



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
P L A N N I N G D E P A R T M E N T

Chris Bazar
Agency Director

Albert Lopez
Planning Director

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July 13, 2018

Agenda Item# **5**
July 24, 2018

The Honorable Board of Supervisors
County Administration Building
1221 Oak Street, Fifth Floor
Oakland, CA 94612

Dear Board Members:

SUBJECT: Appeal submitted by the Center for Biological Diversity (CBD) and the Livermore Eco Watchdogs from the decision of the East County Board of Zoning Adjustments (EBZA) to approve Conditional Use Permit PLN2017-00110 for the continued operation of an oil production facility, for property located at 8467 Patterson Pass Road, south side, approximately ½ mile east of Greenville Road, in the unincorporated Livermore area of Alameda County, Assessor's Parcel Number: 099A-1650-001-05.

RECOMMENDATION:

East County Board of Zoning Adjustments (EBZA): The EBZA approved the subject Conditional Use Permit (CUP) on May 24, 2018, on a 2-0 vote.

Planning Department: Planning staff recommends that the Board of Supervisors deny the appeal and approve the Conditional Use Permit for the continued operation of an oil production facility.

SUMMARY:

The subject use has been in operation since 1967. On July 3, 2017, E&B Natural Resources, as the applicant, submitted the request for renewal of Conditional Use Permit C-8653. The application proposes the continued operation of an existing oil production facility with no changes to the number, location or function of the two existing oil wells. The EBZA considered the application twice and approved the request on May 24, 2018.

APPEAL:

On June 1, 2018, CBD and Livermore Eco Watchdogs appealed the EBZA decision to approve the Conditional Use Permit. Cited within the appeal are arguments regarding the enforcement history of the site operator, lack of environmental review, the applicant's plans for expansion, the findings of approval, the threat posed by the facility to Alameda County's water and climate, and that the approval is contrary to law and is not in the interests of current and future Alameda County residents.

EAST BZA:

This matter was considered twice before the EBZA. First, on February 22, 2018, the EBZA continued the matter after considering staff's affirmative recommendation and taking public testimony. The continuance provided an opportunity to conduct further research regarding the County's Environmental Health Department's (EHD) site enforcement history and confirm the scale of the operation. The operation of the site exists within a complicated regulatory scheme and includes a variety of local and state codes and permit requirements, each with a separate but complementary role in addressing environmental protection, clean-up and day-to-day operations. The County's role has primarily been basic land use review, utilizing the expertise of the EHD and the State's Department of Conservation, Division of Oil and Gas (DOGGR) for industry-related issues, both above and below ground.

DISCUSSION:

The applicant contends that no expansion of the operation is taking place – a position that is supported by the other regulatory bodies. Above ground the operation will continue to remain as it has for years, and there are no other site-specific impacts such as air quality, traffic, aesthetics, hydrology or biology. The Board may recall that in 2016 the County adopted an ordinance banning certain high intensity oil and gas operations such as hydraulic fracturing (fracking), but allowed certain activities associated with oil extraction, including waterflooding, to continue. Waterflooding using processed water was explicitly allowed under that ordinance (17.06.100), and E&B is pursuing a State permit to do so. Also permitted were routine well cleaning and maintenance activities.

EHD and DOGGR have maintained a regular enforcement presence with periodic inspections and audits of the applicant's records. Both agencies have addressed violations and have responded to Planning staff with correspondence noting steps being taken by the applicant for future compliance or including details addressing violations. The Environmental Health Department provided documentation regarding site enforcement activity and indicated that previous spill and soil contamination issues were resolved. In addition, follow-up conversations with DOGGR clarified the process the applicant is required to undertake, which was raised during the EBZA hearing. DOGGR has the most technical role in that disposal of processed water put back into the ground is regulated through their office, and includes a robust public process (Aquifer Exemption) to allow water injection.

Over the course of the review period staff has received about 300 email messages in opposition to the project, mostly on the grounds of environmental and aquifer protection. Letters of support have also been received and are included in the record. Dispute of the project findings of the EBZA make claims that the facility does not serve the public need, and that the continued operation of the facility would pose a risk to the local water supply. Neither claim is supported by the input received from outside regulatory agencies. The approval included conditions of approval stating that as the operator pursues the continued use of the facility, compliance with the requirements of DOGGR, EHD, the State Waterboard and the Federal EPA would continue to be required.

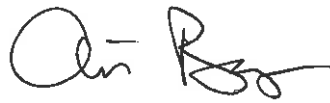
With regard to the appellant's position that environmental review (CEQA) was inadequate, staff believes that since no above-ground or significant below-ground expansion is proposed, the categorical exemption applicable to the project is appropriate. Since the facility is currently permitted, with no proposed expansion as stated in the application, the CEQA exemption process is adequate. Should the applicant decide to change the operation in the future, a new application for a CUP would be required, with additional environmental review required at that time.

Board of Supervisors
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CONCLUSION:

Based on previous approvals for the subject oil production facility, Planning staff recommended approval of the application to the EBZA, and the Board made the findings for approval. Planning staff recommends that the Board of Supervisors deny the appeal and approve the Conditional Use Permit PLN2017-00110 for the continued operation of the existing oil production facility.

Very truly yours,

A handwritten signature in black ink, appearing to read "Chris Bazar", with a stylized, cursive script.

Chris Bazar, Director
Community Development Agency

Attachment: Appeal letter

REEL

IMAGE

Approved as to Form
DONNA R. ZIEGLER, County Counsel

By Andrea L. Weddle, Chief Assistant County Counsel

**THE BOARD OF SUPERVISORS OF THE COUNTY OF ALAMEDA,
STATE OF CALIFORNIA**

On motion of Supervisor
Seconded by Supervisor

and approved by the following vote:

Ayes: Supervisors

Noes: None

Excused or Absent:

**THE FOLLOWING RESOLUTION WAS ADOPTED JULY 24, 2018:
NUMBER R-2018-**

**APPEAL OF THE CENTER FOR BIOLOGICAL DIVERSITY (CBD) AND LIVERMORE ECO
WATCHDOGS FROM THE DECISION OF THE EAST COUNTY BOARD OF ZONING
ADJUSTMENTS TO APPROVE THE APPLICATION PLN2017-00110 TO ALLOW THE
CONTINUED OPERATION OF AN OIL PRODUCTION FACILITY IN THE A
(AGRICULTURAL) DISTRICT, LOCATED AT 8467 PATTERSON PASS ROAD, SOUTH SIDE,
APPROXIMATELY ½ MILE EAST FROM GREENVILLE ROAD, UNINCORPORATED
LIVERMORE AREA OF ALAMEDA COUNTY, BEARING ASSESSOR'S PARCEL NUMBER:
099A-1650-001-05.**

WHEREAS E&B NATURAL RESOURCES has filed for CONDITIONAL USE PERMIT, PLN2017-00110, to allow the continued operation of an oil production facility on property located in the "A" (Agricultural) District, located at 8467 Patterson Pass Road; and

WHEREAS the East County Board Zoning Adjustments did consider the application in a public hearing at the hour of 1:30 p.m. on the 24th day of May, 2018, in the City of Pleasanton Council Chambers, 200 Old Bernal Avenue, Pleasanton, California and approved the conditional use permit; and

WHEREAS the appellant did file a timely appeal from the decision of the East County Board of Zoning Adjustments; and

WHEREAS the Board of Supervisors did hold a public hearing on July 24, 2018 to consider the appeal; and

WHEREAS it appears from documents in the public record that the appeal was submitted to the County and received as required by the Alameda County General Ordinance Code; and

WHEREAS it satisfactorily appears from documents in the public record that proper notice of said public hearing at the Board of Supervisors was given in all respects as required by law; and

WHEREAS this application has been reviewed in accordance with the provisions of the California Environmental Quality Act and has been found to be categorically exempt; Section 15301, "Existing Facilities"; and

WHEREAS the Board of Supervisors did hear and consider all said reports, recommendations and testimony as hereinabove set forth; and

WHEREAS the Appellant was present at said public hearing and presented testimony in support of the appeal; and

NOW THEREFORE

BE IT RESOLVED that the Board of Supervisors does deny the appeal and uphold the decision of the East County Board of Zoning Adjustments approving the application for Conditional Use Permit, PLN2017-00110 based upon the following findings:

- (a) This use is required by the public need as the applicant proposes to continue development of a valuable natural resource.
- (b) The use will be properly related to other land uses and transportation and service facilities as the site is located near other similar facilities, and the use remains compatible with surrounding agricultural uses. Urban uses are located sufficiently distant from the subject facility to ensure that these uses don't encroach visually or otherwise upon the subject facility for the duration of the permit.
- (c) As conditioned herein, the use should not cause detriment to the surrounding properties or the general public.
- (d) The use is consistent with the East County Area Plan and the Zoning Ordinance, and will continue to meet the requirements of the County and the California State Department of Conservation, Division of Oil, Gas and Geothermal Resources.

BE IT FURTHER RESOLVED that the Board does hereby approve the said application as shown by materials labeled Exhibit 'A' on file with the Alameda County Planning Department subject to the following conditions:

- 1. This permit authorizes the continued operation of an oil production facility consisting of 2 oil production wells, or as such facility features may be reclassified by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources from time to time, within a 100 foot X 200 foot, fenced lease area, consistent with section 17.06.100 of the Alameda County General Ordinance, and plans marked Exhibit "A" dated November 10, 2017 on file with the Alameda County Planning Department, for the property located at 8467 Patterson Pass Road about ½ mile east of Greenville Road, Livermore, CA APN: 99A-1650-001-05.
- 2. The permit for this facility shall continue to be subject to Standard Conditions for Regulation of Production Oil Wells (attached and listed below), dated June 13, 1967, except that in lieu of a 20 year term prior to expiration, there shall be a mandatory review in ten (10) years, and that no bond shall be required by Alameda County, provided that the applicant/permittee shall submit evidence of the required State bond within 30 days of this approval and at the time of each bond renewal for the duration of this permit.

STANDARD CONDITIONS ADOPTED BY BOARD OF SUPERVISORS JULY 13, 1967

- 3. All waste material resulting from the drilling operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from said vault or sump at any time.

4. The access roads leading to the drilling sites and work areas in the immediate vicinity of the drill sites shall be maintained in a manner so as to reduce dust production. An access road shall not alter the existing drainage pattern.
5. All land within a radius of one hundred feet from any derrick, tank, building, machinery or equipment used in the development, production or storage of petroleum products shall at all times be kept free and clear from dry weeds or grass, rubbish, or other flammable material.
6. All lighting shall be installed so as not to cast direct glare on roads or adjacent properties.
7. During any drilling or redrilling operation, adequate toilet facilities shall be provided by means of an approved portable chemical toilet with routine scheduled servicing thereof, and a potable water supply shall be provided for all employees.
8. If any well is abandoned, all drilling apparatus shall be removed from the drill site within 60 days after the well is abandoned to the satisfaction of the State of California Division of Oil, Gas and Geothermal Resources; within 30 days of abandonment, all waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Board has prescribed requirement which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil, Gas and Geothermal Resources and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
9. If any well is completed, all drilling equipment shall be removed from the drilling site within 60 days after the completion of the well to the satisfaction of the State of California, Division of Oil, Gas, and Geothermal Resources. Within 30 days of completion all waste materials shall be removed from the drill site and disposed as required by Condition No. 8 above.
10. All waste materials resulting from oil production (ie. Waste oil or salt water) shall be retained in a steel tank or vault. All waste material resulting from any redrilling or deepening operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from any vault or sump at any time. All waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Board has prescribed requirement which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil, Gas and Geothermal Resources and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
11. Any redrilling or deepening of the well shall be diligently pursued to completion and shall be accomplished only by a portable derrick; drilling equipment shall not be stored on the site but shall remain only as long as necessary for the completion of the redrilling or deepening operation.
12. The access roads leading to any producing well and the fenced work area described in condition No. 13 shall be graveled and oiled or otherwise maintained in a comparable manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern. Access to County Roads shall be subject to an Encroachment Permit issued by Alameda County.

13. All work areas including the storage and pumping equipment shall be enclosed within a minimum 7' high fence. This fenced work area shall be provided a gate of similar material which shall be kept locked when the area is unattended by authorized personnel.
14. All pipe lines located outside the fenced work area described in Condition No. 13 shall be located underground.
15. All pumping or other power operation, other than redrilling, shall be carried on by electric power and not generated on the drilling site, or by natural gas internal combustion engines equipped with exhaust mufflers that prevent excessive or unusual noise.
16. All loading outlets shall be provided with a burred tank to catch any oil-drip resulting from loading operations. This tank shall not be allowed to overflow at any time. There shall be provided adjacent to the loading outlets an off-street loading space that meets the requirements of the Alameda County Zoning Ordinance.
17. Oil storage tanks shall be of the permanent cylindrical variety, shall not exceed 20' in height, and shall not provide a capacity exceeding 2,000 barrels for each well serviced.
18. If the permittee is notified by the Building Official that any well approved by this permit is located within a subsidence area, the permittee shall cause to be filed within 30 days of such notice a "Voluntary Repressuring Plan" capable of being approved and administered by the California State Division of Oil, Gas and Geothermal Resources. Upon approval, the permittee shall implement said plan.
19. Prior to exercising this permit, the permittee shall furnish the local Fire Chief with the name and telephone number of an authorized representative empowered to engage a fire fighting specialist. If the local Fire Chief finds it necessary to call upon such a specialist to assist in extinguishing an oil or gas well fire, on request of the local Fire Chief, the permittee shall immediately furnish the assistance of a qualified specialist. The expense of such specialist shall be borne by the permittee.
20. The property owner, permittee, or its successor, shall defend, indemnify, and hold harmless Alameda County and its agents, officers, and employees from any claim, action, or proceeding against Alameda County or its, agents, officers or employees to attack, set aside, void, or annul Conditional Use Permit, PLN2017-00110, the findings of the CEQA determination, or any combination thereof. Such indemnification shall include, but not be limited to, an award of costs and attorney's fees incurred by Alameda County in its defense. The County shall promptly notify applicant of any such challenge.
21. A mandatory review shall be conducted ten years from approval for this Conditional Use Permit, PLN2017-00110 on July 24, 2028. As a result of the mandatory review, a permit for renewal and public hearing may be required to review the original conditions of approval to determine compliance with the findings that supported the original permit approval. Any condition of approval modified or added will ensure the activity continues in conformance with the intent and purpose of the zoning ordinance, and shall be of the same force and effect as if originally imposed. Review costs shall be borne by the applicant.
22. Property owner and Permittee, and their successors, shall comply with all Federal, State, and Local Laws, Regulations and Alameda County Ordinances.

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Pursuant to Section 17-52.050 of the Alameda County Zoning Ordinance said Conditional Use Permit shall be implemented within a term of three (3) years of its issuance or it shall be of no force or effect.

If implemented, said Conditional Use Permit shall undergo mandatory review on or around July 24, 2028 and shall remain revocable for cause in accordance with Section 17-54.030 of the Alameda County Zoning Ordinance.

BE IT FURTHER RESOLVED that the Board of Supervisors does adopt and affirm the findings of the East County Board of Zoning Adjustments and incorporates them herein in full.

ALAMEDA COUNTY BOARD OF SUPERVISORS

THE FOREGOING was **PASSED** and **ADOPTED** by a majority vote of the Alameda County Board of Supervisors this 24th day of July, 2018 to wit:

AYES: SUPERVISORS

NOES: NONE

EXCUSED:

PRESIDENT, BOARD OF SUPERVISORS

ATTEST:

(Name), Clerk

Board of Supervisors

By: _____
Deputy

File: _____
Agenda No: _____
Document No: R-2018-



I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Supervisors, Alameda County, State of California

ATTEST:

(Name), Clerk

Board of Supervisors

By: _____

Palmeri, Maria, CDA

From: BERNARD CABANNE <bcabanne@comcast.net>
Sent: Wednesday, July 18, 2018 9:18 AM
To: Palmeri, Maria, CDA; bcabanne@comcast.net
Subject: Fwd: letter for BOS binder concerning appeal of E and B Natural Resources permits /hearing July 24th

Hi Maria,

please print this copy of letter to the Board of Supervisors---the previous email had a typo...

thanks

Donna Cabanne

----- Original Message -----

From: BERNARD CABANNE <bcabanne@comcast.net>
To: maria.palmeri@acgov.org, bcabanne@comcast.net, donna.cabanne@gmail.com, dcabanne@justice.com
Date: July 18, 2018 at 9:06 AM
Subject: letter for BOS binder concerning appeal of E and B Natural Resources permits /hearing July 24th

July 17, 2018

Alameda County Board of Supervisors

1221 Oak Street, Oakland, CA

To the Honorable Board Members:

I am writing on behalf of the Sierra Club, its members and the public to strongly urge the Supervisors to deny the pair of permits for E and B Natural Resources. Oil drilling and re-injection pose significant risks at this particular site and E and B should not be allowed to continue operations .

Re-injection increases seismic activity; yet E and B will re-inject oily wastes right next to the Las Positas Fault and the Greenville Fault which registered a 5.8 earthquake centered in Livermore in 1980. This is particularly problematic as the injection wells are within two miles of the plutonium building of Lawrence Livermore National Laboratory. This building was damaged during the 1980 earthquake. While research is still ongoing, numerous recent studies from USGS, Stanford, Oklahoma, Texas and Pennsylvania show a correlation between re-injection and induced seismic activity. Fault lines near re-injection sites are far more likely to have repeated and more severe earthquakes because the oil byproducts ---acting as lubricants---cause more significant slippage along fault lines. Even small tremors can put nearby aquifers at risk by opening up pathways to irreversible contamination. One fact is clear, re-injection should never

occur within ten miles of an active fault. We cannot afford to allow any activity that could increase induced seismic activity in this sensitive spot.

Oil and oily wastewater contain dangerous chemicals including high levels of benzene, a known carcinogen. Yet E and B refuses to disclose the chemicals used in their oil production that will be re-injected into our aquifers. Moreover, E and B cannot guarantee that re-injected wastewater and the unidentified chemicals will remain within the boundaries of the area. Without complete disclosure of the chemicals used in every aspect of production, the public has no way to assess the potential risks.

While some of the water in this aquifer may not be potable, there are still many beneficial uses for this water such as crop irrigation, landscaping, etc. The use of local groundwater must be an integral part of long term water planning, especially in drought years. Alameda County relies on having ample water resources for its agriculture, wineries and other related businesses that provide a growing economy. Oil drilling and the re-injection of wastes are simply not compatible with wineries. Napa and Sonoma Counties have banned oil extraction. Furthermore, E and B has not demonstrated with verifiable test results that their 50 year old wells can withstand the increased usage and pressure without leaking. We cannot afford to squander our water resources for the maximum profits of one company.

Let's examine E and B's track record----48 spills and accidents since 2007, including a petroleum leak in Livermore in 2015 that resulted in tainted soil 12 feet deep. Alameda County won a stipulated judgment against E and B in 2016 that resulted in 85,000 dollars in fines for repeated serious violations of the Hazardous Waste Control Act, Health and Safety Codes, and Business and Professional codes. In recent years, E and B has also received numerous notices of violation from the Alameda County Department of Environmental Health. In 2014, E and B facilities were fined \$7,500 by the Bay Area Air Quality Management District concerning its storage of organic liquids. In addition, E and B was ordered to pay 200,000 dollars to clean up a neighboring property. Simply stated, E and B is NOT a company that can be trusted to follow regulations.

Alameda County can and should require stricter standards than some state agencies when it involves protecting the health and safety of its residents. Alameda County took the lead by banning fracking in 2016, even though fracking is allowed in other parts of the state. Unfortunately, that ban does not go far enough. Now Alameda County needs to protect its residents from the environmental risks of re-injection at this sensitive site by rejecting these permits. Stopping the re-injection of oily wastes needs to happen here--- independent of what some state agency may allow in other areas.

This is a discretionary permit; the Supervisors are not legally bound to re-issue these permits.

Alameda County has an opportunity to show what it looks like to put public health and safety before one Bakersfield-based company's profits. As you have done in the past with the fracking ban, Alameda County Supervisors have an opportunity to demonstrate how local governments can play an essential role in protecting our communities when state agencies do not go far enough. The safety of the public and our interest in a healthy, sustainable future must come before the short-term interests of one oil company.

Deny the permits. For our families, for our future.

Donna Cabanne

Tri-Valley Executive Committee

Sierra Club

Palmeri, Maria, CDA

From: peter poulsen <ppoulsen9325@gmail.com>
Sent: Tuesday, July 17, 2018 10:22 PM
To: Palmeri, Maria, CDA
Cc: Jacky Poulsen
Subject: E&B Natural Resources CUP
Attachments: DoC_E&B injection_updated.pdf

We are writing to ask you to deny E&B's Natural Resources CUP renewal.

There are so many risks associated with this operation, including a significantly increased likelihood of earthquakes and contamination of the aquifer which could, in the future, be needed for agriculture. No one can say for sure that these will occur. And no one can say for sure they will NOT! Our community gets absolutely no benefit from this operation, yet we get all the risk!

In the late 1970s E&B had their maximum oil production at this site. And in January 1980 the Greenville fault had its first ever earthquake! Coincidence? Maybe. Maybe not.

Please read the attached letters from Dr. Jean Moran, Professor and Chair of Department of Earth and Environmental Sciences at Cal State East Bay. She expresses serious concerns about E&B's operation based on years of state funded research. Why would we fund this research and then ignore the findings?

We encourage you to please vote to DENY this CUP.

Many thanks,

Peter and Jacky Poulsen
9325 Lupin Way, Livermore CA 94550
(925) 455-0542



**CALIFORNIA STATE
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EAST BAY

Department of Earth & Environmental Sciences

January 15, 2017

Department of Conservation
801 K Street, MS 18-05
Sacramento, CA 95814
ATTN: Aquifer Exemption

I am writing regarding E&B Natural Resource's request for an exemption to inject produced water into the Greenville Sands Member of the Ciebro Formation near Livermore, CA. I am a professor in the Department of Earth of Environmental Sciences at California State University with a specialization in hydrogeology. Over the past twenty years, I have conducted state-funded research on aquifer contamination vulnerability using geochemical and isotopic tracers of groundwater flow and transport. My PhD research focused on vertical migration of Gulf Coast oilfield brines. I live in Livermore, not far from the Patterson Rd field where the exemption would apply. In my opinion, the E&B exemption application should be denied because of 1) the value of the groundwater potentially affected by the injection, and 2) the risk of induced seismicity. Ideally no injection would take place in this area where little is known about aquifer connectivity, water quality at various depths, or potential for increased production, but allowing an expansion is imprudent, in my opinion.

The TriValley, with water resources overseen by Zone 7 Water Agency, is in a relatively precarious position with respect to its water supply. Over the past two decades, it has become increasingly reliant (now 80% of its supply) on imported, 'state project' water, and in 2014 received a zero allocation, along with all other state project contractors. Local groundwater, managed through conjunctive use, is critically important in long term supply planning, even as PCE and nitrate affect large portions of the main aquifer. Wellhead demineralization is a potentially viable future resource (it already provides a portion of the supply in nearby Fremont, CA), and would be cheaper and less energy intensive than indirect potable reuse of wastewater or desalinization of seawater. The groundwater into which the E&B water would be injected is relatively low in TDS and viable for wellhead demineralization, especially for the untreated agricultural water supplied to growers by Zone 7. (Per usual industry practice, E&B does not make water quality data publically available, so the extent of hydrocarbon contamination in native groundwater is unknown to land owners and scientists alike.) While the groundwater may be put to beneficial use in the future, the addition of 30 barrels/day into the fossil fuel supply does more harm than good, except to E&B's profits.

As I know you are aware, widespread contamination of shallower aquifers due to either hydraulic fracturing or injection has not been documented. What is clear is that compromised well casing and

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Ph: 510/885-3486 Fax: 510/885-2526
Rm: North Science 329 (SC N329)





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Department of Earth & Environmental Sciences

man-made vertical conduits have resulted in inadvertent contamination of drinking water aquifers. The E&B wells are relatively old and surrounding groundwater is not monitored in a deliberate way, as recommended in the SWRCB-funded SB4 report.

Just in the last two years, it became clear that injection of produced waters and waste water can cause earthquakes; this was discovered through statistical analysis of the spatial relationship between produced water injection and seismic events in Oklahoma. So little is known about the mechanism by which injection causes earthquakes, in large part because energy companies do make temporal and three dimensional spatial data available to researchers. Until more is learned about **how** injection induces seismic events, it seems highly imprudent to allow injection in proximity to a major splay of the San Andreas fault system, the Greenville Fault. Even at disposal wells where fluid is injected without added pressure at the wellhead, the fluid pressure within the formation increases and can induce earthquakes.

For the reasons outlined above, I urge you to reject E&B's exemption request.

