 1800’s—long before Astarta acquired ownership of the property. If sumps were used by previous owners or operators during the many decades since those older wells were drilled, and before Astarta acquired the field, we have no way of knowing.

Having said that, there is what we believe to be one old sump located on our property of which we are aware that would appear to qualify as a “historic sump.” It is inactive and has been inactive

for many decades, though we do not know precisely how long it has been inactive since its use predates Astarta's ownership of the field. It is unknown to us whether its use was discontinued with or without cleanup.

In the interest of full disclosure, the historic sump is located in the southwest portion of the Astarta field, above an area where there are major natural oil seeps. In fact, there are natural oil seeps all along the Sulphur Mountain range between Santa Paula and Ojai, where the Astarta field is located. This explains why this was the first area in California where oil was produced.

2. Astarta does not have procedures to close or abandon sumps, or otherwise cease their operation, because, as detailed above, there are no sumps currently in operation, and no sumps have been used during Astarta's ownership and operation of the field. The one historic sump of which we are aware, described in response to item No. 1, has been dormant for many decades and, as previously noted, is located above an area that has major natural oil seeps.
3. We have no way of knowing "[t]he estimated total annual amount of fluid previously discharged into each historic sump" because we are aware of only one "historic sump" in Astarta's area of operations; its use predates Astarta's ownership of the field; and we do not know the composition or amounts of fluids or waste discharged into it. No "amount of fluid" was "previously discharged into each ... active sump" because there are no active sumps in Astarta's area of operations. No "amount of fluid" will "be discharged to active sumps going forward" because there are no active sumps in Astarta's area of operations, and we do not intend to establish any.
4. See response to item No. 3.
5. See response to item No. 3.
6. There are no "domestic, municipal, or commercial water wells within a half-mile radius of any current ... sump" because there are no current sumps in Astarta's area of operations. We do not know "the location of any domestic, municipal, or commercial water wells within a half-mile radius of any ... historic sump."

In the interest of full disclosure, our files indicate that the Rainbow Spring is the only known freshwater source in the area, and it is located more than half a mile from the Astarta field—to be precise, 5,250 feet (just short of one mile) west of the Astarta #9 well. Our records reflect that a 1977 report by geology-engineer Robert L. Richardson stated there are no fresh-water-bearing strata in the vicinity of the Astarta field. Our records further reflect that, during the 1980's, inquiry from the superintendent of the adjacent ARCO field confirmed the absence of freshwater sources in the nearby area. And as previously noted, the only historic sump of which we are aware is located above an area where there are major natural oil seeps.

7. See response to item No. 6.
8. See response to item No. 6.
9. There are no permanent "monitoring wells" in Astarta's area of operations. However, in the interest of full disclosure, on an annual basis we run temperature surveys on each of our injection wells, as required by the Department of Oil and Gas.

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I, Bob S. Dent, as authorized representative, by my electronic signature below, certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and that, based upon my being the individual immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including fine and imprisonment.

Respectfully submitted,

/s/ Bob S. Dent

Bob S. Dent

Operator – Astarta Alexander Oil Company