Sincerely,

Jean E. Moran
Professor and Chair, Department of Earth and Environmental Sciences
California State University East Bay
Hayward, CA 94542

California State University, East Bay
25800 Carlos Bee Blvd. Hayward, CA 94542-3088
Ph: 510/885-3486 Fax: 510/885-2526
Rm: North Science 329 (SC N329)



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Department of Earth & Environmental Sciences

Addendum April 16, 2018

Re: Revised Statement of Basis for Livermore aquifer exemption

In reviewing the revised Statement of Basis, it appears that E&B is attempting to respond to comments and concerns that have been raised in the public comments. For example, by going from 146.4 (c) to (b)(1), they consider the likelihood that the area will serve as future source of drinking water. The revision states, "In addition, pursuant to 40 CFR 146.4(b)(1), the Proposal Area cannot now and will not in the future serve as a source of drinking water because it is hydrocarbon producing or contains hydrocarbons that are expected to be commercially producible".

As noted in my previous letter, the likely beneficial use of the groundwater where the injection will take place is for agriculture (e.g., irrigation of orchards) and not for drinking water.

Similarly, the revision states, "...the data supporting this aquifer exemption proposal clearly demonstrate that the proposed exempt aquifer does not currently serve as a source of drinking water and is not reasonably expected to supply a public water system due to the presence of hydrocarbons and the availability of sustainable, higher quality groundwater within shallower, more easily accessible geologic zones." ... "A search for water supply wells was conducted to at least one-quarter mile beyond the area proposed for an aquifer exemption for the Livermore Oil Field."

One-quarter mile is a ridiculously small distance, considering that flow paths to discharge points are likely thousands of meters. In addition, this statement does not make sense, hydrologically: "The area of review included areas of potential surface recharge to determine if private water wells were hydraulically connected with the aquifer proposed for exemption." How does including areas of potential surface recharge relate to whether private wells are hydraulically connected with the aquifer proposed for exemption? The hydraulic connection would be below the surface, within the intervening unconsolidated formations. Are they saying that nearby surface recharge might be the start of flow paths to both private wells and hydrocarbon production wells?

The revised statement also asserts that the exempt area is hydrologically isolated from its surroundings, both laterally and vertically. It states, "The proposal also meets the requirements of PRC 3131, as the area contains geologic features and hydraulic controls that impede potential migration of injected fluids outside the portion of the aquifer that would be exempted and the injection of fluids will not affect the quality of water that is, or may reasonably be, used for any beneficial use."

The figures showing fault boundaries as impermeable barriers and the text stating that impermeable formations lie above and below the produced zones are misleading. Although the silty

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Department of Earth & Environmental Sciences

formations may have lower hydraulic conductivity than the producing formations, they are not impermeable, and the faults are not complete barriers to flow. All of the formations discussed are water-bearing and none are thick, extensive, continuous clay layers that could be considered true confining units. Also, the vertical gradient is important in assessing the possibility of contamination of shallow aquifers by injected fluid, but no information related to the vertical gradient (only the horizontal) is shown. Pressure heads are shown only within the proposed boundary and not outside of it so one cannot even tell the direction of the gradient across the faults. Furthermore, 500 feet separation between the aquifer currently used for beneficial uses, and the exempt aquifer, is actually rather small compared to the separation in most situations where injection or hydraulic fracturing is taking place in California (though similarly small separations are documented in Kern County).

In Kern County, water containing hydrocarbons is used for irrigation, as described in the report in the following report:

https://www.waterboards.ca.gov/rwqcb5/water_issues/oil_fields/food_safety/data/studies/cawelo_irrstudy.pdf;

And, although similar arguments are made regarding separation of produced zones and drinking water zones, drinking water wells in Kern County have had detections of gasoline hydrocarbons. These are reported in the GAMA Fact Sheet on the groundwater basin in Kern County, <https://pubs.usgs.gov/fs/2011/3150/>, which states, "Other VOCs include organic synthesis reagents and gasoline hydrocarbons. Other VOCs were not present at high concentrations but were present in moderate concentrations in about 2% of the primary aquifers. The VOC found at moderate concentrations was benzene, which is a gasoline hydrocarbon."

For the reasons stated above, I continue to urge rejection of the exemption request.

Sincerely,
Jean E. Moran

California State University, East Bay
25800 Carlos Bee Blvd. Hayward, CA 94542-3088
Ph: 510/885-3486 Fax: 510/885-2526
Rm: North Science 329 (SC N329)

Palmeri, Maria, CDA

From: TEAL MCCONN <mconnteal@comcast.net>
Sent: Tuesday, July 17, 2018 1:01 AM
To: Palmeri, Maria, CDA
Cc: mconnteal@comcast.net
Subject: Appeal CUP for E&B Natural Resources

Honorable Board Members,

I would like to notify you that this issue of letting E&B continue to operate is just not acceptable to me and many others who live in Livermore. The small profits being made by this company are not worth the many risks.

Cons:

1. E&B is a big code violator in California, who says they have changed their ways?
2. Livermore's wine industry reputation could be tarnished by news of an oil spill (E&B has had to clean up spills and pay large fines)
3. There are two earthquake faults bordering the drilling site
4. UC Santa Cruz studies have found possible connections between seismic activity and oil drilling in California
5. The nearby Lawrence Livermore Lab has had major earthquake damage from a 1980 quake, the possibility of induced earthquakes is too risky and a possible source of release of toxic chemicals from the Lab
6. E&B's drilling could contaminate the Greenville Sands Aquifer
7. If the Aquifer water is contaminated it would be impossible to clean up given the geology of the area
8. The residents near the site have wells that could be contaminated

Only E&B has to gain from a renewable of their CUP. Please consider all we stand to lose.

Thank you,

Teal McConn

Livermore

July 16, 2018

Alameda County Supervisors
1221 Oak St. 5th Floor
Oakland, CA 94612

Dear County Supervisors:

My name is Ernesto Rodriguez and I am a full-time employee of E&B Natural Resources. I am responsible for the Livermore oil production site on a day to day basis. I make sure that the site in Alameda County is always clean and in working order. I also sample the oil and water, check filters to ensure they are free of oil, and look around the sites for anything else that needs attention.

I appreciate working for E&B because our company has a very strong focus on being a safe and disciplined operation. I am a military veteran with two combat tours in Iraq. I was a platoon sergeant, responsible for the lives of 30 Marines. In the service and on this job, I focus on doing things right if I am going to do them at all because the health and safety of people may depend on my actions.

E&B is also very supportive of its employees and my job allows me to provide for my family.

I hope you will approve the E&B Permits. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ernesto Rodriguez', written in a cursive style.

Ernesto Rodriguez

Palmeri, Maria, CDA

From: Curry, Damien, CDA
Sent: Friday, July 13, 2018 12:04 PM
To: Urzua, Sonia, CDA; Palmeri, Maria, CDA
Subject: Fw: E&B Natural Resources; PLN2017-00110; Condition No. 20; July 24 Appeal Hearing

Damien Curry
Alameda County Planning Department
510.670.6684

From: Mills, Michael <michael.mills@stoel.com>
Sent: Friday, July 13, 2018 11:30 AM
To: Littlejohn, Heather M., County Counsel; Flores, Ana, County Counsel
Cc: Curry, Damien, CDA; Amy Roth (aroth@ebresources.com); Morrissey, Shannon L.; Ross, Tammy
Subject: E&B Natural Resources; PLN2017-00110; Condition No. 20; July 24 Appeal Hearing

Dear Heather and Ana,

As you know, E&B Natural Resources continues to have concerns about the scope of the language contained in the land-owner indemnity condition now present in the conditions of approval for PLN2017-00110, insofar as those conditions may place requirements on Mr. Phillip Marshall, who is the surface estate owner of the property on which E&B owns mineral rights and holds an oil and gas lease for the production of oil and gas.

Mr. Marshall expressed his concerns about the inequity of his being drawn into the CUP process, and, as you know, E&B wholeheartedly agrees with his concerns. Mr. Marshall had intended to appeal the approval of the CUP from the Board of Zoning Adjustments for this reason, but decided against it after we had discussed the matter with your office and assured him that this matter could be most efficiently addressed at the time the CUP was reviewed by the Board of Supervisors during the CBD appeal. And again, thank you for your office's time in previously addressing this issue with us.

In preparation for the CUP hearing, we have prepared the following write-up, which we hope you will find useful as you prepare to advise the Board on this issue:

The reason for the land-owner indemnity requirement in your Code is clear. Once the land is benefited by the issuance of the permit, the landowner should step in and indemnify the County for any legal challenges once the benefits have been conferred. "It is well settled that the burdens of permits run with the land once the benefits have been accepted." *Ojavan Inv'rs, Inc. v. California Coastal Com.*, 26 Cal. App. 4th 516, 526 (1994). However, here the surface owner is receiving *absolutely no benefits* and is not a party to our application. As a stranger to the entire process, and having received no benefits from the issuance of the permits, Mr. Marshall should not be required to indemnify the County.

A real property owner may divide his lands horizontally as well as vertically, and, when he conveys subsurface mineral deposits separately from surface rights, or reserves them from a conveyance of such surface rights, he creates two separate fee simple estates in the land, **each of which has the same status and rank.** *Gerhard v. Stephens*, 68 Cal. 2d 864, 442 P.2d 692 (1968). Therefore, because the rights run with the land, and a CUP for mineral extraction would benefit only the mineral estate in a split estate situation, it follows that the CUP would run with *only* with the mineral estate in the instance of severed estate.

The condition at issue for the indemnity condition #20, and here is some proposed language for your consideration to correct this issue as to Mr. Marshall's property. Please let me know how you recommend we get this before the Board and get it incorporated into the conditions of approval.

20. The **mineral estate owner, lessee, and permittee** ~~property owner, permittee,~~ or its successor, shall defend, indemnify, and hold harmless Alameda County and its agents, officers, and employees from any claim, action, or proceeding against Alameda County or its, agents, officers or employees to attack, set aside, void, or annul Conditional Use Permit, PLN2017-00110, the findings of the CEQA determination, or any combination thereof. Such indemnification shall include, but not be limited to, an award of costs and attorney's fees incurred by Alameda County in its defense. The County shall promptly notify applicant of any such challenge.

Please let me know if you have any questions.

Thank you.

Michael N. Mills | Partner

STOEL RIVES LLP | 500 Capitol Mall, Suite 1600 | Sacramento, CA 95814

Direct: (916) 319-4642 | Fax: (916) 447-4781 | Cell: (916) 817-7021

michael.mills@stoel.com | www.stoel.com

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July 13, 2018

VIA EMAIL AND U.S. MAIL

Hon. Anika Campbell-Belton
Clerk of the Board of Supervisors
1221 Oak Street, Suite 536
Oakland, CA 94612
anika.campbell-belton@acgov.org
cbs@acgov.org

Re: Appeal of Conditional Use Permit PLN2017-00110 and PLN2017-00181

Dear Honorable Members of the Alameda County Board of Supervisors:

We respectfully submit this letter on behalf of the California Independent Petroleum Association ("CIPA") in connection with the pending appeal of the above-described conditional use permits. CIPA is a non-profit, non-partisan trade association representing approximately 500 independent oil and natural gas producers, royalty owners, and service and supply companies throughout the state of California. As such, CIPA is both an informational resource for communities such as the County of Alameda ("County") and, when needed, an advocate when the legal rights of its members are threatened by local agency actions or the unmeritorious interference of third parties.

We have reviewed the record of proceedings before the East County Board of Zoning Adjustments ("BZA") with respect to approval of E&B Natural Resources' ("E&B") application for Conditional Use Permit PLN2017-00110 and PLN2017-00181 ("CUP Application" or "CUPs") and the appeal of CUP Application approval filed by the Center for Biological Diversity and Livermore Eco Watchdogs (collectively, "CBD"). Our review discloses that there is ample evidence in the record to support the BZA's approval of the CUPs, and said approval should be upheld as a matter of law. Conversely, CBD's appeal demonstrably lacks merit and should be denied, as discussed in detail below.

Factual and Procedural Background

Per the record of proceedings in this matter, in 1967, the County issued a permit for construction and operation of the oil and gas production facility that is the subject of the current CUP Application. The record further provides that the instant CUP Application is "to allow the *continued* operation of [that] oil production facility." See BZA Resolution No. Z-18-13 (emphasis added). The record is devoid of any evidence indicating that E&B will expand operations at the subject oil and gas production facility.

July 13, 2018

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In approving the CUP Application, the BZA made the following highly relevant findings: (1) issuance of the CUPs will allow the continued development of a *valuable natural resource*; (2) continued operation of the oil and gas production facility is consistent with the East County Area Plan and the County Zoning Ordinance; and (3) continued operation of the oil and gas production facility is consistent with surrounding uses such that it will not impair the use of the surrounding properties or the general welfare of the public at large. Finally, it is apparent from the record of proceedings that the County will retain supervisory authority over continued operation of the oil and gas production facility via numerous conditions of approval, not the least of which is E&B's compliance with superior state and federal laws.

CBD's Appeal

On June 1, 2018, CBD submitted a letter and other documentation appealing approval of the CUPs. CBD's appeal consists of nothing more than baseless and speculative allegations, unsupported contentions and wholly irrelevant information, as documented in the July 9, 2018 response submitted by E&B in opposition to CBD's appeal ("E&D Response"). We incorporate the E&B Response in this letter as though fully set forth herein.

Consequences Associated with Overturning the CUPs

CBD's appeal seemingly presumes that, if the Board of Supervisors ("Board") were to overturn approval of the CUPs, E&B's oil and gas production operations would suddenly cease. As a matter of well-established law, such is not the case. As the record of proceedings makes clear, the subject oil and gas production facility has been operating continuously pursuant to permit documentation originally issued in 1967. Consequently, E&B has fully vested its right to continue said operations going forward. *Avco Community Developers, Inc. v. South Coast Reg'l Comm'n* (1976) 17 Cal.3d 785, 781; *see also, HPT IHG-2 Properties Tr. v. City of Anaheim* (2015) 243 Cal. App. 4th 188, 199. Given E&B's vested right to operate, overturning the CUPs would merely result in E&B continuing its operations in accordance with the original County approvals and any conditions contained therein.

CBD's Appeal Advances an Unlawful and Costly Objective

As CBD's appeal letter and associated documentation disclose, CBD's ultimate objective in this matter is to force E&B to cease any and all oil and gas extraction activities, thus depriving E&B of all beneficial use of its real property. We respectfully advise the Board that a California court has just recently invalidated a local agency's attempt to prohibit oil and gas extraction, finding that the local agency's actions were preempted by state and federal law. *See Chevron U.S.A. Inc., et al. v. County of Monterey, et al.*, Superior Court Case No. 16CV003978. If the Board were to entertain CBD's ultimate objective in this matter, it would proceed in a manner contrary to the law.

July 13, 2018

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Additionally, if the Board were to act in a manner that substantially impaired if E&B's right to extract what the County has already acknowledged is a "valuable natural resource," the County would effect a regulatory taking of E&B's property without just compensation. Such action violates both federal and state constitutional due process and would unnecessarily expose the County to costly, protracted litigation.

We thank the Board for its consideration in this matter and urge it to uphold the BZA's approval of the E&B CUPs.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sigrid Waggener", is written in a cursive style.

Sigrid R Waggener

July 12, 2018

Via e-mail (cbs@acgov.org)

Anika Campbell-Belton
Clerk, Board of Supervisors
1221 Oak St., Fifth Floor
Oakland, CA 94612
(510) 208-4949

With reference to July 24, 2018 Agenda Item: PLN2017-00110 & PLN20017-00181

Dear Alameda County Supervisors:

I am writing today about the extension of the CUP for the Livermore oil field and to ask you to (1) follow the law governing this decision and (2) use sound science for any relevant scientific issue. And I expect no less from E&B Resources. I oppose zealots from any part of the political spectrum implying that either the law or science are merely suggestions to be used or misused as convenient to advance their perceived moral or economic cause. I am also asking you to weigh the practical implications of your decision and whether it will have the intended consequences or counterproductive unintended consequences. If you consider all these factors seriously, I believe you will see that voting to extend the CUP for the Livermore oil field is the only rational course.

The science backing human induced global warming is sound, and we need to find ways to wean the world off most uses of fossil fuels during this century. However, that is not a relevant issue for this CUP. Furthermore, shutting down the Livermore oil field will have no impact on that issue. First, it is too small to have any material effect, and second, if it or even larger fields are shut down out of dogmatic idealism, we will merely import more oil to satisfy demand. We already import nearly 70% of our consumption from Alaska and other countries (Figure 1). Instead, the way to reduce fossil fuel consumption is to have regulations and tax structures that discourage consumption of fossil fuels and encourage the production and consumption of renewable sources. That is what California is doing, and it is working.

There have been outrageous claims about induced seismicity and contamination of drinking water that have no scientific merit. In this case, non-potable water is being pumped back into the aquifer from which it came after the oil is separated. This does not increase reservoir pressure—it merely mitigates the decline in reservoir pressure. It is in no way similar to induced seismicity in Oklahoma or leakage of over-pressured methane along poor cement jobs in shale gas wells. Nor is any hydraulic fracturing or oil drilling of any kind proposed, despite letters and statements at various hearings by people who clearly do not understand the issues. Furthermore, the improved geological maps of reservoir extent are merely a description of geological reality and have nothing to do with expanded production activities. In brief, if a qualified scientist or engineer were to cross examine those opposing the extension of the CUP, as will be the case if this issue ends up in court, it would be obvious that they know virtually nothing about the science and engineering associated with petroleum

genesis, migration, and production that relate to relevant risks. Ask any speaker about the relevance of Darcy's law, buoyancy pressure, or Terzaghi's effective stress equation to this issue, and you will find out if they are qualified to assess risk.

Petition signatures have been collected from those who oppose or are frightened by activities at the Livermore oil field. I do not doubt that many of those people are truly concerned, but mere concern is not a basis for denying the CUP according to case law I have read. I am not a legal expert, but it seems that demonstrated incompatibility or bona fide actual or probable damages are required for denial and that orchestrated political reasons are not an acceptable reason. More generally, would you abolish childhood vaccinations if someone collected a few hundred signatures against them due to bogus science claims of danger? Or would you ban birth control pills if someone collected a few hundred signatures about the environmental impacts of estrogen in the environment? I would hope certainly not in either case. Risk and mitigation assessment should be done by people who actually understand the subject, and numerous experts during the aquifer exception process stated that the claims of those protesting the re-injection were baseless.

As I stated in a letter to The Independent in January 2017, the potential threat to drinking water from this oil field is spills from careless surface operations. I will neither criticize nor condone E&B's record on this matter, as that is their responsibility to work out with the county. I will point out, however, that the much publicized oil leak was discovered during modernization of the equipment, and the leak may have started even before E&B became operator. Despite the wanton use of the term "emergency" in this case, it is more like the need to tent your house after discovery of termite infestation. It is very important to fix the problem, but it is not a matter of urgency comparable to the overturning of and spillage from a gasoline or diesel tanker. Given that it was recent relative to hydrocarbon migration times, it was mitigated and no contamination of the aquifer has been detected. That issue is past.

In addition, the shallowest aquifer is not the pristine source of drinking water that has been portrayed by some. That does not justify additional careless contamination, but the potential for future contamination must be placed in perspective to what is already there. Many localities have elevated nitrate levels from agriculture and septic tanks. A shallow well at Asbury Methodist Church on East Avenue about a half mile from a much deeper California Water Company well has nitrate levels above the potable limit due to septic tanks on nearby Buena Vista Road. Other sources of contamination are the chlorinated solvents under Lawrence Livermore due to careless disposal dating back to the World War II Naval Air Base. In addition, various sites at Lawrence Livermore and downtown Livermore have legacy contamination from gasoline tanks. In all these cases, improvements in equipment and operational procedures can and will virtually eliminate future contamination, and the same can be done for the oil field operations if properly overseen. Would you consider banning gas stations and agriculture in Alameda County if someone brought you petitions signed by a few hundred people asking you to do so because of past contamination and environmental fears?

Furthermore, Mother Nature also contributes to hydrocarbon contamination in the Livermore Valley. Most petroleum generated naturally eventually seeps to the surface, where it is reprocessed in the biosphere. Some is captured in reservoirs such as the tiny ones at the

Livermore oil field. During the first 100 years of petroleum exploration, most oil deposits were found by drilling near oil seeps. Such seeps are listed in the Bible and other ancient texts, are exemplified by the La Brea Tar Pits and Carpinteria bitumen dikes down south, and are common even in the Bay Area. Natural leakage at Coal Oil Point alone in the Santa Barbara Channel is twice the production rate in the Livermore oil fields. Worldwide, natural seeps exceed all releases from human production and consumption.

Oil seeps were well known in the Livermore Valley in the 1800s. Those seeps instigated the first oil-well drilling in 1899 at a site near where a recent housing development had problems with oily films in storm runoff. The city verified the films were from natural seepage and not careless disposal of motor oil and took corrective action. Later wells were drilled off Tesla Road at the location of another oil seep near one that someone showed me in the 1980s. That 1911 drilling rig is shown in Figure 2.

Other examples in the Bay Area are in the Caldecott Tunnel, near Half Moon Bay on the Peninsula, and along Tar Creek in Pescadero Park in the Santa Cruz Mountains (Figure 3). If you want to understand how common natural oil seeps are in the Bay Area compared to any potential contamination from the Livermore oil field production activities, you should do some reading, e.g.:

<https://walrus.wr.usgs.gov/seeps/> and <https://parks.smcgov.org/tarwater-loop-trail> and <https://ww2.kqed.org/quest/2011/07/14/petroleum-in-the-bay-area/>.

I am not a legal expert and I am not qualified to provide legal opinions, but as an Alameda County tax payer, I am concerned about the Board of Supervisors taking actions that most likely will be overturned at taxpayer expense in court. My understanding is that the law considers mineral rights as a property right that cannot be seized by the Government with compensation. Certainly, the state has a right to regulate any extraction activity for the good of public health and safety, but the primary responsibility for that regulation is in State and Federal permits. Courts in both California and Colorado, and perhaps other states as well, have tossed out local attempts to impose unreasonable restrictions on oil and gas production. Consequently, denying the CUP of an operating production oil business without just cause after staff and the East County Board of Zoning Adjustments have determined it meets CUP criteria may well amount to illegal confiscation of that property. What kind of legal liability might that action expose the county to, and given all the important problems the county deals with and the insignificance of the environmental issues associated with the Livermore oil field, what is the point of engaging in this legally dubious battle?

One might ask why an oil company would challenge the denial of the CUP for such a tiny production capacity. The answer is simple. The aquifer exemption and CUP here are surrogate battles for larger issues of global warming and who has the power to prevent oil production. Courts have upheld the primacy of state law, and it is doubtful that industry will allow a legal precedent to be established to the contrary. Similarly, the only reason Alameda County would want to engage in this issue is to join some higher level political battle that really has nothing to do with this CUP, and such a decision will divert county resources away from real problems the County should be addressing. Even within the context of CO₂

emissions, far more benefit would result from using that money to buy more electric vehicles or to increase the degree of electrification of the new Valley Link train.

In conclusion, I am very concerned as a scientist about the trend in Washington, D.C., to ignore scientific evidence and experts for decisions involving science and technology. I assert that this situation is no different. Will you make your decision on sound science or ideological vigilantism? As an Alameda County taxpayer, I am concerned about the potential legal costs of a meritless denial of the CUP based on a quixotic pursuit of ill-founded puritanical environmentalism. Have you thoroughly considered the risks and downside of such an action? I think there are far more useful ways to address real environmental and other issues in Alameda County.

Sincerely,

Alan K. Burnham
Livermore, CA

cc: Damien Curry, Alameda County (damien.curry@acgov.org)

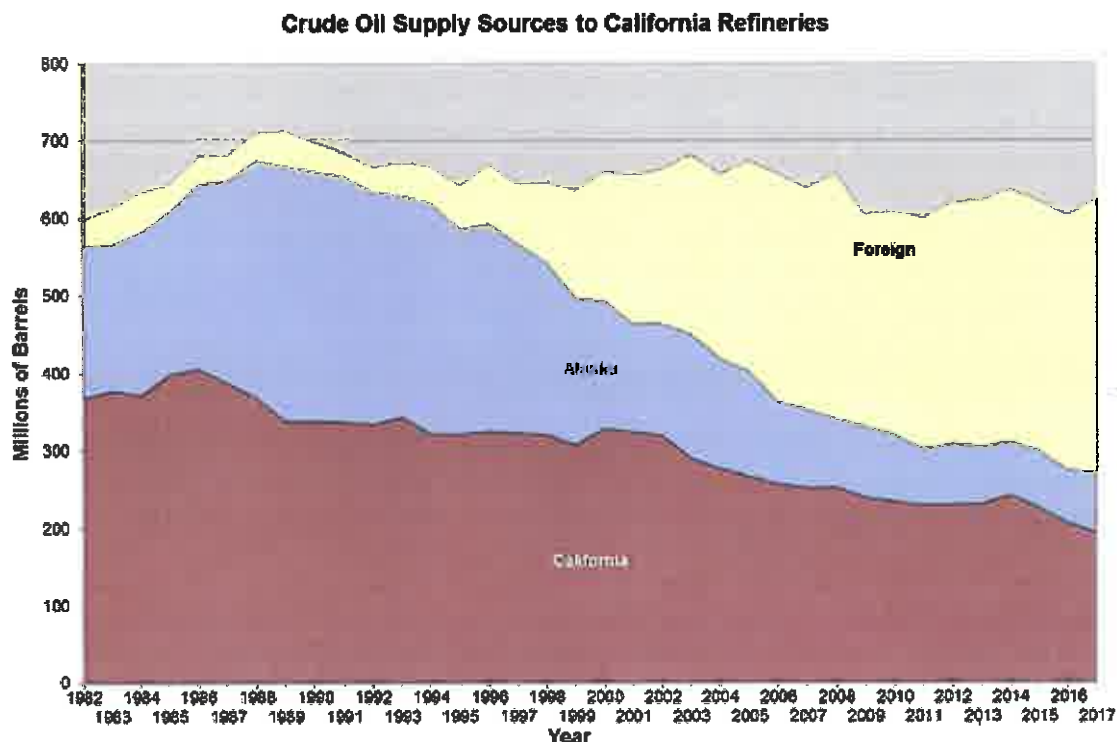


Figure 1. Most oil consumed by Californians is imported, because production has decreased faster than demand. Per capita use of oil has dropped in half since peak consumption in 1969, primarily due to efficiency up to now but with increasing electrification.



Figure 2. Photo of an oil drilling rig used in the 1911-1918 period prospecting for oil off Tesla Road east of Livermore. Courtesy of Livermore Heritage Guild.



Photo 1. Oil seep along Tar Creek.

Figure 3. Photo of oil seepage from David L. Wagner, et al., Tar Creek Study, Sargent Oil Field, Santa Clara County, California, Open-File Report No. 5, Cal DOGGR.

E&B Natural Resources

July 9, 2018

Via Email (cbs@acgov.org) and Overnight Delivery

Hon. Anika Campbell-Belton
Clerk, Board of Supervisors
1221 Oak Street, Fifth Floor
Oakland, CA 94612
(510) 208-4949

Dear Honorable Members of the Alameda County Board of Supervisors:

RE: PLN2017-00110, PLN2017-00181

E&B Natural Resources (E&B) requests that the Alameda County Board of Supervisors affirm the Conditional Use Permits (CUPs) referenced above that were unanimously approved by the East County Board of Zoning Adjustments (BZA) by rejecting the Center for Biological Diversity's and the Livermore Eco Watch Dog's (jointly, CBD) appeal. Following consideration of fact-based information and consideration of the best available science, as well as input from subject matter experts and the Alameda County (County) Planning Department's "Approval" recommendation, the BZA approved the subject CUPs for the E&B Livermore area operations. Their decision, while it fully considered comments presented by CBD and others, rightly voted to approve based on their review of the totality of the information presented.

The appeal by E&B's opponents, who consistently oppose any and all petroleum production and use anywhere, continues to recycle many of the same discredited arguments previously presented to the County, all of which have been shown to be incorrect, misleading, inapplicable or grossly exaggerated.

A detailed, point-by-point response to CBD's allegations is attached to support this statement. The issues are summarized below. (**Attachment 1.**)

EXPANSION PLANS: CBD accuses the BZA of not taking into account E&B's plans to expand. The CUP does not allow expansion. For example, new wells would require separate permit reviews which would require Alameda County input; the CUP does not have any expansion "loopholes." CBD repeatedly and falsely links the federal government's required aquifer exemption update and responding application made to the U.S. Environmental Protection Agency (US EPA) by the California Division of Oil, Gas and Geothermal Resources (DOGGR) with alleged E&B plans to expand operations. CBD's representation that E&B sought the state to expand is patently untrue. As confirmed

1 | Page

www.ebresources.com

1600 Norris Road, Bakersfield, CA 93308; phone (661) 679-1700

E&B Natural Resources

by County Planning Department staff (Staff), the aquifer exemption application is merely an updated classification of the existing oil reservoir geological formation as being suitable for the type of injection associated with E&B's continuing operations. Staff correctly states that E&B does not propose any changes at this time, nor is E&B seeking an expansion of activities with this CUP renewal. Land use will remain the same.

Attached is a letter from the National Association of Royalty Owners and expert letter by Dr. Steven R. Bohlen, former head of DOGGR and an expert in this field, with notable U.S. Geological Survey experience addressing the federal aquifer exemption mandate and many other issues. (Attachment 2.)

CEQA REQUIREMENT: CBD argues that the BZA failed to comply with the California Environmental Quality Act (CEQA). However, their arguments have no basis in law. CBD first argues that the BZA must review the project because the operations "have never been subject to environmental review." However, this misstates the requirements of CEQA. The courts have held that "existing facilities are exempt under [CEQA] even though no CEQA review was conducted for prior approvals." (2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2018) § 5.77, pp. 5-74, citing *Bloom v. McGurk* (1994) 26 Cal.App.4th 1307. In fact, the original CUP, obtained by E&B's predecessors-in-interest, was approved in 1967, several years prior to the enactment of CEQA. CEQA specifically provides that a "private project shall be exempt from CEQA if the project received approval of a lease . . . permit or other entitlement for use . . . prior to April 5, 1973." CEQA Guidelines Section 15261(b). The County has also consistently determined over multiple renewals of the CUP that approval of the CUPs is exempt under CEQA Guidelines Section 15301, which provides for a categorical exemption for the operations, permitting or minor alteration of existing facilities "involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination." CBD conflates the "expanded" productive area of the field (which was scientifically justified and extensively vetted through the public review process) with expansion of use. This distinction is important. In addition, only last year, CBD already has litigated, and lost, the argument that US EPA's mandated aquifer review process is a "project" subject to CEQA. It is not a "project" and is not subject to CEQA review. *Center for Biological Diversity v. California Dept. of Conservation, et al.*, Ruling on Petition for Writ of Mandate, Case No. 16-CV09353, San Luis Obispo Cnty. Sup. Ct. (June 30, 2017).

Finally, CBD argues that in determining the exemption applied, the County failed to determine whether any exceptions to the exemption would apply. However, the courts have held that the determination of an exemption implies that the County determined that none of the exceptions apply. Moreover, CBD's arguments that the exceptions apply are based on a gross misunderstanding of CEQA. There is no requirement to review adjacent operations, as this permit does not involve those facilities, and there is simply no evidence

E&B Natural Resources

that the continuing operations, which have existed for decades, would increase the risk of significant environmental impacts.

GROUNDWATER and EARTHQUAKES: Initially, CBD's main arguments alleged that E&B's operations endangered local groundwater supplies and increased seismicity risks. Numerous subject matter experts provided input based on scientific evidence that countered these arguments. CBD's current appeal continues to raise these issues, but not as prominently as in the past.

Essentially, evidence was submitted to the BZA indicating that "assertions that Livermore Field oil production will contaminate local groundwater supplies are not supported by the operational results of over half a century, current monitoring wells' sample results or the scientific facts of robust containment of the oil and water mixture in the geologic formation that has been the source of oil for geologically long periods."¹ Dr. Bohlen also addresses this issue in Attachment 2. Further, the handling of produced water from the oil reservoir is the most environmentally responsible approach possible. A local rancher, active with the County's Agricultural Advisory Committee, publicly stated a preference to have produced water recycled instead of hauled away, which would increase local traffic.

CBD further claims that the oil aquifer contains high-quality groundwater that could be used for beneficial purposes after treatment to remove salts. This statement totally ignores other constituents in produced water, including benzene and other organic compounds, and boron and other metals toxic to animals and humans. Responding to the Federal Safe Drinking Water Act, DOGGR and the State Water Resources Control Board found that E&B's oil reservoir ("aquifer") does not currently serve as a source of drinking water and going forward the aquifer is not reasonably expected to supply a public water system.

High levels of naturally occurring contaminants in produced water are acknowledged, yet CBD argues this water should be treated for public consumption. Such treatment is not economically viable for public consumption or use and would require, in any event, the pumping of the oil-laden water from the aquifer, followed by the separation of the oil from the water (E&B's current methodology). Such treatment also is not warranted by these operations because the treated produced water is beneficially reused through recycling into the oil reservoir from which it came, which maintains the natural levels of reservoir pressures.

Relative to seismicity, CBD previously pointed to generic studies of oil and gas operations in places such as Oklahoma that employ operational methodologies in geological and

¹ May 10, 2018 Statement of Dr. Stephen Bohlen, former Associate Chief Geologist for Science at the U.S. Geological Survey; Director of the CA Division of Oil, Gas and Geothermal Resources; and member of the U.S. EPA Science Advisory Board for the National Scientific Study on the Hazards of Hydraulic Fracturing and Other Well Stimulation and Completion Practices.

E&B Natural Resources

environmental settings that are all entirely different from those of E&B. "Scientific evidence does not support the assertion that oil production on the east side of Livermore has caused or will cause damaging earthquakes."² E&B does not engage in fracking at the site and injection induced seismicity has never been a concern in California.

HISTORY OF ACTIONS: CBD further lobs vociferous complaints about E&B as an operator. As in their previous arguments about water and seismicity which have been shown to be false, CBD has shifted its focus in an attempt to cast E&B as a "bad operator" on the Livermore site and elsewhere. This attempt is largely manifested through mischaracterizations or by promoting half-truths and irrelevant circumstances regarding E&B's past performance, locally and statewide. Herewith provided are two letters to the Alameda County Board of Supervisors from Tim Kustic, state Oil & Gas Supervisor (Retired) and Dr. Steven R. Bohlen, identifying E&B as a responsible operator, and stating that "E&B is among the best companies in the state for compliance with regulations, and in general is considered by DOGGR to be a 'by-the-book' operator." (Attachment 3 and Attachment 4, respectively.)

² *Ibid.*

E&B Natural Resources

CBD alleges a tank “spill” in 2015, when in fact this was a small patch of dry, oil-stained dirt discovered at the same time E&B removed an old, empty tank to improve site aesthetics.

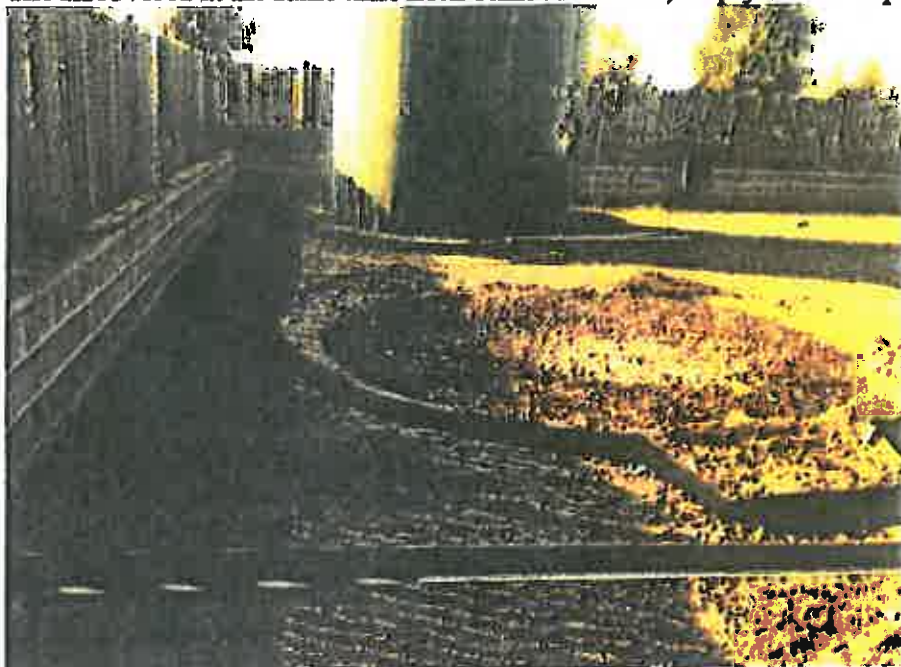


Photo: Discovery of dry oil-stained soil upon tank removal (March 26, 2015)

This tank predated E&B’s takeover of site operations and there is no way to determine when or how the oil stained the soil, or under whose prior operation it occurred.³ Nonetheless, E&B took responsibility and fully remediated the soil with County oversight. All tanks have now been removed from this site.

In line with this complaint, CBD also points to forty-eight (48) reported spills by E&B over the years at locations in California other than the Livermore Oil Field. To put this in perspective, the threshold for spill self-reporting to the state is very low and includes an incident as small as one barrel of produced water spilling within a fully contained and controlled area. E&B has been diligent in self-reporting such occurrences, even if the release was fully contained.

Other CBD misrepresentations include claiming that seven (7) tanks were involved in an incident concerning the misclassification of cleanout residues from a single tank, which residues were safely and beneficially reused for berm materials at another oil field in Kern County under a state-approved program. They also cite a few administrative errors that have since been corrected.

³ Prior to E&B becoming the operator, oil and gas companies operated these facilities, beginning in 1966 and continuously operating such facilities to the present day.

E&B Natural Resources

APPROVALS BASED ON UNSUPPORTED AND INCORRECT FINDINGS: CBD attempts to discredit the research and analysis conducted by Staff. However, Staff cites credible sources of its data and documents the basis for its findings. CBD relies on opinion and supposition.

REVISED LANGUAGE: The change brought forth was a clerical change to existing language in the draft condition so no confusion would occur with regard to the fact that DOGGR has lead jurisdiction over establishing well classification. County Counsel present at the meeting reviewed and concurred with the edit. The revised language was fully disclosed in public and a public hearing was opened after the edit was proposed.

COUNTY'S CLIMATE CHALLENGED: At this point, CBD resorts to offering nothing more than their opinions and unsubstantiated statements that are not based on any demonstrated or cited facts. Furthermore, CBD offers no justifiable reason why E&B's operations should be halted, and treated more harshly, than any other business, governmental agency or energy producer or distributor in the County.

APPROVALS CONTRARY TO LAW: CBD complains that the CUP durations are open-ended and the conditions vague. The previous CUPs in the past were good for twenty (20) years and E&B understood that these subject CUPs would be for ten (10) years. Perhaps a clerical edit would help to clarify this requirement.

Further, the CUPs contain at least twenty-four (24) specific conditions.

APPROVALS NOT IN COUNTY INTEREST: CBD's assertion is subjective opinion and promoted to support their goal to end all petroleum oil production and use everywhere. E&B has a broad base of documented local support that includes our most immediate landowners, none of whom have an issue with our operations; recognized subject matter experts, some of whom live in the area; and the local business community. According to the Staff, no citizen complaints have been filed with them against E&B.

E&B Natural Resources

Therefore, E&B respectfully requests that CBD's appeal be denied and the CUPs be approved for renewal.

Kind regards,



Amy Roth
VP of Regulatory Affairs
E&B Natural Resources
424-903-7257 office

cc: Heather Littlejohn, County Counsel, Heather.Littlejohn@acgov.org
Damien Curry, Planner, damien.curry@acgov.org

Attachments:

1. Chart: CUP Appeal Allegations and Responses
2. Letter from the National Association of Royalty Owners to the East County Board of Zoning Adjustments RE: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181) (May 10, 2018), and Memorandum by Dr. Steven R. Bohlen, former Supervisor, Division of Oil, Gas and Geothermal Resources.
3. Letter from Tim Kustic, State Oil & Gas Supervisor (Retired) to the Alameda County Board of Supervisors RE: Appeal of CUPs PLN2017-00181, PLN2017-00110 (June 20, 2018).
4. Letter from Dr. Steven R. Bohlen, former Supervisor, Division of Oil, Gas and Geothermal Resources RE: Conditional Use Permits PLN2017-00110 and PLN2017-00181 (June 28, 2018).

ATTACHMENT 1

E&B NATURAL RESOURCES – LIVERMORE OIL FIELD, ALAMEDA COUNTY
CHART: CUP Appeal Allegations and Responses (Attachment 1)
July 9, 2018

	CBD Allegations	E&B Responses
Expansion		
	<p>BZA did not account for expansion plans.</p> <p>Staff erroneously states that E&B proposes no expansion or changes to current operations.</p>	<p>Untrue and not supported by the facts</p> <p>No expansion plans were proposed for staff to consider. Conditional Use Permit (CUP) application is for a continuation of current operations, and the conditions of approval strictly limit the current wells.¹</p>
	<p>Staff reports' assertion that the aquifer exemption process seeks to "more clearly define" the aquifer's boundaries amounts to nothing more than wordplay.</p> <p>E&B is seeking to triple the area into which it can inject wastewater.</p>	<p>Untrue and not supported by the facts</p> <p>As stated in the staff report, E&B has not sought an expansion of operations through the aquifer exemption amendment process.² As a result of the state's mandate described in the staff report, E&B was required to prepare and submit to the state's Division of Oil, Gas and Geothermal Resources (DOGGR) a technical report. DOGGR prepared the application to the U.S. Environmental Protection Agency (EPA).³</p> <p>Alameda County Planning staff (Staff) is correct in reporting that the aquifer exemption action was an EPA requirement of the state of California and in response DOGGR submitted the application.⁴</p> <p>The aquifer exemption process was initiated by DOGGR at the direction of the EPA. Reviews are conducted for hydrocarbon-producing aquifers that are subject to the Federal Safe Water Drinking Act.⁵ Reviews are being conducted statewide for dozens of oil producing reservoirs, not just the Livermore Oil Field.⁶</p> <p>The technical basis for updating the recognized productive limits of the field, and therefore the</p>

¹ See, e.g., E&B Natural Resources CUP Application for Nissen lease (APN 099A-1650-003-09) (hereinafter "Nissen CUP Application"); E&B Natural Resources CUP Application for GIG lease (APN 099A-1650-001-05) (hereinafter "GIG CUP Application").

² East County Board of Zoning Adjustments, Staff Report: CUP PLN2017-00110 (May 24, 2018) (hereinafter "Staff Report CUP PLN2017-00110"), at p. 2; East County Board of Zoning Adjustments, Staff Report: CUP PLN2017-00181 (May 24, 2018) (hereinafter "Staff Report CUP PLN2017-00181"), at p. 4.

³ *Ibid.*

⁴ See EPA, EPA's Oversight of California's Underground Injection Control (UIC) Program (last updated May 29, 2018), <https://www.epa.gov/uic/epas-oversight-californias-underground-injection-control-uic-program>.

⁵ *Ibid.*

⁶ *Ibid.*

		permitted injection area boundaries, were subject to extensive review by DOGGR, the State Water Resources Control Board, local agencies, the public, and the EPA. Such scrutiny by multiple public agencies assures that science, not "wordplay," is the basis for the proposed amendment.
	Rather than mere disposal of the toxic wastewater generated through oil production, E&B now intends to inject that waste fluid and, through increased pressure, displace oil and move it toward production wells.	E&B recycles the produced water today. We intend to continue this methodology in the future. ⁷ No methodological changes are proposed or anticipated. ⁸
	Proposed CUPs are unclear on what activities would constitute expansion and require future review. Proposed permits do not expressly prohibit expansion and in fact contain language <i>contemplating</i> expansion.	Untrue and not supported by the facts Permit language clearly and definitively specifies the number of wells, etc., that are permitted. ⁹ Permit language is clear that any well additions to E&B's operations would require new environmental reviews and permits that include a public process. ¹⁰
CEQA and Environmental Review		
	Staff reports incorrectly state permit is categorically exempt from environmental review requirements under California Environmental Quality Act (CEQA). E&B's intentions to expand and change operations disqualifies permits from CEQA categorical exemptions.	Untrue and not supported by the facts As discussed above in more detail, the CUP does not allow, nor is E&B contemplating, field expansion. This comment is therefore irrelevant. Ongoing E&B operations are "Categorically Exempt" because this is an existing facility that is continuing with the same operating methodology. ¹¹ In response to CBD's CEQA demands during last year's aquifer exemption amendment public comment process, the state confirmed that CBD's CEQA claim is incorrect because the review process was not a new project requiring CEQA. ¹²

⁷ Nissen CUP Application; GIG CUP Application.

⁸ Staff Report CUP PLN2017-00110, at p. 3.

⁹ RESOLUTION NO. Z-18-13 of the East County Board of Zoning Adjustments Adopted at the Hearing of May 24, 2018, Concerning Conditional Use Permit, PLN2017-00110; RESOLUTION NO. Z-18-14 of the East County Board of Zoning Adjustments Adopted at the Hearing of May 24, 2018, Concerning Conditional Use Permit, PLN2017-00181.

¹⁰ *Ibid.*

¹¹ Staff Report CUP PLN2017-00110, at p. 1; Staff Report CUP PLN2017-00181, at p. 1.

¹² *Ibid.*; Public Comment Summaries and Responses, Aquifer Exemption Proposal: Livermore Oil Field, http://ftp.consrv.ca.gov/pub/oil/Aquifer_Exemptions/County/Alameda/Livermore/Public_Notices_and_Documents/Livermore_Response_to_Public_Comments.pdf.

		Separately and elsewhere in the state, CBD has lost this same argument in court. ¹³
	<p>Assuming CUPs preliminarily qualify for Class 1 categorical exemption, BZA may not apply the exemption without determining whether any exceptions would apply.</p> <p>Staff reports omit analysis of the adjacent Schenone oil wells.</p>	<p>Misleading and irrelevant</p> <p>No changes or exceptions were requested.¹⁴ Staff analyzed this before making a determination.</p> <p>Staff appropriately analyzed the wells contained in the CUP applications. No application was made for the Schenone wells because they operate under a separate CUP and facility permits and approvals, which just underwent review by Alameda County (the County) four years ago.¹⁵</p>
Water		
	<p>Operations pose a risk to groundwater.</p> <p>Risk to groundwater, detailed in previous comments, makes oil production incompatible with agriculture.</p> <p>There is a flawed reliance on faults to stop fluid migration.</p>	<p>Untrue and not supported by the facts</p> <p>After decades of oil field operations and produced water injection in the Livermore Oil Field, there has been absolutely no groundwater contamination.¹⁶ The totally contained (isolated) deep subsurface oil reservoir does not allow any fluid migration outside its boundaries that may affect potential underground sources of drinking water. An impermeable rock layer between groundwater above and the oil reservoir 1,500 to 2,700 feet below the ground surface prohibits upward fluid migration against gravity and out of the reservoir.¹⁷ Without this protective rock seal, there would not be an oil reservoir in the first place.¹⁸</p> <p>In cooperation with the County, E&B established three groundwater monitoring wells on the oil field and facilitated groundwater sampling and testing by a certified third party.¹⁹ This testing was recently completed and confirmed</p>

¹³ *Center for Biological Diversity v. California Dept. of Conservation, et al.*, Ruling on Petition for Writ of Mandate, Case No. 16-CV09353, San Luis Obispo Cty. Sup. Ct. (June 30, 2017).

¹⁴ Staff Report CUP PLN2017-00110, at p. 2; Staff Report CUP PLN2017-00181, at p. 2.

¹⁵ Conditional Use Permit No. PLN2014-00043 (adopted by Resolution No. Z-14-19 of the BZA on June 26, 2014).

¹⁶ Livermore Oil Operations Expert Statement, at p. 1.

¹⁷ *See id.* at p. 4.

¹⁸ *See ibid.*

¹⁹ Letter from Jennifer Brady, E&B Natural Resources, to Dilan Roe, Alameda County Environmental Health RE RO0003181 G.I.G. Addendum to Remedial Soil Excavation, May 9, 2017 Groundwater Monitoring and Request for Case Closure (July 14, 2017), available at http://gis.acgov.org/DEH/LOPDocuments/RO0003181/SWI_R_2017-07-10.pdf.

		<p>no groundwater contamination or impact whatsoever from E&B operations.²⁰ Additionally, two domestic use wells on the oil field were tested and showed no contamination.²¹ Further, Zone 7 has a groundwater monitoring well downgradient from the oil field that reports no signs of hydrocarbon contamination.²²</p> <p>The oil production wells have been and are designed and built with multiple layers of steel casing and cement to protect any possible exposure to groundwater.²³ This technology has been endorsed by the Ground Water Protection Council for its effective protection of groundwater.²⁴</p>
	Several groundwater sources in the state have been contaminated and degraded as a result of oil and gas production.	<p>Misleading and irrelevant</p> <p>Not applicable to, and has never happened with, the over 50-year-old Livermore Oil Field; these claims reference other operators or areas in the state. CBD offers no description of any specific site, or if there is one, how the groundwater became contaminated.</p> <p>Nearby groundwater testing in Livermore has shown no evidence exists that there has been any contamination whatsoever.²⁵</p>
	<p>Aquifer into which E&B plans to inject waste fluid directly also consists of high-quality water suitable for beneficial use.</p> <p>E&B reports admit that groundwater may be treated to be used for beneficial purposes to effectively remove salts, suspended solids and hydrocarbons.</p>	<p>Untrue/misleading and/or not supported by the facts</p> <p>Responding to the Federal Safe Drinking Water Act, DOGGR found that E&B's oil reservoir ("aquifer") does not currently serve as a source of drinking water and because of high total dissolved solids (TDS), very high boron, and the natural presence of oil, going forward the "aquifer" is not reasonably expected to supply a public water system.²⁶ E&B also reports</p>

²⁰ *Ibid.*

²¹ *Ibid.*

²² *Ibid.*; see Zone 7 Water Agency, Groundwater Management Program Annual Report, <https://www.zone7water.com/36-public/content/76-groundwater-management-program-annual-report>.

²³ See, e.g., Division of Oil, Gas, and Geothermal Resources - Well Search, Greenville Investment Group (APN 00120004), and related well records (last visited July 2, 2018), <https://secure.conservation.ca.gov/WellSearch/Details?api=00120004>.

²⁴ See Ground Water Protection Council, Well Construction and Groundwater Protection (last visited June 28, 2018), <http://www.gwpc.org/water-energy/hydraulic-fracturing/groundwater-protection/well-construction-groundwater-protection>.

²⁵ Livermore Oil Operations Expert Statement, at p. 1.

²⁶ Department of Conservation and the State Water Resources Control Board, Revised Statement of Basis for the Expansion of the Aquifer Exemption at the Livermore Oil Field (Apr. 2, 2018), at p. 2, ftp://ftp.consrv.ca.gov/pub/oil/Aquifer_Exemptions/County/Alameda/Livermore/Public_Notices_and_Documents/Livermore_State_ment_of_Basis%2015-day04022018.pdf.

		<p>extremely high costs to remove the unwanted solids, so much so as to make the treatment option infeasible now and for the foreseeable future.</p> <p>While treatment of produced water to potable standard is technically feasible, the first step in such a process would be oil separation from the water (E&B's current methodology) and the cost of such treatment would be very high and uneconomic compared to other sources of water.²⁷ The recycling of produced water back to the oil reservoir puts it back from where it came and benefits the maintenance of reservoir pressure.²⁸</p>
	<p>Oil contains harmful constituents, including benzene, that may migrate to cleaner portions of aquifers and degrade water quality. Numerous potential pathways exist for these chemicals to migrate and contaminate groundwater.</p> <p>The water has excessive levels of benzene and boron, pointing to the need for more disclosure to reveal what other toxic constituents may be present.</p>	<p>Untrue and not supported by the facts</p> <p>Groundwater is present approximately 500 feet above the top elevation of the oil reservoir and is separated by an impermeable cap that allowed the accumulation below it, without upward migration.²⁹ The oil wells are constructed to meet or exceed the requirements of EPA and DOGGR for protection of potential underground sources of drinking water.³⁰ Aboveground operations meet or exceed requirements for operation and containment in a manner that protects groundwater quality as well as other environmental resources. As detailed above, after 50 years of operation, Livermore Oil Field operations have not caused groundwater contamination.</p>
Seismicity		
	Project's proximity to active fault lines	<p>Untrue and not supported by the facts</p> <p>The assertion that oil production has caused or will cause significant earthquakes is not based on scientific evidence as to the Livermore Oil Field.³¹</p> <p>Injection induced seismicity has not been a concern in California.³²</p> <p>There has been no linkage of E&B's production methodology—or actual production in</p>

²⁷ See, e.g., *ibid.*


²⁸ Livermore Oil Operations Expert Statement, at p. 5.

²⁹ Aquifer Exemption, Greenville Sands Member, Clerbo Formation, Submitted by E&B Natural Resources (Dec. 6, 2016), page 5, Figure 7

³⁰ Livermore Oil Operations Expert Statement, at p. 4.

³¹ *Id.*, at p. 6.

³² *Ibid.*

		<p>Livermore—to earthquakes.³³</p> <p>No mechanism or driving force exists within the oil field that could have caused the tectonic earthquakes in 1980, 1981 or more recently.³⁴</p> <p>Reduction in pressure within the geologic formation as oil is extracted reduces stresses on the Greenville Fault.³⁵ The volumes of oil and water involved are so small that there is insufficient energy in the recycling of water produced with the oil to spawn earthquakes.³⁶</p>
History of Actions		
	<p>In April 2015, a leak from a crude oil storage tank at E&B's facility at 8647 Patterson Pass Rd, Livermore, was discovered.</p> <p>E&B failed to immediately notify the state's Office of Emergency Services, as it was required by law to do.</p>	<p>Misleading</p> <p>To improve site aesthetics, E&B removed an old, empty tank that was inherited from the previous operator.³⁷ Upon removal, a patch of dry, oil-stained soil was discovered underneath.³⁸ There was no active spill or evidence of potentially flowing oil in this area of historically stained soil.³⁹</p>  <p>Photo: Discovery of dry oil-stained soil upon tank removal (March 26, 2015)</p> <p>It is impossible to determine when or how the now dry soil was stained in the past, although it may have originated from within the tank. Nonetheless, E&B took responsibility to analyze any impacts, determined that the levels of hydrocarbon impacts warranted cleanup, and fully remediated the affected area under the oversight of the County.</p>

³³ *Ibid.*

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ *Ibid.*

³⁷ See GeoTracker, https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000007269.

³⁸ See *ibid.*

³⁹ See *ibid.*

		Dried discolored soil does not constitute a spill. The discovery of the dried soil did not meet the state indicators of a spill that would require reporting as an emergency. ⁴⁰
	BZA failed to adequately consider operator's disregard for environmental and safety regulations.	<p>Untrue and not supported by the facts</p> <p>Assertion suggests willful intent by E&B to disregard regulations.</p> <p>Staff secured, analyzed and publicly reported information from the Environmental Health Agency regarding enforcement history for this site. All items noted in inspections and other proceedings in the files have been rectified to the satisfaction of the agency with jurisdiction. Recent inspections by DOGGR⁴¹ and the Bay Area Air Quality Management District (BAAQMD) have determined regulatory compliance.</p> <p>There are no records of safety violations.</p>
	Since 2007, E&B has reported 48 spills in four counties, including Alameda.	<p>Misleading</p> <p>DOGGR requires all oil producers to self-report spills.⁴² The quantity and content reporting threshold is very low and includes a quantity as little as one barrel of produced water that spills in a totally contained and controlled area.⁴³</p> <p>As a responsible operator, E&B reports occurrences that might fall under this requirement.</p> <p>The comment is irrelevant to this CUP proceeding because E&B HAS NEVER HAD A SPILL AT ITS LIVERMORE SITE.</p> <p>CBD chooses to define the discovery of dry, oil-stained soil that is of undetermined source or unknown date of occurrence as a spill. However, as noted above, this was not a spill, and was remediated upon discovery.</p>
	E&B cited in this oil field for failing to conduct required testing on injection wells.	<p>Previously and satisfactorily corrected</p> <p>This alleged action took place during the</p>

⁴⁰ See, e.g., Cal. Governor's Office of Emergency Services, California Hazardous Materials Spill / Release Notification Guidance (Feb. 2014), http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf Assessment form, page 12

⁴¹ Letter from Charlene L. Wardlow, Northern CA District Deputy, DOGGR to Ms. Madelyn (Joyce) Holtzclaw, E&B Natural Resources Management [] RE: Compliance Letter (Oct. 4, 2017).

⁴² Gov. Code, § 8670.25; Health & Safety Code, § 25510.

⁴³ *Ibid.*

		transition of the operations from the previous operator to E&B. The former owner represented to E&B that the activity had been done. The situation was rectified when discovered, all required testing has been completed, and all wells at the field are in compliance. ⁴⁴
	Alameda County Public Health Inspectors found that E&B failed to determine if waste from seven of its tanks was hazardous before disposing of the waste as non-hazardous.	<p>Partially untrue and satisfactorily rectified</p> <p>Only one tank was involved.⁴⁵</p> <p>Through E&B administrative review and independent lab communication error, tank bottom sludge (identified as waste) that was 1.5 parts per million over threshold for lead content was misclassified as non-hazardous.⁴⁶</p> <p>The material was sent to Kern County for a beneficial reuse program allowed by the state.⁴⁷ Subsequent testing of the material at the area of beneficial reuse confirmed it was non-hazardous and safe to remain in place.</p>
	Property owner estimated at least \$200,000 in damage.	<p>Misleading and irrelevant</p> <p>Not substantiated.</p>
	Fined \$7,500 by BAAQMD in relation to storage of organic liquids.	<p>Previously and satisfactorily corrected</p> <p>In 2013, this air issue was resolved and subsequent BAAQMD inspections have been satisfactory.</p>
	Claims Central Valley Regional Water Quality Control Board (CVRWQCB) issued orders to close injection wells due to unlawful injection into aquifers that may have been suitable for drinking or agricultural uses.	<p>Although CVRWQCB does not regulate in Livermore, CBD inaccurately alleges that this agency issued "shut-in" orders for four wells in the Central Valley. This agency never issued shut-in orders for these four water disposal wells. The referenced wells were properly permitted and operating. As a result of a re-interpretation of the state's UIC Primacy Agreement, DOGGR and the State Water Board, they determined that the status of six E&B water disposal wells should be reviewed. The CVRWQCB issued information orders on two water disposal wells in May, 2015 and for four additional wells in August, 2015. Subsequently, it was determined that two of these wells could continue as they were then permitted. Following DOGGR review, four wells would need an</p>

⁴⁴ Letter from Charlene L. Wardlow, Northern CA District Deputy, DOGGR to Ms. Madelyn (Joyce) Holtzclaw, E&B Natural Resources Management [] RE: Compliance Letter (Oct. 4, 2017).

⁴⁵ Alameda County, Dept. of Environmental Health, Notice of Violation: Nissen Tank Farm (Sept. 17, 2015).

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*

		updated aquifer exemption. E&B instead voluntarily opted to close the wells. There is no evidence that the fluids injected impacted the aquifers.
	E&B history as bad operator.	Two former State Oil and Gas Supervisors have reviewed E&B's operations and found that E&B is a responsible operator, and "E&B is among the best companies in the state for compliance with regulations, and in general is considered by DOGGR to be a 'by-the-book' operator." ⁴⁸
BZA's Approvals Based on Unsupported and Incorrect Findings		
	<p>Oil production is detrimental to the public, not a "public need."</p> <p>California's oil production is a significant contributor to greenhouse gas emissions.</p>	<p>CBD's opinion, not a fact</p> <p>No evidence exists or is on record to support or confirm this allegation. The BZA found that the use is a public need: "This use is required by the public need as the applicant proposes to continue development of a valuable natural resource."⁴⁹</p> <p>According to a Stanford University international study issued by the California Air Resources Board, the Livermore Oil Field is one of the environmentally better places to produce oil. In other words, when comparing oil utilized in California from around the world, the Livermore field has one of the lowest carbon intensities for oil used in production in California.⁵⁰ As a result, oil production from Livermore to satisfy California demand has a far lower greenhouse gas footprint than other sources of oil that may replace Livermore.</p>
	E&B's unfounded claim that producing oil in Livermore would reduce greenhouse gases is contrary to basic economic principles and has been thoroughly debunked by economists and rejected by courts.	<p>CBD's opinion, not a fact</p> <p>Livermore oil production has not been reviewed and/or acted upon by economists or the courts. See above response for rationale behind E&B's statement.</p> <p>All E&B oil produced in Livermore is used in California. In addition to reducing reliance on</p>

⁴⁸ Letter from Tim Kustic, State Oil & Gas Supervisor (Retired) to the Alameda County Board of Supervisors RE: Appeal of CUPs PLN2017-00181, PLN2017-00110 (June 20, 2018); Letter from Dr. Steven R. Bohlen, former Supervisor, Division of Oil, Gas and Geothermal Resources RE: Conditional Use Permits PLN2017-00110 and PLN2017-00181 (June 28, 2018).

⁴⁹ Staff Report CUP PLN2017-00181, at p. 5; see also Staff Report CUP PLN2017-00110, at p. 5.

⁵⁰ ARB, Calculation of 2017 Crude Average Carbon Intensity Value [Draft] (May 21, 2018), <https://www.arb.ca.gov/fuels/lcfs/crude-oil/2017draft-crude-ave-ci.pdf>.

		foreign sources, this in-state use helps to avoid emissions associated with overseas transportation.
	<p>E&B's operations are not properly related to facilities in the vicinity.</p> <p>No evidence that Livermore's urban areas are a sufficient distance away from the project to adequately protect public health.</p>	<p>CBD's opinion, not a fact</p> <p>No evidence exists or is on record to support or confirm this allegation.</p> <p>E&B's operation helps maintain area's open space nature. There are no permanent building(s) on its property and E&B has active cattle grazing on site.⁵¹</p> <p>E&B's operations were legal and authorized when the East County Area Plan (ECAP) became effective. The ECAP, and CUPs within the ECAP area, consider the effects on the community of all of the activities. E&B's operations are in full compliance with the ECAP.</p> <p>E&B received letters of support from nearby neighbors and local residents representing rancher, agricultural and business interests.</p>
	Continued and expanded oil production would adversely affect health and safety and be detrimental to public welfare.	<p>CBD's opinion, not a fact</p> <p>No evidence exists or is on record to support or confirm this allegation. The ECAP and CUPs are designed in part to ensure that there would be no such adverse effects.</p>
	Staff's conclusions are not based on evidence in the record and are in fact contradicted by evidence submitted by public commenters.	<p>CBD's opinions, not facts</p> <p>Staff documented their analysis.</p> <p>Numerous speakers at the BZA meeting expressed opposition and opinions that were not supported by relevant scientific evidence or facts that were applicable to the Livermore operation.</p>
	CUP approvals do not comply with state and local law. Staff's assertion that its approvals are consistent with applicable laws and regulations is therefore incorrect.	<p>CBD's opinions, not facts</p> <p>Staff documented their analysis and the regulatory foundation for the Approval recommendation. See discussion above regarding the field being in full compliance with applicable laws and regulations.</p>
	Staff erred in stating no chemicals would be stored on-site: E&B still has not disclosed what chemicals will be used and in what quantities.	<p>Untrue and not supported by the facts</p> <p>Information on the limited number of chemicals used in operations was provided to Alameda County. All use is in compliance with all federal, state and local laws. E&B does no hydraulic fracturing, therefore chemicals that may be</p>

⁵¹ Nissen CUP Application; GIG CUP Application; and related materials.
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		associated with such activities are not on-site.
Revised Language		
	<p>BZA adopted amendments without opportunity for public review or comment.</p> <p>E&B submitted CUPs amendment after public comments. There has been no opportunity for public review or comment on the newly adopted language.</p>	<p>Misleading</p> <p>The change brought forth was a clerical change to existing language in the draft condition so no confusion would occur with regard to the fact that DOGGR has the lead jurisdiction over establishing well type.</p> <p>Language was fully disclosed in public and a public hearing was opened after edit was proposed.</p>
Approvals Threaten County's Climate		
	Center has provided ample evidence of the harm that will foreseeably result from continued operations.	<p>CBD's opinion, not fact</p> <p>No credible, fact-based evidence provided.</p>
	Operations contribute to climate change.	<p>CBD's opinion, not fact</p> <p>No credible, fact-based evidence provided.</p>
Approvals Are Contrary to Law		
	<p>CUPs do not contain a specified term after which a renewal is expressly required. BZA improperly approved a permit with new language requiring only a "review" of the permit in 10 years.</p> <p>Future applications must be required so that the public and the BZA are able to review E&B's operations.</p> <p>CUPs do not provide any explanation about what the single mandatory review would entail, whether subsequent reviews are contemplated, whether it constitutes an expiration date, or what will be reviewed.</p>	<p>Item to clarify</p> <p>E&B understood the CUP to be issued for a 10-year time period. To the extent confusion exists, there can be a clerical edit to the clause at this time to clarify this condition.</p> <p>Same as above, the mandatory review we understood as the duration of the CUP and a renewal requirement.</p>
	Operations violate the state's anti-degradation policy: Water disposal may not create pollution or a nuisance and be "consistent with the maximum benefit to the people of the state."	<p>Misleading</p> <p>Recycling the produced water with hydrocarbons removed returns cleaner water back to its source deep underground in the oil bearing formation.⁵² This has benefits, such as helping to maintain underground pressure; and avoids creating additional truck traffic that</p>

⁵² Livermore Oil Operations Expert Statement, at p. 5.

		would be required if water were transported off-site for handling in other approved disposal sites. ⁵³
	Permit approvals contrary to ECAP: "Structures <i>may not be enlarged or altered and uses expanded or changed</i> inconsistent with the ordinance, except as authorized by State law." E&B has applied for an expansion of the injection zone as well as a permit to transition to waterflooding.	Untrue and not supported by the facts In the CUP applications, E&B did not apply to enlarge or alter structures nor expand or change uses, as clearly stated in the CUP conditions of approval. ⁵⁴
	Policy 167 states: "The County shall impose conditions of approval on new Petroleum Resource Exploration and Extraction conditional use permits." Here, the conditions for approval have not changed substantially since E&B's last CUPs. Those conditions did not prevent soil contamination or improper disposal of petroleum wastes. Yet BZA believes same conditions will prevent future harm.	Misleading, and CBD's opinion, not supported by the facts This is not a new permit. CBD's supposition about the future.
Approvals Not in Interests of Current and Future County Residents		
	The Board of Supervisors has a duty to represent, and protect, the interests of its residents.	The Planning Department has received no complaints regarding the property or the facility. Residents who are nearest to the site have submitted letters supporting approval of the CUPs.

⁵³ *Ibid.*

⁵⁴ RESOLUTION NO. Z-18-13 of the East County Board of Zoning Adjustments Adopted at the Hearing of May 24, 2018, Concerning Conditional Use Permit, PLN2017-00110; RESOLUTION NO. Z-18-14 of the East County Board of Zoning Adjustments Adopted at the Hearing of May 24, 2018, Concerning Conditional Use Permit, PLN2017-00181.

ATTACHMENT 2



NATIONAL ASSOCIATION OF ROYALTY OWNERS – CALIFORNIA, INC.
Serving the Citizens Who Own California's Oil and Gas Resources

May 10, 2018

Frank J. Imhof
Scott Beyer
Matthew B. Ford
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)

Dear Mr. Beyer, Mr. Imhof and Mr. Ford:

As president of National Association of Royalty Owners–California (NARO-CA), I am writing to share the attached, fact-based, data-affirmed and scientifically reasoned document on water quality, seismicity, methane release and natural gas issues related to E&B Natural Resources' (E&B) oil production in Alameda County.

Accusations by organizations opposed to fossil fuel use are designed to incite concerns over local oil operations, whether or not the elicited concerns apply to the oil production facility in question. Additionally, these assertions are generally not grounded in scientific fact. The attachment by Dr. Steve Bohlen, Ph.D., specifically addresses each item of concern with respect to the Livermore Oil Production facility, and helps to debunk the hysteria. My hope is that you will give due consideration to scientific study, logical assessment and reasoned conclusions in making your decisions.

Dr. Bohlen's independent comments are based on his professional expertise and many years of experience as a geologist and engagement with oil and gas operations. Dr. Bohlen's previous experience includes:

- Appointee of Governor Edmund G. Brown Jr. as a senior advisor for oil and gas issues and leader of the California Division of Oil, Gas, and Geothermal Resources (DOGGR)
- Member of the U.S. EPA science advisory board for the national scientific study on the hazards of hydraulic fracturing and other well stimulation and completion practices
- Associate Chief Geologist for Science and Chief Scientist at the U.S. Geological Survey
- Executive Director of the Ocean Drilling Program

He currently serves as Program Manager for Energy and Homeland Security at the Lawrence Livermore National Laboratory and lives and works in Livermore.

The following is a summary of Dr. Bohlen's Livermore Oil Operations Expert Statement:

Assertions about oil industry contamination of "fresh water" aquifers are generally false and simply not supported by science or the operational track record. Additional claims that the state's current aquifer exemption initiative will expand operations are also not accurate. Essentially, DOGGR with its primary authority to regulate state aquifers under the Federal Safe Drinking Water Act, is simply updating defined boundaries of those aquifers, which were established in the early 1980s. This process does not permit changes to operations whatsoever.

Founded in 1980, the National Association of Royalty Owners is the only national organization representing solely, and without compromise, oil and gas royalty owners' interests.

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Further, these aquifers (i.e. oil reservoirs) naturally contain large amounts of salts, benzene, other organic compounds, boron and other metals toxic to animals and humans, rendering their water unfit to be used or treated for beneficial use. Finally, the fluids in the oil reservoir are fully contained and have been for thousands, possibly millions of years; there is no reason to expect that they will not remain so.

Local residents should have assurance that water supply wells near oil production wells are safe from contamination now and in the future. Formations into which produced water, separated of oil, is returned are much deeper than local water wells. Local wells derive water from the upper 500 surface feet and oil wells operate at depths over 1000 feet, with at least 500 feet of rock layers that completely block the flow of fluids between the two. Produced water can be returned to the oil reservoir safely and without fear of environmental damage or harm to more shallow groundwater.

Another fear concerns the creation of earthquakes from oil operations. The few such, out-of-California instances, primarily in Oklahoma, have been shown to be caused by over-injection of millions of gallons of wastewater deep into disposal wells at very high pressure. E&B does not employ this practice. E&B's conventional oil production also does not rely on hydraulic fracturing or the introduction of large amounts of chemicals with water to help extract oil. Quite the contrary, E&B's recycling of its produced water back into the reservoir helps maintain, not add to, reservoir pressure. Therefore, comparisons of oil and gas activities with those from Oklahoma, Texas, North Dakota, among other states cannot be made and are irrelevant. If a connection existed, oil production would regularly produce small earthquakes along the fault, and observational evidence over the past 50 years in Alameda County demonstrates this is not the case. **Ultimately, the risk of seismicity from oil production at the Livermore site is essentially zero.**

Opponents claim that there is a threat of leakage from the oil reservoir due to the Greenville fault, when this fault actually creates a barrier that restricts fluids from leaving the oil reservoir

An additional allegation is that oil and gas activities release significant amounts of methane and contribute greenhouse gas to the atmosphere. Opponents point to a well failure at the Aliso Canyon gas storage facility. Release of highly compressed gas from a storage facility has absolutely no connection or relevance to routine operations at a conventional oil production facility such as Livermore's. **Quite frankly, more methane is likely released each year by the cattle grazing on the grassy slopes around the oil wells than the wells will produce in their lifetime.**

An additional fear tactic is employed by connecting a natural gas explosion at a retail establishment in urban Los Angeles to E&B's operations. That natural gas incident was scientifically proven to have nothing to do with oil production. Instead it was caused by a naturally-created buildup of natural gas from decomposing organic material that seeped into a building and ignited.

The observational evidence over nearly fifty years of oil field operations at Livermore shows that oil can be produced, without incident, induced earthquakes, ground water contamination or gas leakage.

NARO-CA is a nonprofit organization representing the interests of California's estimated 600,000 private citizen oil and gas royalty owners, including those in Alameda County. We are an affiliated chapter of the National Association of Royalty Owners (NARO). Founded in 1980 NARO and its state and regional chapters represent the interests of the estimated 8.5 to 12 million private citizen oil and gas royalty owners of the United States.

On behalf of our organization, including our Alameda County members, thank you for considering these scientific findings in this process.

Sincerely,



Edward S. Hazard, President

Attachments: Livermore Oil Operations Expert Statement and Dr. Steve Bohlen Bio.

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies

KEY POINTS

1. Oil production at the Livermore Oil Field has been going on for over 50 years. Testing has proven that groundwater supplies used for drinking water by local residents or agricultural purposes has not been and is not contaminated.
2. Samples from three monitoring wells and two nearby groundwater wells water show no contamination.
3. The geologic formation from which the oil is produced forms a robust container that has trapped the oil for hundreds of thousands or perhaps millions of years; hence, when wells return produced water to the geologic formation, it is safely contained therein.
4. The geologic formation from which oil is produced is separated from the formations from which groundwater supplies are obtained by several hundred feet of rocks that preclude migration of fluids. This prevents groundwater from being contaminated.
5. Assertions that Livermore Field oil production will contaminate local groundwater supplies are not supported by the operational results of over half a century, current monitoring wells' sample results or the scientific facts of robust containment of the oil and water mixture in the geologic formation that has been the source of oil for geologically long periods.

Many claims have been made that oil and gas production has caused contamination of geologic formations containing water (aquifers) fit for use by agriculture or human consumption. The levels of concern and the number of accusations have increased dramatically as well stimulation and hydraulic fracturing practices have become more widespread across the country.

In California, in addition to accusations that well stimulation practices (hydraulic fracturing is just one type of well stimulation) cause contamination of near surface aquifers, oil and gas operations in areas of formations lacking exemption from the Safe Drinking Water Act have led to widespread, and very vocal, assertions of contamination of "fresh water" aquifers. Environmental organizations have aggressively asserted that the oil and gas industry is permanently spoiling "fresh water" aquifers statewide via their drilling activities. Although this characterization is false, the facts have difficulty being heard and considered on their merits because a small number of environmental organizations have grossly distorted the circumstances and confused and scared the public.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

Three important facts:

To be clear, there has not been nor will there be hydraulic fracturing at the Livermore Oil Field. Therefore, concerns about contamination of drinking water supplies caused by hydraulic fracturing are not relevant.

The Livermore Oil Field has never operated outside of the zone originally exempted from the Safe Drinking Water Act (SDWA). Note that the state took on the regulatory responsibilities relating to the SDWA in the early 1980s.

Accusations by a few environmental groups that approval of the Conditional Use Permit will allow E&B Resources to greatly expand the oil field operations or increase land-use intensity are conjectural and illogical. For decades, output from the Livermore Oil Field has been in the range of tens of barrel per day. It is a small field whose productivity has been prolonged by careful, steady and measured operations.

Often the life of an oil field and the ultimate recovery is dependent on careful stewardship of the resource.

Background on Aquifer Exemption Issues Across the State

In some California locations, *but not Alameda County*, oil and gas operations have been determined to operate beyond the exempted boundaries of oil-bearing formations (commonly referred to as aquifers because they generally contain more water than oil) established in the early 1980s, when the U.S. EPA granted the state primacy to regulate aquifers under provisions of the Federal Safe Drinking Water Act.

In other areas of the state, *but not Livermore*, although oil and gas activities had operated beyond the boundaries of aquifers exempted in the early 1980s, operators were extracting oil and returning produced water separated from the oil back into geologic formations containing economic amounts of oil and gas. Far from the characterization that the oil industry was permanently contaminating "fresh water" aquifers, the industry was and has been conducting operations in aquifers containing oil. Hence the water in these oil reservoirs was not then and is not now "fresh," but rather contains large amounts of salts, benzene and other organic compounds, and boron and other metals toxic to animals and humans, thus rendering the water unfit for use. Furthermore, and most important, there is no expectation that the water would ever be pumped to the surface and treated for beneficial use. The costs of pumping and treatment are prohibitive.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

In my role as State Oil and Gas Supervisor, I negotiated a compliance agreement with the U.S. EPA to return the state to full compliance with the Safe Drinking Water Act, and over the past 4 years, the Division of Oil, Gas and Geothermal Resources in partnership with the State Water Board has made significant progress on these compliance issues. Though there are many aquifer exemption amendments in process across the state, in general the state has found that:

- Oil and gas activities have been conducted in aquifers containing oil,
- The formations contained water of such poor quality so as to render the water unfit for beneficial use, and
- The geologic formations provided geologic closure – that is the formations provided containment of the fluids to within acceptable portions of the formation and leakage of the fluids beyond formation is highly unlikely.

These three conditions are central to exempting an aquifer from the provisions of the Safe Drinking Water Act.

Livermore Oil Operations and the Safe Drinking Water Act

There are several issues that need to be de-convoluted when assessing accusations that oil production in Livermore will destroy aquifers containing water that could be used by agriculture or is fit for human use.

First, as has been stated, the Livermore oil production facility operated by E&B Resources has not, does not and will not employ hydraulic fracturing or other such well stimulation techniques. Therefore, the rhetoric and accusations concerning hydraulic fracturing and well stimulation do not have any relevance in the context of oil operations in Livermore.

Second, the Livermore oil field operates within an existing geologic formation that has been exempted from the Safe Drinking Water Act. An amendment to the exemption boundary has been filed, and the Division of Oil, Gas Geothermal Resources and the State Water Board have concurred that the amendment meets all of the criteria for exemption. To emphasize what this means, both state agencies with responsibilities for the long term health of the state's aquifers and drinking water supplies have determined that the formation in which oil operations are being conducted in Livermore fully meet the three key criteria required for exemption – the formation contains oil, water quality is too low for beneficial use, and the formation is geologically closed (bounded) so fluids will not migrate beyond the boundaries of the formation.

**Livermore Oil Operations Expert Statement
Steve Bohlen, PhD**

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

Concern for Local Well Water Contamination

Given the exaggerated and often false claims about the contamination of well water supplies by the oil and gas industry across the country, local residents need to be assured that their local water supplies from wells drilled in properties adjacent to oil production wells are not in danger of being contaminated.

KEY POINTS

Several lines of evidence can provide local residents assurance that their local water supplies are safe from contamination now and into the future.

1. The groundwater in the area has been tested both in monitoring wells drilled by E&B Resources and in two wells used for domestic drinking water. The water sampled showed a null result for hydrocarbons and related compounds. Considering that the Livermore Oil Field has been in operation for over 50 years, the absence of hydrocarbons in the groundwater is significant, and demonstrates the safe operation of the oil field.
2. The formation from which oil-bearing water is extracted and into which water separated from the oil is returned is at depths much greater than local groundwater wells. The oil and water disposal wells are operating at depths in excess of 1000 feet, and at least 500 feet of geologic formations (rock layers) containing rocks that do not allow for the flow of fluids between the oil bearing formation and rocks within 500 feet of the surface. Local wells derive groundwater from the upper 500 feet of gravels and sediments near the surface.
3. As explained above, the pressures within the reservoir from which oil is extracted are decreasing very slowly with time. This means that any driving force that might push fluids out of the boundaries of the formation have been and are currently insufficient to do so and are decreasing with time.
4. As summarized above in the section on aquifer exemption requirements, the oil-bearing formation is bounded geologically by rocks that do not allow for the migration of fluids out of the formation.
5. Properly drilled and maintained wells provide multiple layers of protection against the migration of fluids out of the well. In October 2017, following inspection by the Division of Oil, Gas and Geothermal Resources, it was determined that all nine wells and their associated facilities located within Livermore Field are all in compliance with the California Division of Oil, Gas, and Geothermal's environmental regulations.

That the wells at the Livermore oil facility have been operating as designed for many years is evidence of the protection they provide to local water supplies.

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

Injection of produced water as an acceptable standard for waste removal

The recycling or return of water produced in the process of producing oil from depth is a standard practice that has been reviewed repeatedly for its efficacy and environmental safety. Indeed, many decades ago, the EPA established an entire class of disposal wells for the oil and gas industry to regulate the return of water produced with oil back into the geologic formation from which it is was produced. Hence the U.S. EPA Class II well regulations were established to protect groundwater. And the program has been successful across the country and in California.

The U.S. EPA has other classes of disposal wells for different classes of water. The fundamental point is, sequestration in geologic formations that are sealed has been, and continues to be, the preferred (and legislated) method. Produced water has been dealt with in this way for decades. For disposal wells that have been properly drilled and maintained, there has been little if any environmental harm from disposal of fluids in this way. In E&B's case, it should be further noted that the returned produced water is cleaner than when it is first pumped up.

KEY POINT

With respect to the production facility in Livermore, as noted above, the formation is geologically closed, and the water in the oil reservoir is sequestered and contained. Hence produced water can be returned to the geologic formation of its origin safely and without fear of environmental damage or harm to separate aquifers used to obtain groundwater for beneficial use.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Seismicity

KEY POINTS

1. The risk of seismicity as a result of oil production at the Livermore site is essentially zero. Scientific evidence does not support the assertion that oil production on the east side of Livermore has caused or will cause damaging earthquakes.
2. There is no mechanism or driving force within the oil field that could have caused any of the tectonic earthquakes that have occurred in 1980, 1981 or more recently. The assertion that oil production has caused or will cause significant earthquakes is not based on scientific evidence.
3. The reduction in pressure within the geologic formation as oil is extracted, if anything, reduces stresses on the Greenville Fault. The volumes of oil and water involved at the Livermore Oil Field are so small that there is insufficient energy in the recycling of water produced with the oil to spawn earthquakes.
4. Conditions that have led to well publicized earthquakes in Oklahoma and other areas of the country are irrelevant to the conditions at the Livermore Oil Field.
5. Earthquakes along the Greenville Fault, which is part of the San Andreas Fault system, are well explained and understood in the context of the regional geologic stresses and natural earthquake cycle and are tectonic in character.

Seismicity Risks from Oil Production

The risk of earthquakes from oil and gas production is a topic much in the news. Most of the headlines greatly exaggerate, confuse and conflate the earthquake risk from significant and impactful tectonic earthquakes with earthquakes induced by the injection of water produced from oil production into deep disposal wells in other parts of the U.S., most notably northern and central portions of the State of Oklahoma.

Assertions that oil and gas production activities in conventional (such as the Livermore Oil Field) and so-called unconventional oil and gas-bearing formations causes earthquakes are exaggerated. Many baseless claims have been made to scare the public into thinking that oil and gas production is too dangerous to be allowed. That said, this topic is complicated and entangles many different issues concerning earthquake risk, well stimulation practices, and produced water recycling; which provides many ways to conflate issues and promote conclusions that are not based in scientific fact.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

Seismic Risk Along the Greenville Fault

Oil production at the Livermore site has been going on for over 50 years, a period over which several earthquakes have occurred along the Greenville Fault. However, earthquakes spawned by small movements along the fault have been going on for millions of years in the past and will continue long into the future, well after any oil production has ceased. These earthquakes need to be put into the context of the full scope of earthquake activity in the northern California region, specifically the Bay Area.

Following the Loma Prieta earthquake in 1989, the USGS reported that this earthquake had reduced regional tectonic stresses such that the area was in what the USGS called a stress shadow. Based on their analysis, the USGS predicted a period of seismic quiet that would last for circa 25-30 years. As the years have passed, the analysis by the USGS has proved to be correct. Seismic activity in the Bay Area has been nearly non-existent until the past few years and the region has emerged from the seismic shadow created by fault movement in 1989. The South Napa earthquake, a few small earthquakes along the Calaveras fault south of San Jose, and a few small earthquakes along the Greenville fault are consistent with the USGS analysis and suggest a return to a more normal rate of earthquake activity in the region.

At least three lines of evidence indicate that the very modest oil production in Livermore has no connection to seismicity along the Greenville fault:

First, had there been some sort of connection, the expectation would be that oil production would have continued to produce small earthquakes along the fault on a regular basis. Instead, the Greenville along with other faults in the region, have been quiet for the past 30 years.

Second, the depth of the initiation of the earthquakes along the Greenville fault is many kilometers. The depth of initial rupture for the 1980 and 1981 earthquakes were 12 and 10.5 kilometers, or 40,000 and 35,000 feet deep, respectively. In comparison, the depth of the wells at the Livermore oil field are approximately 2,000 feet or less, and produced water, separated from the oil, is recycled into the reservoir from which it is produced. Hence there is a net reduction in pressure in the geologic formation as opposed to the buildup of pressure required for seismicity to be induced.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

Third, elementary rock mechanics (the physics of rock behavior) indicates that small pressure variations in geologic formations close to the surface (such as at the Livermore Oil Field) will have no influence on stresses at much greater depth. Put another way, there is no plausible mechanism to link the limited amounts of oil being extracted from the Livermore Oil Field to earthquakes that have rupture initiation tens of thousands of feet below, and off-set from the field by several miles.

KEY POINT

Hence, for the reasons explained above, the risk of seismicity as a result of oil production at the Livermore site is essentially zero. There is no mechanism or driving force within the oil field that could have caused any of the tectonic earthquakes that have occurred in 1980, 1981 or more recently. The assertion that oil production has caused or will cause significant earthquakes is not based on scientific evidence.

Facts and myths concerning seismicity induced by oil and gas production – general background

Some opposed to the reissuing of the conditional use permit for the Livermore Oil Field have asserted that oil production in Livermore relies on hydraulic fracturing and for this reason the risk of earthquake exists.

It is simply a matter of record that there has never been hydraulic fracturing at the Livermore Oil Field, nor will there ever be. Purposely fracturing the oil-bearing geologic formation would damage the oil reservoir and would be in fact counterproductive.

Though not an issue for the Livermore Oil Field, below is background information that allows the full picture of the risks of earthquakes from different types of oil production techniques to be put into perspective.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

Seismic Risk from Hydraulic Fracturing

Out of over a million wells drilled in North America and stimulated using hydraulic fracturing in the past 15 years, fewer than about 20 of these operations have any felt seismicity associated with them, and the kinds of wells associated with seismicity are not those that are drilled in the state of California. Of the few wells that have been stimulated by hydraulic fracturing known to have caused felt earthquakes – the cases routinely used as evidence proving increased seismic risk – are exceptionally unusual in their depth and the large volumes of water used for fracturing (several million gallons of water). Such wells have not been drilled in California. Nor is there any expectation such wells will be drilled in the state owing to the geological conditions in this state that are very different from those in other states. For example in Texas, North Dakota, Colorado, Pennsylvania geologic conditions are such that it is advantageous to drill oil and gas wells that are very deep (many thousands of feet) with very long (sometimes 2 mile long) horizontal extensions and are stimulated with large volumes (millions of gallons) of water.

Class II water disposal in California

In contrast to the situations in other states, California's geology and experience with Class II water disposal is very different. The state has over 1900 permitted Class II disposal wells that are regulated, and the volumes injected, dates and times are required to be submitted to the state. The state's disposal wells are drilled into geologically young formations with substantial amounts of porosity, and therefore formations capable of accepting significant amounts of water without increasing reservoir pressures enough to induce earthquakes. Usually, as is the case at the Livermore Oil Field, the produced water is recycled back into the formation from which the oil and water were pumped, hence ensuring that the pressure inside the formation declines with time.

Because the state is blessed with a seismic network second only to that which exists in Japan, seismologists from universities, the state and federal agencies have the opportunity to study seismicity in the state in exquisite detail, and they have been able to do so over decades.

Recently detailed academic studies (Goebel and others, *Geophysical Research Letters*, 10.1002, 2015, 1092-1099) have attempted to correlate any type of seismicity, including seismic events well below the felt threshold of around magnitude 3 and in the magnitude range 1-3 with produced water recycling. The results of these studies have been far from definitive, but do definitively show that the geologic circumstances in California are quite different from those in, for example, Oklahoma (Goebel, *The Leading Edge*, 2015, 640-648). The situation in Oklahoma has been inappropriately cited, without any scientific basis, as applying across the country. Such assertions are for all practical purposes irrelevant.

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

KEY POINT

The central point is seismicity induced by oil and gas activities in California has been non-existent the past several decades, and comparisons of oil and gas activities in California with those from Oklahoma, Texas, North Dakota, among other states cannot be made and are irrelevant.

Seismic risk for large-volume, conventional oil production

Recent analysis by the US Geological Survey of relatively large earthquakes have found that some conventional oil and gas activities, such as those around Long Beach, CA, are implicated with significant seismic activity. However, the circumstances are quite different than elsewhere in the state and harken to a bygone era. In the 1930s and 40s, the Los Angeles Basin was *the* world's supplier of petroleum. One could call southern California the Saudi Arabia of the world at that time without exaggeration. Millions upon millions of barrels of oil were pumped from super-giant (of which only a handful have been found globally) oil-bearing reservoirs in the LA Basin. In such extreme cases, seismicity can be linked to oil and gas activities, and this behavior was observed in a few places around the world but bears no resemblance to the circumstances in Livermore.

KEY POINT

To reiterate, circumstances historically extant in Long Beach, bear absolutely no resemblance to the circumstances in Livermore, or other oil-producing locations in California.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Methane emissions

KEY POINTS

1. The Livermore Oil Field does not produce natural gas as a product.
2. Comparisons to other oil fields in the state for which gas leakage has been found to be a problem are not germane to this field and are irrelevant as a comparison to the oil production processes in Livermore.
3. The amount of methane released by the cattle grazing on Livermore hillsides is very likely greater than that released by oil production.
4. There is zero risk of an incident (gas explosion or violent release of gas).

Concerns have been expressed that oil and gas activities release significant amounts of methane and hence contribute a powerful greenhouse gas to the atmosphere. Perspective is important with respect to this issue and studies show that the amount of methane released from oil and gas production methods is less than that released by agriculture and animal husbandry.

The amount of methane emitted by oil and gas activities is a topic of great interest in this state, and much scientific study is ongoing. Both the California Energy Commission and the California Air Resources Board have funded studies currently underway.

Consistent trends in data collected via these and other studies put the leakage of methane from oil and gas wells in perspective. Gas wells show much greater leakage of methane than oil wells (*Note: there are no gas wells in the Livermore Oil Field operation*). The sources of methane release are numerous in the process of producing, compressing and shipping natural gas via pipeline.

Further, studies indicate that releases of methane from oil and gas production are relatively small in comparison with leaking gas pipelines, especially in cities (*Note: there are no gas pipelines associated with the Livermore Oil Field operation*). Scientific studies indicate that about 80-85% of methane leaking into the atmosphere from the production and distribution of oil and gas comes from leaking gas pipelines of all types – from large interstate pipelines to the small pipes that provide gas for residential use. Observations within cities indicate that most of the methane lost to the atmosphere occurs in a relatively few places, known as methane leak “hotspots.”

The Livermore operations have regular inspections conducted to ensure there are no leaks. The facility is in compliance with the recently adopted California’s Air Resources Board methane emissions from oil and gas operations regulations.

**Livermore Oil Operations Expert Statement
Steve Bohlen, PhD**

Livermore Oil Field – Methane emissions (continued)

Comparisons of the risk of release of small amounts of methane from wells drilled for oil and gas production with the failure of a well at the Aliso Canyon gas storage facility are meaningless. The release of highly compressed gas from a storage facility bears no resemblance to routine operations at a conventional oil production facility, such as the one in Livermore.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Ross Dress for Less Event

KEY POINTS

1. Circumstances surrounding the Ross Dress-for-Less gas explosion in Los Angeles in March, 1985 bear no resemblance whatsoever to the Livermore Oil Field operations.
2. An independent task force empaneled to investigate the event concluded that it was caused by the build-up of pockets of natural gas produced from decay of organic matter in conjunction with a rising water table. The gas seeped into the basement of the building and was ignited.
3. Accumulations of natural gas could not be connected to the operation of oil and gas wells from previous decades.
4. Geologic conditions at the Livermore Oil Field do not resemble those under and around the general area of the Ross Dress-for-Less store.
5. The risk of a gas explosion such as the Ross Dress-for-Less event occurring at the Livermore Oil Field is zero.

Geology at Livermore versus Downtown Los Angeles

The geology near the surface surrounding the Livermore Oil Field is such that there is essentially no chance of an accumulation of natural gas pockets.

Natural gas abatement is common

Though not much needed, if at all, in the Bay Area, methane abatement is routine in much of the country. States such as Wyoming, Utah, Colorado, and Pennsylvania, to name a few, commonly have natural gas abatement requirements in areas underlain by coal seams. Natural gas, generated as part of a geologically long-term maturation of the coal, can cause a risk of explosion if gas abatement practices are not in place.

Similarly, other areas of the country underlain by recent sediments rich in organic material also have to consider natural gas abatement procedures

In short, dealing with the natural flow of natural gas from sediments is common practice across the country and around the world. Most of the areas in which natural gas abatement is practiced have nothing to do with oil development. Hence the a priori assertion that natural gas events are always, or usually, or even often connected with oil and gas production is without merit. The geology of the area under and around the Livermore Oil Field bears essentially no resemblance to those areas in which natural gas abatement is an important issue.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Essential Background

The Science of the Field

The oil production activities conducted by E&B Natural Resources are well described as conventional oil production, that is, the production of oil that has been trapped within a contained, geologic formation. Here, at the Livermore Oil Field, this formation is bounded on the eastern side by the Greenville Fault. (Indeed, the fault itself forms part of the geologic seal that has contained the oil for hundreds of thousands if not millions of years.) The water-oil mixture exists in pore spaces between the sand grains of the sandstone formation and slowly, over geologic timescales, the oil and some water migrates to the upper most part of the geologic formation, where the oil accumulates and forms an economically recoverable oil deposit.

In this type of oil deposit, the oil and water mixture are brought to the surface in one of two ways. In some cases because the pressure in the reservoir is sufficient to lift the oil/water to the surface once a well has been emplaced, the oil along with water rises naturally to the surface. In most cases, however, the reservoir pressure is insufficient to lift the oil-water mixture to the surface, so the oil and water is pumped to the surface. This latter scenario is the case for the Livermore Oil Field. The oil is then separated from the water, and the water is returned to the reservoir. Notably, as the oil is removed pressure inside the geologic formation gradually declines and so does the oil production.

Several important realities about these conventional oil production procedures are important to understand in the context of seismic activity risk as well as impacts to groundwater and other potential consequences of oil production:

**Livermore Oil Operations Expert Statement
Steve Bohlen, PhD**

Livermore Oil Field – Essential Background (continued)

KEY POINTS

1. There would be no oil accumulation were it not for the fact that the geologic setting provides a robust geologic trap for the oil-water mixture, and this geologic trap has persisted for geologic periods lasting hundreds of thousands to millions of years. The oil accumulation postdates the formation of the Greenville Fault, which helps to trap the oil in the sandstone formation from which it is produced. Hence, this trap has survived the long-term motion of the Greenville Fault, expressed as episodic earthquakes as part of the natural earthquake cycle, for millions of years. In other words, the geologic formations above, below, and all around the sandstone formation in which the oil-water mixture has been held captive have formed an impenetrable container that has lasted for very long periods of time and persisted through many, many tectonic earthquakes.
2. **This kind of conventional oil production does not rely on or require hydraulic fracturing, the injection of high-pressure fluids, or the introduction of chemicals with the water.** In fact, the creation of fractures is something the oil operator avoids completely in conventional oil production.
3. As the oil-water mixture is brought to the surface, the oil is separated and the water is returned to the reservoir both to help maintain the pressure in the reservoir and to assist with the migration of oil-bearing water toward the production wells (so-called water flooding). The water-oil mixture brought to the surface contains water that is in equilibrium with oil and therefore naturally contains a variety organic compounds including benzene. In addition, because oil forms from organisms growing in ocean water, the water in the formation is highly saline. **Hence the natural combination of salt and organics in the water render the water unfit for any use, even with the oil removed. This water is therefore safely and completely returned to the reservoir via what the U.S. EPA categorizes as Class II water disposal wells.**
4. The presence of oil, other organic compounds and chemicals, and the highly salty (saline) nature of the water in the oil-bearing formation forms the basis of the exemption of this formation from the Safe Water Drinking Act. **The water in this formation is not expected ever to be use for what is called beneficial use – either for agriculture or human consumption.**
5. Because the geology forms a robust rock-bounded container that has persisted for geologically long periods of time, the water-oil mixture contained within this rock container sequester the fluids within the formation and seals them in permanently. This means that there is no communication or connection between the fluids within the rock container and those in other formations above, below and around the oil-bearing formation. This is a second critical element in the designation of the formation as exempt from the Safe Drinking Water Act – that is, the geology forms a seal and prevents the migration of oil-bearing fluids out of the formation in which they are contained.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD



STEVE BOHLEN, PhD

Dr. Steve Bohlen has served science and society as a prominent researcher, professor, senior manager in the US Federal and CA State governments, CEO of a systems engineering and naval architecture firm, and currently a member of the Lawrence Livermore National Laboratory.

Steve is the E-Program Manager in the Global Security Directorate. E-Program's mission is to develop advanced energy technologies and manufacturing techniques and to advance the resilience of the nation's energy system to physical and cyber-attack.

A graduate of the Dartmouth College, Steve earned a Ph.D. in geochemistry from The University of Michigan in 1979. Following a postdoctoral fellowship at UCLA, he became a tenured professor at Stony Brook University. From 1995 through 2000, Steve was Associate Chief Geologist for Science at the US Geological Survey. He was responsible for the scientific priorities and funding of the broad portfolio of USGS research, including the National Earthquake Hazards Reduction, Climate Change, Global Energy, and Minerals Resource programs. As President and CEO of Joint Oceanographic Institutions from 2000-2008, Steve led the global effort in scientific ocean drilling and the Integrated Ocean Drilling Program and the systems engineering and deployment of the US National Science Foundation's Ocean Observatories. In May 2014, Steve was appointed by Governor Brown to lead the CA Division of Oil, Gas and Geothermal Resources. Steve rebuilt the Division and developed and implemented the nation's most comprehensive and environmentally focused regulations on well stimulation and hydraulic fracturing.

With a deep understanding of how the Earth works, Steve writes and speaks about future challenges and risk assessment of energy, climate, water, and food on a small planet. His 25 years of research on the evolution and stabilization of continental crust is widely cited, and he is among a select group in ISI's Web of Science of Highly Cited Researchers in the field of Geoscience (atmosphere, ocean, and solid Earth).

ATTACHMENT 3

Tim Kustic
State Oil and Gas Supervisor (Retired)
5408 Sandburg Drive
Sacramento, CA 95819

June 20, 2018

Members
Alameda County Board of Supervisors
1221 Oak St., Fifth Floor
Oakland, CA 94612

Re: Appeal of CUPs PLN2017-00181, PLN2017-00110

Dear Alameda County Supervisors:

As the former State Oil and Gas Supervisor, the leader of California's Division of Oil, Gas and Geothermal Resources (DOGGR), and before that a Supervisor in DOGGR's Inland District, with 32 years of overall experience with the Department of Conservation, I was responsible for state-wide regulation of oil and gas operations. In my various capacities, I knew about and interacted in some way with all of the oil companies in our state. As a result, I am personally familiar with E&B Natural Resources and their California activities.

I do not hesitate to note that E&B Natural Resources has a history of responsible operations and during my tenure as Supervisor they were considered a safe operator.

It was recently brought to my attention that the company's Conditional Use Permits have been challenged by an organization known to be actively opposed to any and all oil use in California. However, E&B Natural Resources consistently provided a good example of a compliant operator that similar companies would be wise to follow. During my tenure, they did not create any problems.

California oil and gas operators extract the state's natural resources in what is arguably the most regulated production environment in the country, if not the planet. It may be helpful to understand that stopping well-regulated California oil production will not stop California's oil consumption. Rather, it will increase oil imports from less, or even poorly, regulated sources.

Therefore, I recommend that Alameda County affirm the Conditional Use Permits for E&B Natural Resources' Alameda County business activities.

Sincerely,



Tim Kustic

cc: Damian Curry, Alameda County Planning Department

ATTACHMENT 4

June 28, 2018

Clerk of the Board of Supervisors
1221 Oak Street, Suite 536
Oakland, CA 94612
cbs@acgov.org

Re: Conditional Use Permits PLN2017-00110 and PLN2017-00181

Dear Honorable Members of the Board:

As you may know from the factual information I have already provided the East County Board of Zoning Adjustments, from early 2014 through the end of 2015, I served as a senior advisor to Governor Brown on oil and gas issues. At his request I undertook the rebuilding of the California Division of Oil, Gas, and Geothermal Resources (DOGGR) on a foundation of scientific and technical excellence as the State Oil and Gas Supervisor.

During my tenure as State Oil and Gas Supervisor, I had numerous interactions with many oil producers in the state in my regulatory role, E&B Natural Resources ("E&B") among them. In addition, I interacted with E&B concerning their Livermore oil production facility specifically.

I read the documentation presented by the Center for Biological Diversity (CBD) for their appeal of the Zoning Board's recommendation to renew E&B's conditional use permits for their operations. Further, I have been asked by the company to provide my perspective, informed by my time as the state's lead oil and gas regulator, on the facts and their context concerning E&B's management of this facility and their conduct statewide as a responsible, trustworthy operator. This information is in addition to the extensive review I provided in the material in the record of the Board of Zoning Adjustment's administrative record.

First, I note that in their appeal documentation, the CBD conflates several complex issues and presents marginally related or unrelated pieces of information that create misrepresentations of circumstances and information as I know them from my regulatory role.

Specifically, the appeal compiles a series of unrelated instances, which CBD uses as the foundation for the assertion:

"E&B has a worrying track record of oilfield wastewater disposal problems across the state"

From my perspective, E&B is among the best companies in the state for compliance with regulations, and in general is considered by DOGGR to be a "by-the-book" operator. The 48 spills cited sound serious unless you understand that amounts as small as a gallon

must be reported (including if you or I were to spill a gallon of orange juice, considered an acid, on our lawn). E&B had an excellent record of self-reporting, as required, during my tenure in Sacramento. From a regulator's point of view, self-reporting is a standard that separates operators who strive as a company culture to abide by all laws and regulations from those who don't. The fact that CBD has access to a list of reports they are using to demonstrate carelessness is, to a regulator, a clear indication of a willingness to comply with regulation. That is, such a list indicates a commitment to compliance and a willingness to take responsibility, and foster a culture of continuous improvement.

An important feature of the regulatory challenges operators face, among state, county and local jurisdictions, is that many overlapping sets of regulatory requirements from multiple agencies sometimes conflict. That high functioning operators with a culture of compliance are from time to time in violation of a rule or regulation, especially with respect to reporting to whom and for what, is not a surprise. What is important is that such operators self report and accept responsibility so the transgression is identified and resolved, sometimes with financial penalty. As I have said, my experience is that E&B is among a group of operators with just that kind of good reputation and compliance-driven culture.

In its appeal, CBD takes E&B's lack of reporting of the dried oil-stained soil from underneath a tank that was decommissioned and removed as, again, indicative of some alleged pattern of wrongdoing. The County can and should request the records from the DOGGR, which investigated this situation and reported to me on the findings. Again, as I recall, state regulators visited this site at least two, possibly three, times and were well aware of what E&B had found. From my perspective, and those of the DOGGR regulators on site, there was no need to report this finding as a spill to OES, and from DOGGR's point of view the company acted appropriately. The state found no cause for civil penalties. To the contrary, those state regulators who visited the site were pleased with the comprehensive remedial actions that the operator was taking to fix the situation.

With regard to accepting responsibility, the CBD appeal provides an incomplete and, of course, unflattering summary which led to an \$80,000 penalty against the company for a hazardous waste violation. The appeal does not mention if any environmental damage was done (it wasn't), but implies terrible wrongdoing by the operator. Again, from the perspective of a regulator, operators often accept penalties because the cost of fighting to set the record straight exceeds the penalty, so the company settles and moves on. In the panoply of transgressions, \$80,000 is considered a minor infraction. As Oil and Gas Supervisor, I issued and sustained civil penalties approaching \$ 1,000,000 more than once to select few operators (not E&B) who were not operating "by-the-book." I viewed penalties of less than \$100,000 as a way to get the attention of company management and to engage in a dialogue about how the operator could improve their performance.

Sadly, the CBD appeal reminds me of many interactions I had with CBD in which the same sort of innuendo, amalgamation of unrelated facts, mischaracterizations and scientifically unsubstantiated claims were used to bring suit against the DOGGR at least 18 times – nearly one each month - during my tenure as State Oil and Gas Supervisor.

Unlike many positive and productive engagements I had with other environmental NGOs, which had positive impact on how the DOGGR operated and evolved, CBD brought multiple suits and as a rule used extreme claims unsubstantiated by facts and science. Although some of these suits were adjudicated after I left my post, many concluded on my watch, and CBD *lost every one of them*.

In summary, as a regulator I find the appeal by CBD to be lacking in any context, with all issues presented as extremes that give false impressions of what I saw first hand as the state's lead regulator. The bottom line remains – the state very much needs oil (it imports twice as much as it produces each day), the Livermore oil facility has been operating without anything approaching significant environmental harm for over 50 years, and the operator has a very good record in Livermore and elsewhere.

Furthermore, despite assertions to the contrary in the appeal, curtailing oil production in California, which is CBD's stated goal, has a particularly important potential downside for the County of Alameda. That is, the increase in tanker traffic required to supply the state's oil needs which will remain nearly 2,000,000 million barrels per day beyond 2030, as indicated in State Energy Commission and Air Board's projections, presents the county with the potential for oil spills on its fragile coastlines and the potential for huge costs of clean up.

The fact remains that producing oil in the state is the safest path and, save for a few, extremely rare detrimental on shore spills, has the lowest carbon footprint.

I hope my first-hand observations, perspectives and context are helpful to the Board in making its decision.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Steven R. Bohlen", with a long horizontal flourish extending to the right.

Steven R. Bohlen



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MICHAEL N. MILLS
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michael.mills@stoel.com

July 5, 2018

VIA EMAIL AND U.S. MAIL

Heather Littlejohn, Esq.
Deputy County Counsel, Alameda County
1221 Oak St., Suite 450
Oakland, CA 94612
(510) 272-6700
Heather.Littlejohn@acgov.org

Re: E&B Natural Resources – Livermore Oil Field Operations

Dear Ms. Littlejohn:

Under separate cover, E&B Natural Resources will be submitting to the Alameda County Board of Supervisors ("Board") a written response to the joint appeal of the Center for Biological Diversity and the Livermore Eco Watchdogs (hereinafter collectively, "CBD") to the East County Board of Zoning Adjustments' ("ECBZA") decision to renew the Conditional Use Permits ("CUPs") for continued oil production at E&B's facilities located at 8617 Patterson Pass Road, Livermore, California (CUP PLN2017-00181; APN 099A-1560-003-09) and 8467 Patterson Pass Road, Livermore, California (CUP PLN2017-00110; APN 099A-1650-001-05). CBD's desired outcome under their appeal is the complete cessation of oil production operations at E&B's facilities identified above.

To the extent it is helpful to you and the Planning Department staff, we have examined whether E&B could claim a vested right to operate as a backstop to CBD's appeal. E&B's overarching goal in this appeal process is to be a good neighbor, a good corporate citizen, and cooperative, and believes that all of these goals are best achieved through renewal of the CUPs. Nevertheless, and to the extent this information helps you, we wanted to bring the matter of a vested right to operate to your attention and request that your staff examine this issue prior to the Board of Supervisors' hearing regarding the CBD appeal.

Below are some excerpts of our legal analysis relating to nonconforming vested rights to aid you in this effort. Please let us know if you need anything further information from our office in this regard.

A. E&B's Operations Appear to Predate the County's Requirement to Obtain a CUP, and Accordingly Operations May Be Considered Vested.

The regulation of oil and gas wells in the County appears to have commenced with the adoption of an ordinance titled the "Regulation of Exploratory and Production Oil Wells in Alameda County," which was adopted by the Planning Commission on June 7, 1967 and the Board of Supervisors on June 13, 1967. *See Attachment A*, hereinafter "1967 Ordinance." The 1967 Ordinance established multiple conditions that were required to be applied to oil and gas exploration and production activities, including, for example, the requirement that production conditional use permits would expire after 20 years. *See Attachment A*, 1967 Ordinance, Section IV.B.13. Prior to this time, it appears that the County approved exploratory wells as a matter of right or, at most, by a ministerial permit.

The original operator, McCulloch Oil Corp., began operations at the Livermore Oil Field prior to passage of the 1967 Ordinance, as more fully explained below, thereby establishing the use – oil operations – prior to the County requiring a CUP. The CUPs at issue were originally granted in August 1967, pursuant to the 1967 Ordinance. Since McCulloch Oil Corp. began its operations within the Livermore Oil Field, the field has been continuously operated, with E&B acquiring a partial interest in 2006, and assuming full operations of the facility in 2008, and operating the Livermore Oil Field continuously until the present time.

In reviewing the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources' ("DOGGR") files, we have determined that several wells subject to the CUPs were drilled prior to the adoption of the 1967 Ordinance and prior to the time the CUPs were obtained. E&B's predecessor-in-interest submitted Notices of Intention to Drill New Wells ("NOI") to DOGGR in December 1966 and April 1967, and drilled the wells in December 1966,¹ April 1967,² and May 1967.³ *See Attachment B*, DOGGR NOIs for Greenville Investment Group Wells (Dec. 21, 1966; Apr. 11, 1967); *Attachment C*, Nissen 1 and Nissen 2: DOGGR Well Finder Data (drill dates: May 31, 1967; June 13, 1967). In other words, these activities were commenced prior to the time the County began to require a CUP for oil and gas operations pursuant to the 1967 Ordinance.

California law recognizes that there is a vested right to continue a nonconforming use, subsequent to a zoning change. "The rights of users of property as those rights existed at the time of the adoption of a zoning ordinance are well recognized and have always been protected."

¹ Greenville Investment Group lease, Well No. 1, API No. 00100001.

² Greenville Investment Group lease, Well No. 2, API No. 00120004.

³ Nissen lease, Well No. 1, API No. 00120006.

Edmonds v. Los Angeles County (1953) 40 Cal.2d 642, 651. The vested right extends to the property on which the use existed at the time zoning regulations changed and the use became a nonconforming use. *Hansen Bros. Enters., Inc. v. Bd. of Supervisors* (1996) 12 Cal.4th 533, 560; see also *City of Los Angeles v. Gage* (1954) 127 Cal.App.2d 442, 450. “A zoning ordinance which requires the discontinuance forthwith of a nonconforming use existing when the ordinance was adopted is a deprivation of property without due process of law unless the use is a public nuisance.” *McCaslin v. City of Monterey Park* (1958) 163 Cal.App.2d 339, 346-47. “[T]he destruction of an existing nonconforming use would be a dangerous innovation of doubtful constitutionality.” *Suzuki v. City of Los Angeles* (1996) 44 Cal.App.4th 263, 274 (citations omitted).

Accordingly, E&B, as successor-in-interest to McCulloch Oil Corp., should have a vested right to continue the nonconforming use, which existed prior to the 1967 Ordinance. *Hansen Bros.*, *supra*, 12 Cal. 4th at 542 (1996) (stating that mineral operations could continue to the same extent that they were conducted by the operator’s predecessor-in-interest).

B. Post-Ordinance Development of Mineral Operations Is Permitted Under a Vested Right.

When a mineral operation is a lawful nonconforming use, *i.e.*, a vested right, progression of the operation is not a prohibited expansion or change of location of the nonconforming use. *Hansen Bros.*, *supra*, 12 Cal.4th at 553. The development and operation of a mineral operation over time is permitted as a vested right due, in part, to the nature of mineral extraction: the mineral operations must occur at the site where the minerals exist. *Id.*

For example, in the context of another type of mineral extraction – construction materials mining – California courts have held that reasonable changes to the mine’s footprint are a natural part of the business operation, especially when such extraction is first established. “The very nature and use of an extractive business contemplates the continuance of such use of the entire parcel of land as a whole, without limitation or restriction to the immediate area excavated at the time the ordinance was passed. A mineral extractive operation is susceptible of use and has value only in the place where the resources are found, and once the minerals are extracted it cannot again be used for that purpose.” *Ibid.* (emphasis added) (citations omitted).

Therefore, even if the original operator, E&B’s predecessor-in-interest, had drilled only a few wells at the time of establishing its vested rights at the Livermore Oil Field (prior to passage of the 1967 Ordinance), maintenance and operation of those wells, *as well as the later drilled*, subsequent wells on the same property, could certainly be a permitted exercise of E&B’s vested rights.

C. Obtaining CUPs for the Use Would Not Extinguish E&B's Vested Rights.

We also reviewed whether obtaining CUPs in August 1967 extinguished E&B's vested rights. Obtaining a conditional use permit does not extinguish a vested right. *Edmonds, supra*, 40 Cal.2d at 650 (finding that permit holder would have retained vested rights for nonconforming use, regardless of a subsequent issuance of a land use permit, except for the fact that he had waived his vested rights). In the *Edmonds* case, Plaintiff Edmonds had a vested right to operate a trailer park consisting of 20 trailers, and he applied for a conditional use permit in order to expand operations to 50 trailers. One explicit condition of the conditional use permit – a condition that Edmonds affirmatively agreed to – was that the nonconforming use would terminate altogether three years after the issuance of the permit. Edmonds affirmatively waived his vested right after the three-year term. A critical piece of the holding was that in order to relinquish vested rights, one must affirmatively waive the vested rights. *Ibid.*; see also *Goat Hill Tavern v. City of Costa Mesa* (1992) 6 Cal.App.4th 1519, 1529. A vested rights holder can waive their rights when obtaining different or additional rights through an entitlement, but must do so affirmatively.

Thus, E&B has never waived its vested rights. Accordingly, despite the fact that it obtained CUPs for its operations, E&B should hold a vested right to continue oil operations at the Livermore Oil Field.

D. The Rights Under the CUPs Are Bound with E&B's Vested Right, and Such Rights Would Continue Without the CUPs.

California courts have found that where an individual holds a combination of vested rights and rights granted pursuant to a conditional use permit, the vested rights and the rights under the conditional use permit become bound together. The rights granted under a conditional use permit become part of the individual's vested rights. *Goat Hill Tavern, supra*, 6 Cal.App.4th at 1531.

In *Goat Hill Tavern*, the tavern owner had a vested right to continued operations of the tavern, which had operated as a legal nonconforming use for over 35 years. *Id.* at 1526. "Goat Hill Tavern, under different ownership and name, has been in continuous operation in its present location since 1955, before enactment of the current zoning ordinance. The tavern, therefore, existed as a legal nonconforming use." *Id.* at 1522. In 1974, the tavern owner obtained a conditional use permit to allow the tavern to add a beer garden. In 1989, the conditional use permit for the tavern expired, and upon application for a renewed conditional use permit, the City of Costa Mesa ("City") eventually denied the application and refused to grant the tavern owner a renewed permit. *Id.* at 1523. On appeal by the City, the California Court of Appeal affirmed the trial court's decision and found that the tavern had a vested right to continue

Heather Littlejohn
July 5, 2018
Page 5

operation, and the vested right included those rights granted under the 1974 conditional use permit. The court found that the conditional use permit was so linked to the vested rights operations at the tavern that the two sets of rights could not be separated.⁴ *Id.*; see also *Malibu Mountains Recreation, Inc. v. County of Los Angeles* (1998) 67 Cal.App.4th 359, 367-68 ("A CUP creates a property right which may not be revoked without constitutional rights of due process.").

Similarly, E&B's rights under the CUPs are inextricably linked with E&B's vested right. Therefore, even if E&B's CUPs granted additional rights beyond E&B's vested right at the Livermore Oil Field at the time of the 1967 Ordinance, E&B should now have a vested right as to the rights granted under the original CUPs.

Conclusion

We hope you find this information helpful as you prepare for the appeal hearing on July 24, 2018. Please let me know if we can provide you with any additional background information in advance of the hearing.

Very truly yours,



Michael N. Mills

Enclosures (Attachments A C)

cc: Damien Curry, Planner, damien.curry@acgov.org (w/encls.)

ATTACHMENTS:

- A. Alameda County, Regulation of Exploratory and Production Oil Wells in Alameda County (June 13, 1967) (1967 Ordinance)
- B. DOGGR NOIs for Greenville Investment Group Wells (Dec. 21, 1966; Apr. 11, 1967)
- C. Nissen 1 and Nissen 2: DOGGR Well Finder Data (drill dates: May 31, 1967; June 13, 1967)

⁴ The trial court also ordered the City to renew the tavern owner's conditional use permit. *Goat Hill Tavern*, 6 Cal. App. 4th at 1522.

ATTACHMENT A

**REGULATION OF EXPLORATORY AND PRODUCTION OIL WELLS
IN ALAMEDA COUNTY**

Adopted by the Alameda County Planning Commission on June 7, 1967 and
by the Alameda County Board of Supervisors June 13, 1967.

**GENERAL POLICY REGARDING OIL WELL APPLICATIONS
AS EXPRESSED BY PLANNING COMMISSION ACTIONS**

- I. The 59 Exploratory well locations approved by the Alameda County Planning Commission as of May 23, 1967 have been at a density of one well per 10 acres of appropriately zoned land. This density standard continues to be appropriate for the following reasons:
 - A. There are indications that the oil deposits are located primarily in the "A-2" (General Agricultural) Zoning District; a relatively low well spacing will retain the integrity of this non-industrial zoning district. Although the lands in immediate proximity to the original facilities are generally in large ownerships, this is not the case in the areas to the northwest of the original discovery site. This established 10-acre spacing will continue to be important in these outlying areas upon which applications are expected to be made in the future.
 - B. Representatives of the industry have testified at public hearings that due to the characteristics of the deposit and the geology of the area the one well per 10-acre density is a reasonable and desirable standard to enable the most efficient and economical development of this natural resource.
 - C. The required finding that any use evaluated under a use permit application not be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood is facilitated when ample area is available to contain the use and any of its potentially adverse characteristics.
- II. Conditioning of any use permit for oil exploration or production facility should include appropriate safeguards relating to the following:
 - A. Proper disposal of drilling and production wastes to preclude pollution of underground water strata.
 - B. Fire prevention and suppression measures.
 - C. Restoration of abandoned drilling sites to their original states.
 - D. Adequate location and characteristics of access roadways.
 - E. Careful control regarding the permanent facilities that are to be located on a production site which shall be limited only to those facilities directly related to oil production and excluding permanent derrick installations.
 - F. Adequate bonding to insure compliance with all conditions of approval.
- III. Applications shall be accompanied by appropriate exhibits completely describing the proposed operations and including the following information:
 - A. Dimensioned parcel boundaries with reference to 1/4, 1/2, 3/4 and 1/8 section lines.
 - B. Proposed surface location of drilling sites and statement regarding, or description of, directional drilling if this is proposed.

C. Proposed access points from county roads.

If the application requests permanent production facilities, the following additional information shall be supplied:

D. Description and location of all roadways, work areas, piping and equipment, pipelines, storage tanks and proposed fencing and servicing.

IV. Standard conditioning normally applied to exploratory and production oil well use permit applications.

(The following conditions will be combined if the exploratory and production facility requests are contained in one application and may be supplemented by specific conditioning as requested by relevant agencies.)

A. Exploratory Well Applications:

1. There shall be full compliance with all regulations and directives administered by the Division of Oil and Gas, Department of Conservation and the Resources Agency of California.
2. This permit shall not be utilized until there is deposited with the County Building Official a bond in the amount of \$5,000, approved by the County Counsel, running to the County of Alameda - bond shall be maintained in full force and effect during the period of this permit. The purpose of this bond is to insure compliance with all conditions of approval attached to this permit. If, at the termination of this permit, the Building Official determines that all conditions have been satisfied, the bond may be released. In lieu of the \$5,000 bond, there may be deposited under the same circumstances a bond in the amount of \$20,000 to cover all operations by the permittee in the unincorporated area of the County of Alameda, regardless of the number of wells to be drilled or operated.
3. All waste material resulting from the drilling operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from said vault or sump at any time.
4. The access roads leading to the drilling sites and the working areas in the immediate vicinity of the drill sites shall be maintained in a manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern.
5. All land within a radius of one hundred feet from any derrick, tank, building, machinery or equipment used in the development, production or storage of petroleum products shall at all times be kept free and clear from dry weeds, brush, rubbish or other flammable material.
6. All lighting shall be installed so it not to cast direct glare on road or adjacent properties.
7. Adequate toilet facilities shall be provided by means of an approved portable chemical toilet with routine scheduled servicing thereof, and a potable water supply shall be provided for all employees.

8. If the well is abandoned², all drilling apparatus shall be removed from the drill site within 60 days after the well is abandoned to the satisfaction of the State of California Division of Oil and Gas; within 30 days of abandonment, all waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Azador Valley for which the San Francisco Bay Regional Water Quality Control Board has prescribed requirements which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil and Gas and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
9. If the well is completed², all drilling equipment shall be removed from the drilling site within 60 days after the completion of the well, to the satisfaction of the State of California, Division of Oil and Gas. Within 30 days of completion:
 - (a) All waste materials shall be removed from the drill site and disposed as required by Condition No. 8 above; and
 - (b) If not included in the application, a use permit shall be filed to remove gas or oil or other hydrocarbon substances.
10. Prior to exercising this permit, the operator shall furnish the local Fire Chief with the name and telephone number of an authorized representative empowered to engage a fire fighting specialist. If the local Fire Chief finds it necessary to call upon such a specialist to assist in extinguishing an oil or gas well fire, on request of the local Fire Chief the operator shall immediately furnish the assistance of a qualified specialist. The expense of such specialist shall be borne by the operator.
11. This permit shall terminate and end two years from the date of approval by the Planning Commission during which time it shall be subject to revocation for cause by the Planning Commission after seven (7) days notice and a hearing by said Commission.

D. Production Well Applications:

1. There shall be full compliance with all regulations and directives administered by the Division of Oil and Gas, Department of Conservation Resources Agency of California.
2. This permit shall not be utilized until there is deposited with the County Building Official a bond in the amount of \$5,000, approved by the County Counsel inuring to the County of Alameda - bond shall be maintained in full force and effect during the period of this permit. The purpose of this bond is to insure compliance with all conditions of approval attached to this permit. If, at the termination of this permit, the Building Official determines that all conditions have been satisfied, the bond may be released. In lieu of the \$5,000 bond there may be deposited under the same circumstances a bond in the amount of \$20,000 to cover all operations by the permittee in the unincorporated area of the County of Alameda, regardless of the number of wells to be drilled or operated. Any bond previously deposited to insure compliance with the conditions of the exploratory well permit may be transferred to insure compliance with the conditions of the production permit.

²For the purpose of this permit, the terms "completed" and "abandoned" are construed to be as defined in Sections 3208 and 3217 of Article 4, Chapter 3, Division 3 of the State of California Public Resources Code.

3. All waste materials resulting from oil production (i.e., waste oil or salt water) shall be retained in a steel tank or vault. All waste material resulting from any redrilling or deepening operation shall be contained in a vault or such and shall not be allowed to overflow or escape from any vault or tank at any time. All waste materials shall be removed from the drill site and deposited at location specified by the Alameda County Regional Water Quality Control Board. The Alameda County Regional Water Quality Control Board has prescribed requirements which permit disposal of industrial wastes, or disposed by injection into formations of porous rocks not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil and Gas and the Regional Water Quality Control Board.
4. Any redrilling or deepening of the well shall be diligently pursued to completion and shall be accomplished only by a portable vertical drilling equipment shall not be stored on the site but shall remain only as long as necessary for the completion of the redrilling or deepening operation.
5. The access roads leading to the producing well and the forced work area described in Condition No. 6 shall be gravelled and oiled or otherwise maintained in a comparable manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern. Access to County Roads shall be subject to an Attachment Permit issued by the County Road Commissioner's Office.
6. All work areas including the storage and staging equipment shall be enclosed with a minimum 7' high fence. This fenced working area shall be provided a gate of similar material which shall be kept locked when the area is unattended by authorized personnel.
7. All pipe lines located outside the fenced work area described in Condition No. 6 shall be located underground.
8. Prior to exercising this permit, the operator shall furnish the local Fire Chief the name and telephone number of an authorized representative authorized to engage a fire fighting specialist. If the local Fire Chief finds it necessary to call upon a specialist to assist in extinguishing an oil or gas well fire, on request of the local Fire Chief, the operator shall immediately furnish the assistance of a qualified specialist. The expense of such specialist shall be borne by the operator.
9. All pumping or other power operations, other than redrilling, shall be carried on by electric power not generated on the drilling site, or by natural gas internal combustion engines equipped with exhaust mufflers that prevent excessive or unusual noise.
10. All loading outlets shall be provided with a buried tank to catch any oil drip resulting from loading operations. This tank shall not be allowed to overflow at any time. The tank shall be provided adjacent to the loading outlets on off-street loading space that meets the requirements of the Alameda County Zoning Ordinance (minimum dimensions of 10' x 50' with adequate access).

For the purposes of this permit, the term "completion" is defined as set forth in Section 3268 of Article 4, Chapter 1, Division 3 of the State of California Public Resources Code.

11. Oil storage tanks shall be of the pressure cylindrical variety, shall not exceed 20' in height, and shall not provide a capacity exceeding 2,000 barrels for each well serviced.
12. If the permittee is notified by the Planning Official that any well approved by this permit is considered to be a substandard well, the permittee shall cause to be filed within 30 days of such notice a voluntarily prepared plan capable of being reviewed and administered by the Division of Oil and Gas, State of California. Upon such approval, the permit shall be amended to reflect said plan.
13. This use permit shall terminate and end 20 years from the date of approval by the Planning Commission or the Board of Supervisors, whichever shall first occur. It shall be subject to re-evaluation for cause by the Planning Commission after seven (7) days notice and a hearing by said Commission. However, that after the expiration of one year from the date of termination of said permit and thereafter at intervals of not less than three years, the Planning Commission may hold public hearings after 10 days notice to the applicant for the purpose of re-evaluating the conditions herein set forth as they relate to the public health, safety and general welfare, and may add to or delete any such conditions where it is found that such permit as then conditioned adversely affects the public health, safety and general welfare.

May 31, 1969

ATTACHMENT B

DEC 21 1966

WOODLAND, CALIFORNIA

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

001-00001

Bakersfield Calif. December 21 1966

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. "McGulloch Greenville Investment Group" ¹ 7, T. 3 S., R. 3 E. M.D. B. & M., -- Field, Alameda County.

Legal description of mineral-right lease, consisting of 145+ acres, is as follows: Consisting of all
(Attach map or plat to scale)
of the N/2 of the NW/4 of Section 7. All of the W/2 of the S/2 of the NW/4 of
Section 7, and the W/2 of the SE/4 of the NW/4.

Do mineral and surface leases coincide? Yes X No If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: 1980 feet east ^{property} along section line and 250 feet south
(Direction) (Direction)
at right angles to said line from the northwest ^{property} corner of section 7

or from N. 24 1/2 S. and E. 1/2 W.

Elevation of ground above sea level 658' feet. Topo map datum.

All depth measurements taken from top of Kelly Bushing which is 12.6 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing) 670.6

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.F.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
8-5/8"	24	J-55 R-3	12	500'	500'

Intended zone(s) of completion: Cretaceous Estimated total depth 4000'
(Name) (Depth, top and bottom)

~~Blanket Bond on file with the Bakersfield Division of Oil and Gas~~ ^{W.S. 12/1/66} ^{Blanket Bond} ^{FORM}

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address P.O. Box 1826, Bakersfield, Calif. McGulloch Oil Corporation of California
(Name of Operator)

By L. D. Banderob
L. D. Banderob, Agent

Telephone Number 805 325-1231 Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)

APR 13 1967

DIVISION OF OIL AND GAS
Notice of Intention to Drill New Well
This notice and surety bond must be filed before drilling begins

WOODLAND, CALIFORNIA

Section 3606 Well

Bakersfield

Calif.

April 11

19 67

3

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. McCulloch Greenville Investment Group, #2, T. 3S, R. 3E, M.D. B. & M., Livermore Field, Alameda County.

Legal description of mineral-right lease, consisting of 160 acres, is as follows: Northwest 1/4 of Section 7
(Attach map or plat to scale)

Do mineral and surface leases coincide? Yes X No If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: 643 feet West from N / 1/4 corner property along section line and 230 feet South
(Direction) (Direction)
at right angles to said line from the North line of Section 7 property corner of section

It is proposed to drill directionally to bottom 990' South and 330' West
of property line

Elevation of ground above sea level 658 feet by topo map datum.

All depth measurements taken from top of Kelly Bushing which is 12.6 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
10-3/4	30# & 40.5	H & I	0'	250'	250'

Intended zone(s) of completion: Greenville Sand Estimated total depth 2000'
(Name) (Depth, top and bottom)

MAP	MAP BOOK	CARDS	BOND	FORMS
0:3-10	114	121	B/B.	114 121

It is understood that if changes in this plan become necessary, we are to notify you immediately.

Address P. O. Box 1826

Bakersfield, California 93302

Telephone Number 325-1231 or 325-2213

McCulloch Oil Corporation of California

By L. D. Banderob
L. D. Banderob, District Manager

Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)

ATTACHMENT C



Department of
Conservation



Oil, Gas & Geothermal

Well Search Help

Online Data

Division of Oil, Gas, and Geothermal Resources - Well Search

Well Information

API # 00120006	Lease Nissen	Well # 1	County Alameda [001]	District 6
Operator Hershey Oil Corporation [H3900]		Field Livermore [404]	Area Any Area [00]	
Section 7	Township 03S	Range 03E	Base Meridian MD	Well Status Plugged & Abandoned
			Pool WellTypes OG	SPUD Date 5/31/1967
GIS Source hud	Datum 83	Latitude 37.69173	Longitude -121.686172	Map

Click to get Sum by County: Alameda [001] or Field: Livermore [404] or Operator: Hershey Oil Corporation [H3900]

Get sum by Field-Operator-Lease: Nissen

Well Records

Show 25 ☒ entries

< Previous 1 Next >

Showing 1 to 7 of 7 entries

File Name	Type	Size	Modified on	IF
00120006_DATA_07-14-2006.pdf	PDF	781.00 KB	3/12/2015	
00120006_5DIL1_07-14-2006.tif	TIF	827.00 KB	7/18/2006	
00120006_2DIL2_07-14-2006.tif	TIF	312.00 KB	7/18/2006	
00120006_2DIL1_07-14-2006.pdf	PDF	530.00 KB	7/18/2006	
00120006_2DIL2_07-14-2006.pdf	PDF	283.00 KB	7/18/2006	
00120006_5DIL1_07-14-2006.pdf	PDF	761.00 KB	7/18/2006	
00120006_2DIL1_07-14-2006.tif	TIF	563.00 KB	7/18/2006	

Production Data

Show 25 ☒ entries

< First < Previous Next > Last >

Showing 0 to 0 of 0 entries

Date	Oil (bbl)	Water (bbl)	Gas (Mcf)	Days Producing	Gravity	Csg	Tbg	BTU	MO	Disp	PWT Status	Well Type	Status	Pool Code
No results found														
Date	Oil (bbl)	Water (bbl)	Gas (Mcf)	Days Producing	Gravity	Csg	Tbg	BTU	MO	Disp	PWT Status	Well Type	Status	Pool Code

< First < Previous Next > Last >



Department of
Conservation


[Oil, Gas & Geothermal](#)
[Well Search Help](#)
[Online Data](#)

Division of Oil, Gas, and Geothermal Resources - Well Search

Well Information

API # 00120008	Lease Nissen	Well # 2	County Alameda [001]	District 6
Operator E & B Natural Resources Management Corporation [E0100]		Field Livermore [404]		Area Any Area [00]
Section 7	Township 03S	Range 03E	Base Meridian MD	Well Status Idle
				Pool WellTypes OG
GIS Source gps	Datum 83	Latitude 37.693752	Longitude -121.686563	Map
				SPUD Date 6/13/1967

Click to get Sum by or or

Get sum by:

Well Records

Show 25 entries

Previous 2 Next >

Showing 1 to 25 of 28 entries

File Name	Type	Size	Modified on	
00120008_DATA_03-02-2012.pdf	PDF	5.00 MB	10/5/2017	
00120008_MIT10_12-12-2011.pdf	PDF	824.00 KB	12/19/2011	
00120008_MIT_12-12-2011.pdf	PDF	824.00 KB	12/19/2011	
00120008_SAPT_12-01-2011.pdf	PDF	1.00 MB	12/19/2011	
00120008_MIT09_04-21-2008.pdf	PDF	536.00 KB	3/27/2009	
00120008_MIT_04-21-2008.pdf	PDF	536.00 KB	3/27/2009	
00120008_OTHER_05-08-2007.pdf	PDF	678.00 KB	5/10/2007	
00120008_2DIL1_06-20-1967.tif	TIF	304.00 KB	8/4/2006	
00120008_2DIL2_06-25-1967.tif	TIF	263.00 KB	8/4/2006	
00120008_MIT 2-8-99_07-26-2006.pdf	PDF	214.00 KB	8/4/2006	
00120008_MIT 4-11-01_07-26-2006.pdf	PDF	364.00 KB	8/4/2006	
00120008_MIT 5-1-95_07-26-2006.pdf	PDF	297.00 KB	8/4/2006	
00120008_MIT 6-5-92_07-26-2006.pdf	PDF	628.00 KB	8/4/2006	
00120008_MIT 8-16-05_07-26-2006.pdf	PDF	342.00 KB	8/4/2006	
00120008_OTHER_07-26-2006.pdf	PDF	176.00 KB	8/4/2006	
00120008_MIT 12-21-93_07-26-2006.pdf	PDF	1.00 MB	8/4/2006	
00120008_2DIL1_06-20-1967.pdf	PDF	276.00 KB	8/4/2006	
00120008_2DIL2_06-25-1967.pdf	PDF	239.00 KB	8/4/2006	
00120008_MIT01_09-26-1991.pdf	PDF	176.00 KB	8/4/2006	
00120008_MIT02_06-05-1992.pdf	PDF	628.00 KB	8/4/2006	

June 28, 2018

Clerk of the Board of Supervisors
1221 Oak Street, Suite 536
Oakland, CA 94612
cbs@acgov.org

Re: Conditional Use Permits PLN2017-00110 and PLN2017-00181

Dear Honorable Members of the Board:

As you may know from the factual information I have already provided the East County Board of Zoning Adjustments, from early 2014 through the end of 2015, I served as a senior advisor to Governor Brown on oil and gas issues. At his request I undertook the rebuilding of the California Division of Oil, Gas, and Geothermal Resources (DOGGR) on a foundation of scientific and technical excellence as the State Oil and Gas Supervisor.

During my tenure as State Oil and Gas Supervisor, I had numerous interactions with many oil producers in the state in my regulatory role, E&B Natural Resources ("E&B") among them. In addition, I interacted with E&B concerning their Livermore oil production facility specifically.

I read the documentation presented by the Center for Biological Diversity (CBD) for their appeal of the Zoning Board's recommendation to renew E&B's conditional use permits for their operations. Further, I have been asked by the company to provide my perspective, informed by my time as the state's lead oil and gas regulator, on the facts and their context concerning E&B's management of this facility and their conduct statewide as a responsible, trustworthy operator. This information is in addition to the extensive review I provided in the material in the record of the Board of Zoning Adjustment's administrative record.

First, I note that in their appeal documentation, the CBD conflates several complex issues and presents marginally related or unrelated pieces of information that create misrepresentations of circumstances and information as I know them from my regulatory role.

Specifically, the appeal compiles a series of unrelated instances, which CBD uses as the foundation for the assertion:

"E&B has a worrying track record of oilfield wastewater disposal problems across the state"

From my perspective, E&B is among the best companies in the state for compliance with regulations, and in general is considered by DOGGR to be a "by-the-book" operator. The 48 spills cited sound serious unless you understand that amounts as small as a gallon

cc: BOS
VCSA
OBS

must be reported (including if you or I were to spill a gallon of orange juice, considered an acid, on our lawn). E&B had an excellent record of self-reporting, as required, during my tenure in Sacramento. From a regulator's point of view, self-reporting is a standard that separates operators who strive as a company culture to abide by all laws and regulations from those who don't. The fact that CBD has access to a list of reports they are using to demonstrate carelessness is, to a regulator, a clear indication of a willingness to comply with regulation. That is, such a list indicates a commitment to compliance and a willingness to take responsibility, and foster a culture of continuous improvement.

An important feature of the regulatory challenges operators face, among state, county and local jurisdictions, is that many overlapping sets of regulatory requirements from multiple agencies sometimes conflict. That high functioning operators with a culture of compliance are from time to time in violation of a rule or regulation, especially with respect to reporting to whom and for what, is not a surprise. What is important is that such operators self report and accept responsibility so the transgression is identified and resolved, sometimes with financial penalty. As I have said, my experience is that E&B is among a group of operators with just that kind of good reputation and compliance-driven culture.

In its appeal, CBD takes E&B's lack of reporting of the dried oil-stained soil from underneath a tank that was decommissioned and removed as, again, indicative of some alleged pattern of wrongdoing. The County can and should request the records from the DOGGR, which investigated this situation and reported to me on the findings. Again, as I recall, state regulators visited this site at least two, possibly three, times and were well aware of what E&B had found. From my perspective, and those of the DOGGR regulators on site, there was no need to report this finding as a spill to OES, and from DOGGR's point of view the company acted appropriately. The state found no cause for civil penalties. To the contrary, those state regulators who visited the site were pleased with the comprehensive remedial actions that the operator was taking to fix the situation.

With regard to accepting responsibility, the CBD appeal provides an incomplete and, of course, unflattering summary which led to an \$80,000 penalty against the company for a hazardous waste violation. The appeal does not mention if any environmental damage was done (it wasn't), but implies terrible wrongdoing by the operator. Again, from the perspective of a regulator, operators often accept penalties because the cost of fighting to set the record straight exceeds the penalty, so the company settles and moves on. In the panoply of transgressions, \$80,000 is considered a minor infraction. As Oil and Gas Supervisor, I issued and sustained civil penalties approaching \$ 1,000,000 more than once to select few operators (not E&B) who were not operating "by-the-book." I viewed penalties of less than \$100,000 as a way to get the attention of company management and to engage in a dialogue about how the operator could improve their performance.

Sadly, the CBD appeal reminds me of many interactions I had with CBD in which the same sort of innuendo, amalgamation of unrelated facts, mischaracterizations and scientifically unsubstantiated claims were used to bring suit against the DOGGR at least 18 times - nearly one each month - during my tenure as State Oil and Gas Supervisor.

Unlike many positive and productive engagements I had with other environmental NGOs, which had positive impact on how the DOGGR operated and evolved, CBD brought multiple suits and as a rule used extreme claims unsubstantiated by facts and science. Although some of these suits were adjudicated after I left my post, many concluded on my watch, and CBD *lost every one of them*.

In summary, as a regulator I find the appeal by CBD to be lacking in any context, with all issues presented as extremes that give false impressions of what I saw first hand as the state's lead regulator. The bottom line remains – the state very much needs oil (it imports twice as much as it produces each day), the Livermore oil facility has been operating without anything approaching significant environmental harm for over 50 years, and the operator has a very good record in Livermore and elsewhere.

Furthermore, despite assertions to the contrary in the appeal, curtailing oil production in California, which is CBD's stated goal, has a particularly important potential downside for the County of Alameda. That is, the increase in tanker traffic required to supply the state's oil needs which will remain nearly 2,000,000 million barrels per day beyond 2030, as indicated in State Energy Commission and Air Board's projections, presents the county with the potential for oil spills on its fragile coastlines and the potential for huge costs of clean up.

The fact remains that producing oil in the state is the safest path and, save for a few, extremely rare detrimental on shore spills, has the lowest carbon footprint.

I hope my first-hand observations, perspectives and context are helpful to the Board in making its decision.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Steven R. Bohlen", with a long horizontal flourish extending to the right.

Steven R. Bohlen

Tim Kustic
State Oil and Gas Supervisor (Retired)
5408 Sandburg Drive
Sacramento, CA 95819

June 20, 2018

Members
Alameda County Board of Supervisors
1221 Oak St., Fifth Floor
Oakland, CA 94612

Re: Appeal of CUPs PLN2017-00181, PLN2017-00110

Dear Alameda County Supervisors:

As the former State Oil and Gas Supervisor, the leader of California's Division of Oil, Gas and Geothermal Resources (DOGGR), and before that a Supervisor in DOGGR's Inland District, with 32 years of overall experience with the Department of Conservation, I was responsible for state-wide regulation of oil and gas operations. In my various capacities, I knew about and interacted in some way with all of the oil companies in our state. As a result, I am personally familiar with E&B Natural Resources and their California activities.

I do not hesitate to note that E&B Natural Resources has a history of responsible operations and during my tenure as Supervisor they were considered a safe operator.

It was recently brought to my attention that the company's Conditional Use Permits have been challenged by an organization known to be actively opposed to any and all oil use in California. However, E&B Natural Resources consistently provided a good example of a compliant operator that similar companies would be wise to follow. During my tenure, they did not create any problems.

California oil and gas operators extract the state's natural resources in what is arguably the most regulated production environment in the country, if not the planet. It may be helpful to understand that stopping well-regulated California oil production will not stop California's oil consumption. Rather, it will increase oil imports from less, or even poorly, regulated sources.

Therefore, I recommend that Alameda County affirm the Conditional Use Permits for E&B Natural Resources' Alameda County business activities.

Sincerely,



Tim Kustic

cc: Damian Curry, Alameda County Planning Department



June 1, 2018

Via hand delivery and electronic mail
Clerk of the Board of Supervisors
1221 Oak Street, Suite 536
Oakland, CA 94612
cbs@acgov.org

Re: Conditional Use Permit PLN2017-00110 and PLN2017-00181

Dear Honorable Members of the Board:

Pursuant to County Code 17.54.670, the Center for Biological Diversity (the “Center”) and Livermore Eco Watchdogs (collectively, “Appellants”) hereby appeal Alameda East County Board of Zoning Adjustments’ (“BZA”) decision to grant conditional use permits PLN2017-00110 and PLN2017-00181 (collectively, the “CUPs”). The attached Appeal states the grounds for reversing the BZA decision and denying the CUPs.

Alameda County must protect its water and climate from the dangers of oil and gas extraction. Residents deserve a safe, sustainable future, and the county must adhere to and support state, national, and international efforts to protect the environment and climate. That is why the public overwhelmingly opposes extending and expanding E&B Natural Resources’ oil extraction project. We urge the Board to prioritize the health and safety of county residents over the narrow, short-sighted interests of the oil company.

Thank you for considering this important matter.

Respectfully submitted,

/s/ Deborah McQueen
Deborah McQueen
Livermore Eco Watchdogs
<http://www.livermoreecowatchdogs.org/>



Hollin Kretzmann
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612

Enclosures

Cc:
Alameda County Planning Department
224 W. Winton Avenue, Rm. 111
Hayward CA 94542

BEFORE THE ALAMEDA COUNTY BOARD OF SUPERVISORS

In the Matter of Center for Biological Diversity's
Appeal of Alameda East County Board of Zoning
Adjustments Approval of Conditional Use Permits
PLN2017-00110 and PLN2017-00181

}
}
} Appeal
}
} (County Code 17.54.670)
}
}

INTRODUCTION

Pursuant to Alameda County Code section 17.54.670, the Center for Biological Diversity (the "Center") and Livermore Eco Watchdogs (collectively, "Appellants") hereby appeal the Alameda East County Board of Zoning Adjustments' ("BZA") decision to approve conditional use permits PLN2017-00110 and PLN2017-00181 (collectively, the "CUPs"). The approvals are not based on adequately supported findings, are inconsistent with local and state law, and are contrary to the interests of the residents of this County. Appellants request the Board of Supervisors to deny these permits to protect the county's groundwater and general welfare.

BACKGROUND

E&B Natural Resources operates an oil extraction projects near Livermore, California. E&B's operations consist 8 oil production wells, one wastewater injection well, and a variety of ancillary structures and equipment such as pipelines, storage and processing tanks, fencing, and a well head pump. The operation is spread across three adjacent parcels, but at bottom it is a single interconnected operation. The BZA has issued separate CUPs to the operations on each parcel.

The operation is directly above high-quality groundwater resources. Water closer to the surface has been drawn for beneficial use. The deeper aquifer also contains high-quality groundwater that could be used for beneficial uses after some treatment.

E&B operated under two conditional use permits that expired in January 2018. In 2017, E&B Natural Resources applied for two conditional use permits to extend its operations for another 10 years. The permit applications first came before the BZA on February 22, 2018. The Appellants submitted written and oral comments opposing each application, and the BZA postponed a decision until a later date.

The BZA announced that it would consider the permits again at its May 24, 2018 meeting. Appellants and more than 300 residents submitted comments opposing the project. Two days prior to the meeting, the BZA issued two staff reports recommending approval of the CUPs. Appellants received these two reports on May 21, 2018. The BZA made attachments and other related materials available on May 22.

The Center submitted supplemental comments on May 23 to address some of the omissions and inaccuracies contained in the staff reports.

At the May 24 meeting, numerous local residents spoke in opposition to the permits. Following public comments, a representative for E&B proposed and submitted handwritten changes to the permit. Despite overwhelming opposition to the project and the absence of any opportunity for the public to review these last-minute changes, the BZA adopted E&B's proposed changes and approved both permits. Appellants file this timely appeal pursuant to County Code 17.54.670.

GROUND FOR APPEAL

Appellants have raised numerous concerns regarding the propriety and validity of the permit approvals. Those concerns include, but are not limited to, the following:

I. E&B's History of Environmental Violations Endanger County and Its Residents

The BZA failed to adequately consider the operator's long history of disregard for environmental and safety regulations, which has resulted in scores of spills and accidents across the state. Since 2007, E&B has reported 48 spills in four counties, including Alameda.¹

a. 2015 Livermore Leak and Contamination

E&B has been cited in this very oil field for failing to conduct required testing on the safety of their injection wells. In April 2015, a leak in from a crude oil storage tank at E&B's facility at 8647 Patterson Pass Rd, Livermore was discovered², allowing chemicals to leach into the soil below the tank. E&B failed to immediately notify the state's Office of Emergency Services, as it was required by law to do.³

In May the company arranged for testing of soil affected by the leak, which revealed contamination with substances including lead, toluene and ethyl benzene.⁴ After "investigative excavation," it was determined that the contamination was "beyond the capabilities of company personnel."⁵ At some point E&B moved 10 yards of soil from the contaminated site to another of E&B's facilities in Livermore, to be used as part of a secondary containment soil berm.⁶

¹ See List of E&B Spills reproduced from Cal. OES database, Attachment 1 (available at [https://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](https://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) [last visited May 22, 2018].)

² Governor's Office of Emergency Services, Hazardous Materials Spill Report Control Number Cal OES - 15-4361 NRC, <https://w3.calema.ca.gov/operational/mal haz.nsf/f1841a103c102734882563e200760c4a/736acb9e8379b22c88257e9100774b31?OpenDocument&Highlight=0,E,B,Natural,Resources>, last visited September 18, 2015.

³ Cal. Health & Saf. Code § 25510(a).

⁴ Letter from Juan Magana, Project Manager, Zalco Laboratories to Jennifer Brady, E&B Natural Resources Corp, (Jun. 3, 2015).

⁵ Alameda County Health Care Services Request for Voluntary Remedial Action Agreement (Aug. 5, 2015), p. 1.

⁶ Alameda County Department of Environmental Health Inspection Report for 8467 Patterson Pass Road (Jun. 11, 2015) ("ACDEH Report"), p. 4.

By the time Alameda County Environmental Health officers inspected the site in June, the spill extended more than 12 feet deep, and went beyond the boundaries of E&B's leased property.⁷ The State Water Resources Control Board has identified that an aquifer used for drinking water supply may be affected by the spill.⁸ On June 11, 2015, following a site visit by Alameda County Public Health officials, the County found that E&B Resources was in violation of section 25510(a) of the California Health and Safety Code because it failed to immediately notify the California Unified Program Agencies ("CUPA") and the California Office of Emergency Services Warning Service of a release of hazardous material.

Even after this notice of violation, E&B Resources would not contact the Office of Emergency Services for another seven weeks. It finally notified the Office of Emergency Services until July 29, 2015,⁹ approximately four months after the spill was first discovered.¹⁰

This spill puts California's precious groundwater supplies at risk during an historic drought. The work plan shows that groundwater in the area where the spill occurred is extremely shallow – initial groundwater in saturated zone is anticipated to be less than 60 feet below grade, with the potential for even shallower zones.¹¹ The depth of the spill was at least 12 feet below ground surface. Residential wells are between 100 – 350 feet below ground surface, and municipal and irrigation wells are between 315-810 feet below ground surface.¹² The spill occurred less than half a mile from an aqueduct that transports water from the Delta to San Jose, and less than half a mile from Patterson Reservoir.

b. Other violations in the Livermore Oilfield

These were not the only violations of state law and regulations found at E&B's Alameda County sites. In addition to the failure to report the produced water spill, Alameda County Public Health Inspectors found that E&B Resources had failed to determine if waste from seven of its tanks was hazardous before disposing of the waste as non-hazardous.¹³ Water analysis for the tank bottom sludge of one tank showed lead levels of 6.4 mg/L, which requires disposal as hazardous waste; and results for three other tanks showed differentiating hazard levels. All this waste was disposed of as non-hazardous.¹⁴

The failure to determine whether its waste was hazardous, and to maintain analysis results for three years, was contrary to section 66262.11 and 66262.40(c) of Title 22 of the California Code of

⁷ *Id.* at p. 3.

⁸ State Water Resources Control Board GeoTracker, GIG Facility Soil Cleanup (T10000007269), http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000007269, last visited September 16, 2015.

⁹ Governor's Office of Emergency Services, Hazardous Materials Spill Report Control Number Cal OES - 15-4361 NRC, <https://w3.calema.ca.gov/operational/mal haz.nsf/f1841a103c102734882563e200760c4a/736acb9e8379b22c88257e9100774b31?OpenDocument&Highlight=0,E,B,Natural,Resources>, last visited September 16, 2015.

¹⁰ *Ibid.*: "Per the Caller: The release came from a facility storage tank. The release was discovered in April 2015, date and time unknown."

¹¹ *Ibid.* at p. 1.

¹² *Ibid.*

¹³ ACDEH Report, p. 1.

¹⁴ *Ibid.*

Regulations. E&B's failure to determine whether its waste was restricted from land disposal was contrary to section 66268.7(a) of Title 22 of the California Code of Regulations.¹⁵

The company also failed to include on its annotated site maps of the locations of its fire extinguishers at 8467 Patterson Pass Road,¹⁶ and its hazardous material storage, fire extinguishers and spill kits at 8617 Patterson Pass Road,¹⁷ contrary to sections 25505(a)(2) and 25508(a)(1) of the California Health & Safety Code. Further, it failed to submit a Hazardous Materials Inventory Chemical Description page to the California Unified Program Agencies ("CUPA"), contrary to section 25506 of the California Health & Safety Code.¹⁸ Finally, the hazardous waste generator EPA identification number for 8617 Patterson Pass Road was inactive, contrary to section 66262.12 of Title 22 of the California Code of Regulations.¹⁹

Ultimately, the county district attorney was forced to take action against E&B for illegally and improperly disposing of hazardous waste from its site. E&B was fined over \$80,000²⁰, and the property owner estimated at least \$200,000 in damage.²¹ Additionally, in 2014, E&B's facilities in Alameda County were fined a total of \$7,500 by the Bay Area Air Quality Management District in relation to its storage of organic liquids.²²

c. Other E&B violations of note

In October 2014, E&B agreed to pay almost \$40,000 to settle charges brought by the Central Valley Water Board that E&B illegally dumped about 5,000 gallons of oilfield wastewater and crude oil into two unlined pits in the Poso Creek Oil Field.²³

In May, 2013, the County of Los Angeles ordered J. and H. Drilling Co., a sub-contractor working on an E&B site at Hermosa Beach,²⁴ to cease drilling without the required Public Health Permit.²⁵ An E&B spokesperson acknowledged that E&B was supposed to file the required permits.²⁶

¹⁵ *Id.* at p. 2.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ *Ibid.*

²⁰ RPM Holdings LP, letter to Department of Conservation (Jan. 24, 2017), p. 2

²¹ *Id.*, Exhibit C – *People v. E&B Natural Resources Management Corp.* Case No. RG1684266 (Super. Ct. Alameda County, 2016, No. RG1684266, Stipulation for Entry of Final Judgment and Permanent Injunction.

²² Bay Area Air Quality Management District, Board of Directors Regular Meeting Agenda (Sept. 3, 2014), pp. 29, 33, available at http://www.baaqmd.gov/~media/files/board-of-directors/2014/brd_agenda_090314.pdf?la=en

²³ Cox, John, Oxy Settles Charges it Illegally Dumped Waste, *The Bakersfield Californian*, (Oct. 7, 2014), available at http://www.bakersfield.com/news/oxy-settles-charges-it-illegally-dumped-waste/article_2769c68c-c492-571f-b659-8a0a534170db.html.

²⁴ East Bay Reader News, Hermosa Beach Residents Catch E&B Drilling without County Permit, (May 15, 2015), available at <http://www.easyreadernews.com/70181/hermosa-beach-residents-catch-eb-drilling-without-county-permit/>.

²⁵ Los Angeles County Public Health, Notice of Violation and Order (May 10, 2013), p. 1.

²⁶ *Ibid.*

In May, 2015, the Central Valley Regional Water Quality Control Board issued an order closing four of E&B's injection wells in the Central Valley because those wells were unlawfully injecting fluids into aquifers not designated as exempt under the federal Safe Drinking Water Act.²⁷ This followed the closure in March, 2015 of two of E&B's injection wells²⁸ that were injecting oilfield waste water, also containing oil and trace chemicals, into aquifers that may have been suitable for drinking or agricultural uses.²⁹

E&B has a worrying track record of oilfield wastewater disposal problems across the state, including 48 spills reported since 2007 in 4 counties.³⁰ It is clear from E&B's long history of spills, leaks, and legal violations across California that the operator cannot be trusted to follow any restrictions or conditions issued concurrently with the exemption, and thus should not be allowed to continue and expand its operations.

II. There Has Been No Environmental Review of the Project's Impacts

Incredibly, despite the well-documented dangers of oil and gas operations, E&B's Livermore operations have never been subject to environmental review. The BZA, the Board, and the public have had no opportunity to analyze the true extent of the harms and potential impacts of the project. In essence, the BZA approved a project without knowing what the consequences will be, nor did it explore potential mitigation or alternatives that could lessen the harm to the environment.

The Staff Reports incorrectly state that this permit is categorically exempt from environmental review requirements under the California Environmental Quality Act (CEQA). E&B's intentions to expand and change its operations (or at the very least, the reasonably foreseeable scenario in which E&B expands), disqualifies these permits from CEQA categorical exemptions. (See Section III, *supra*.) DOGGR, the state regulator that issues permits for waterflooding, does not appear to have initiated any sort of CEQA review. Thus the County must take responsibility for analyzing the environmental impacts of these activities. The record before the board does not indicate that E&B's oil and gas operation has ever been scrutinized under CEQA. As such, any changes would have to be analyzed.³¹ E&B's expansion would render the Class 1 exemption inapplicable.

Moreover, even assuming the CUPs preliminarily qualify for the Class 1 categorical exemption, the BZA may not apply the exemption without determining whether any exceptions would apply.³² Here, E&B's proposed permits would not qualify for a categorical exemption because when E&B total oil and gas operations are considered, together and over time, the project would likely result in significant environmental impacts.³³ The Staff Reports fail to analyze the environmental impact of all of E&B's oil

²⁷ Central Valley Regional Water Quality Control Board, Order Pursuant to California Water Code section 13267 (May 15, 2015).

²⁸ California Department of Conservation, Division of Oil, Gas and Geothermal Resources, Calif. Division of Oil, Gas and Geothermal Resources Seeks End to Injection in Kern, Tulare County Wells (Mar. 3, 2015), available at <http://www.conservation.ca.gov/index/news/Documents/2015-03%20Division%20of%20Oil,%20Gas,%20and%20Geothermal%20Resources%20orders%20UIC%20wells%20shut%20in.pdf>.

²⁹ Baker, David, State Shuts 12 Oil Company Wells That Pumped Waste into Aquifers, SF Gate (Mar. 3, 2015), available at <http://www.sfgate.com/business/article/State-shuts-12-oil-company-wells-that-pumped-6112846.php>.

³⁰ See List of E&B Spills reproduced from Cal. OES database, Attachment 1 (available at [https://w3.calema.ca.gov/operational/mal haz.Fnsf/\\$defaultview](https://w3.calema.ca.gov/operational/mal haz.Fnsf/$defaultview) [last visited May 22, 2018].)

³¹ See *Lewis v. Seventeenth District Agricultural Assn.* (1985) 165 Cal.App.3d 823, 835-838 (Blease, J., concurring)

³² Cal. Code Regs. tit. 14, § 15300.2.

³³ *Id.* § 15300.2(b).

and gas operations in the Livermore oil field, improperly separating its analysis into two separate reports while acknowledging that the operations are connected. The Staff Reports also omit analysis of the adjacent Schenone oil wells, owned and operated by the same company.

Further, the unusual circumstances of the project increases the risk of significant environmental impacts.³⁴ The circumstances particular to this project and this operator have been discussed more fully in the Center's previously submitted comments, incorporated herein, including the projects proximity to active fault lines, the flawed reliance on faults to stop fluid migration, and the operator's history of spills and noncompliance. In *Meridian Ocean System, Inc. v. California State Lands Commission* (1990), the court held that an agency could consider the deleterious effects of the applicant's prior activity in assessing whether unusual circumstances were present.³⁵

III. The BZA Did Not Account for E&B's Plans for Expansion

The Staff Reports erroneously state that E&B proposes no expansion or changes to its current operations. The Project Description also asserts that operations will continue "without changes or expansion of the site at this time." This is incorrect. It is willful denial to view the tripling of the injection area as anything but an expansion.

First, E&B is seeking to triple the area into which it can inject wastewater—from 26 to 75.4 acres—a fact that is conspicuously absent from both the Staff Reports. In 2016, E&B submitted an application to the Division of Oil, Gas, and Geothermal Resources ("DOGGR") to exempt a far greater area of the aquifer from the federal protections that would ordinarily apply to groundwater of this quality.³⁶ DOGGR, the State Water Board, and E&B refer to the proposed aquifer exemption as an "expansion."³⁷

The Staff Reports' assertion that the aquifer exemption process seeks to "more clearly define"³⁸ the aquifer's boundaries amounts to nothing more than wordplay. The Staff Reports also assert that the "Aquifer Exemption process is not being conducted at the behest of E&B Resources."³⁹ That is patently false. It was E&B that submitted the application for an aquifer exemption in December 2016. The application's title page states that it was prepared by and submitted by E&B Natural Resources. That is in fact what federal law requires. Federal regulations specify that the "[o]wners or operators of Class II enhanced oil recovery ... wells may request that the Director approve an expansion of the areal extent of an aquifer exemption...."⁴⁰ That is the case here.

³⁴ Id. § 15300.2(c).

³⁵ *Meridian Ocean Sys. v. State Lands Com.*, (1990) 222 Cal.App.3d 153, 164.

³⁶ E&B Aquifer Exemption Revision Application (2016), submitted by E&B Natural Resources.

³⁷ E&B Aquifer Exemption Revision Application (2016), p. 4 (E&B states it is "proposing the Exemption Area boundaries be expanded."); *Id.* at Appx. IV; DOGGR, State Water Resources Control Board, Statement of Basis for the Expansion of the Aquifer Exemption at the Livermore Oil Field, December 9, 2016 ("Expansion of the Aquifer Exemption at the Livermore Oil Field.")

³⁸ PLN 2017-00181 Staff Report at p. 4.

³⁹ PLN2017-00181 Staff Report at p. 4.

⁴⁰ 40 C.F.R. § 144.7(d).

E&B's explanation is equally unavailing and misleading. In its April 30, 2018 submission to the BZA, it asserts that the aquifer exemption is "federally required."⁴¹ But nothing "requires" the U.S. EPA to exempt a federally protected underground source of drinking water. Rather, an exemption approval is required *if an operator wants to expand injection activity into a larger area of the aquifer*.⁴² E&B's desire to expand is what triggers this requirement. An approval requires a change in federal regulations, and since the earliest days of these regulations, California has only added or expanded exemptions for federally protected aquifers a handful of times.

E&B also disclosed plans to expand its operations to incorporate previously unpermitted activities. Namely, it plans to conduct secondary recovery water injection, i.e., waterflooding, an enhanced oil recovery technique.⁴³ Rather than mere disposal of the toxic wastewater generated through oil production, E&B now intends to inject that waste fluid and through increased pressure displace oil and move it toward production wells.

Even if E&B's claim that it does not plan to expand were credible, the proposed CUPs are unclear on what activities would constitute expansion and require future review. The proposed permits do not expressly prohibit expansion and in fact contain language *contemplating* expansion. They note that if E&B were to expand in the future, "it would consist of drilling new wells, changing an existing producing well to a water disposal well, or vice versa."⁴⁴ (See also Project Description: "no changes or expansion of the site *at this time*."⁴⁵ The CUPs also mention "redrilling or deepening," suggesting that those activities, which expand the reach of E&B's current operations, would be allowed. Such activities would constitute expansion and would not be part of the existing project. Should E&B expand after receiving these CUPs through these techniques, it is unclear whether the County plans to impose a requirement to seek a new permit.

IV. The BZA's Approvals Are Based on Unsupported and Incorrect Findings.

A. Oil production is detrimental to the public, not a "public need."

Oil production has resulted in unprecedented levels of greenhouse gas emissions and climate change. California's oil production is a significant contributor to greenhouse gas emissions. In response, the state intends to reduce its greenhouse gas emissions over the coming years. At a time when the public needs its public officials to be acting to reduce fossil fuel production as much and as quickly as possible, choosing to allow E&B's operations would be inimical to the public interest.

⁴¹ E&B, Comparison of Center for Biological Diversity Allegations and E&B Responses (undated), p. 2.

⁴² 40 C.F.R. § 144.7

⁴³ E&B Aquifer Exemption Application (2016), p. 2 (The company has publicly stated that it intends to "either modify or cancel the existing [state underground injection control permit] and replace it with a [permit] for secondary recovery water injection....").

⁴⁴ PLN2017-00181 p. 4

⁴⁵ *Id.* at p. 2.

The BZA staff claims, without any support, that oil extraction is “required by the public need” because E&B would develop a “valuable natural resource.”⁴⁶ The statement does not explain why oil extraction is required, how it benefits the community, or why it is more important than protecting another natural resources—groundwater.

E&B’s unfounded claim that producing oil in Livermore would reduce greenhouse gases is contrary to basic economic principles and has been thoroughly debunked by economists and rejected by courts. When fundamental supply and demand maxims are applied, it is clear that reducing oil production in California is not negated by increases elsewhere.⁴⁷ Furthermore, when paired with a decrease in *demand* for oil, as California has planned, the benefits from reducing supply are even greater.

What is *required* in terms of oil production is well established by the scientific community: fossil fuel extraction must dramatically decrease in order to have a chance of avoiding the worst effects of climate change. That means keeping oil in the ground.

B. E&B’s operations are not properly related to facilities in the vicinity.

The Staff Reports’ finding that there are “similar facilities” in the area appears to refer to other oil wells owned and operated by E&B on neighboring parcels. These wells are all part of the same operation and should not be artificially piecemealed to prop up this finding. The risk to groundwater, detailed in previous comments, makes oil production incompatible with agriculture. Several groundwater sources in the state have been contaminated and degraded as a result of oil and gas production. Oil companies have faced multiple lawsuits from farmers after oil and gas development damaged or killed nearby crops.

Finally, there is no evidence that Livermore’s urban areas are a sufficient distance away from the project to adequately protect public health. Such analysis might have been made in an environmental impact report, but here there is none. Air and water pollution can travel long distances from the well site and threaten public health and safety for residents miles away.

C. Continued and Expanded Oil Production Would Adversely Affect Health and Safety and Be Detrimental to Public Welfare.

As discussed in previous comments, E&B’s operations are likely to result significant environmental impacts, including air and water pollution and damage to the climate. The staff’s conclusion that the 1967 conditions will “guarantee”⁴⁸ against pollution is belied by the history of E&B site. These same conditions were in place in 2015 when county officials found hazardous waste leaching into the soil. Needless to say, guarantees of future protections ring hollow.

Again, because there has been no environmental review of the project and its potential impacts, the staff’s conclusions are not based on evidence in the record and are in fact contradicted by evidence submitted by public commenters.

D. Continued and expanded operations would be contrary to law.

⁴⁶ PLN2017-00181 Staff Report at p. 5.

⁴⁷ E&B’s has shown that ceasing its production would have any noticeable effect on the global oil market. If it did, a decrease in oil supply would increase the price and lower demand. E&B would also have to assume it costs nothing to transport oil or that oil demand is completely inelastic for its conclusions to hold water.

⁴⁸ PLN2017-00110, p. 6.

As discussed further below, the CUP approvals do not comply with state and local law. The staff's assertion that its approvals are consistent with applicable laws and regulations is therefore incorrect.

E. The Staff Erred in Stating No Chemicals Would Be Stored On-site

The Staff Report for PLN2017-00110 asserts, without support, that “there are no hazardous materials stored on-site.”⁴⁹ The record demonstrates this not the case. Well maintenance, equipment maintenance, redrilling and well works, and other related activities employ the use of chemicals. E&B admits it will apply “chemical surfactants” to the produced water before injecting it into the formation as part of its waterflooding operation.⁵⁰ Yet E&B still has not disclosed to the public what chemicals will be used and in what quantities. E&B states that it has provided information regarding chemical use to the County.⁵¹ Yet the Staff Reports contain no information on what chemicals will be used.

III. The Approvals threaten Alameda County's water and climate

The Center has provided ample evidence of the harm that will foreseeably result from continued operations of E&B's oil extraction project.

A. E&B's operations pose a risk to groundwater.

DOGGR and the State Water Board confirmed that there is high quality groundwater where E&B plans to operate.⁵² These groundwater resources will be put at risk of contamination from petroleum and the chemicals used in oil production processes being moved around the subsurface. Alameda's agriculture and wineries depend on having clean, ample supplies of clean groundwater, especially when the next drought hits California. Sacrificing this water for the convenience of a single oil company would be short-sighted and conflict with the long-term interests of our communities and local economy.

First, the water table near the surface consists of high-quality groundwater that would be put at risk be E&B continuing and expanding operations. Neither E&B nor state regulators have shown that the toxic waste fluid injected via injection wells will stay in the intended zone. E&B has also failed to disclose what chemicals will be used in operations.

Second, the slightly deeper aquifer into which E&B plans to inject waste fluid directly *also* consists of high-quality water suitable for beneficial use. E&B's own report admits that the groundwater may be treated to be used for beneficial purposes to effectively remove salts, suspended solids and hydrocarbons.⁵³

⁴⁹ PLN2017-00110, p. 5.

⁵⁰ E&B Aquifer Exemption Revision Application at p. 2.

⁵¹ E&B, Comparison of Center for Biological Diversity Allegations and E&B Responses, p. 5.

⁵² Statement of Basis (2016), p. 2.

⁵³ E&B Aquifer Exemption Revision Application, Appendix VII, “Veolia Opus II” brochure (unpaginated).

Oil and gas operations like E&B's use harmful chemicals in all phases of development, including drilling, well maintenance, enhanced oil recovery, and well cleanout. E&B admits that it uses "small amounts of chemicals," but has not disclosed a list of chemicals it will use nor the quantities of those chemicals. Oil itself contains harmful constituents, including benzene⁵⁴, a carcinogenic chemical, that may migrate to cleaner portions of aquifers and degrade water quality. There are numerous potential pathways for these chemicals to migrate and contaminate groundwater. As the Center explained in its January 15, 2017 Comment Letter to DOGGR regarding the Livermore Aquifer Expansion Application (attached and incorporated herein), chemicals can move vertically or laterally via permeable strata, faults, dips and other formations when oil production is introduced.⁵⁵

Despite the necessity of chemical use in oil and gas operation, there is no list of chemical information in the record. E&B provides no information on chemicals used in the oil field in the processes of oil extraction and well maintenance, although these chemicals can make their way into produced water, ultimately putting groundwater resources at risk. However, even with the little information provided, it is clear that the water has excessive levels of benzene and boron, pointing to the need for more disclosure to reveal what other toxic constituents may be present.

All chemicals that could make their way into produced water, including those protected by trade secret claims, must be disclosed if an accurate assessment of the risks to USDWs is to be made. This is especially so considering the injected fluid may migrate to other parts of the aquifer.

B. E&B's operations contribute to climate change.

This project is inconsistent not only with United States' climate commitments under the Paris Agreement but also with California's mandates for rapid statewide GHG emissions reductions. California has strict mandates to rapidly reduce emissions to prescribed levels by the years 2020, 2030, and 2050. The Governor's Executive Order B-30-15 and Senate Bill 32 establish an ambitious greenhouse gas emissions reduction target for California of 40 percent below 1990 levels by 2030. Executive Order S-3-05 calls for the state to reduce emissions levels by 80 percent below 1990 levels by 2050.

Locking in continued and expanded oil production in Alameda County for another 10 years directly contradicts.

IV. The Approvals are contrary to law.

A. The State Requires an Environmental Impact Report

Under California's foundational environmental law, CEQA, an agency must conduct an environmental review before granting discretionary approval for a project that will or may potentially have significant impacts on the environment. Here, despite well-documented harms associated with oil and gas projects,

⁵⁴ DOGGR, Benzene in Water Produced from Kern County Oil Fields Containing Fresh Water (1993)

⁵⁵ See Center for Biological Diversity, Public Comment Letter re: Livermore Aquifer Expansion Application (Jan. 25, 2017), pp. 21-25.

the BZA approved the permits without disclosing, studying, or evaluating the environmental harms.

B. E&B's Operations Violate the State's Anti-degradation Policy

State Water Resources Control Board Resolution 68-16 requires that waters of the state must be protected "to promote the peace, health, safety, and welfare of the state."⁵⁶ Water disposal may not create pollution or a nuisance and be "consistent with the maximum benefit of to the people of the state...." Allowing wastewater injection into the Livermore aquifer, Greenville sands is inconsistent with this statewide policy.

C. The Approvals Do Not Comply with the County Ordinances

The CUPs are inconsistent with Alameda County Code in multiple ways.

1. Permit approvals would be contrary to the East County Area Plan.

The East County Area Plan ("ECAP") is clear that "[w]hile the ordinance does not affect existing parcels, development, structures, and uses that were legal at the time it became effective, structures *may not be enlarged or altered and uses expanded or changed* inconsistent with the ordinance, except as authorized by State law."⁵⁷ As described above, E&B has applied for an expansion of the injection zone as well as a permit to transition to waterflooding.

Furthermore, Policy 167 states: "The County shall impose conditions of approval on new Petroleum Resource Exploration and Extraction conditional use permits to protect future onsite and nearby uses from potential impacts resulting from petroleum exploration or extraction; potential impacts include but are not limited to traffic, noise, dust, health and safety, and visual impacts, as well as land contamination, surface and groundwater contamination, improper disposal of petroleum wastes, and improper site reclamation. The conditions should at least include, but not be limited to, those developed through the California Environmental Quality Act review process, and shall be monitored accordingly." Here, the conditions for approval have not changed substantially since E&B's last conditional use permits. Those conditions did not prevent soil contamination or the improper disposal of petroleum wastes. Yet the BZA believes the same conditions will prevent future harm. Moreover, the BZA failed to conduct an environmental review pursuant to CEQA.

2. E&B's Conditional Use Has Not Been Confined to the Property.

The BZA cannot approve conditional unless it establishes that "under all circumstances and conditions of the particular case, the use is properly located in all respects as specified in Section 17.54.130, and otherwise the board of zoning adjustments shall disapprove the same." (Alameda County Code Section 17.54.140.) The County Health Department confirmed that E&B's leak went beyond the boundaries if

⁵⁶ State Water Resources Control Board Resolution No. 68-16.

⁵⁷ ECAP at p. i. (emphasis added).

E&B's parcel.⁵⁸ Over the next ten years, it is highly likely that pollution migrating into the air, water, and soil will result from these inherently dangerous operations. Thus, approval is improper under Section 17.54.140.

3. The CUPs Do Not Contain a Specified Term

Pursuant to County Code 17.54170, the "approval of a conditional use permit may be valid only for a specified term...." The CUPs do not contain a specified term after which a renewal is expressly required. Instead, the BZA improperly approved a permit with new language requiring only a "review" of the permit.

While past permits have included a finite period of operation, the CUPs removed the expiration date: "in lieu of a 20 year term prior to expiration, there shall be a mandatory review in ten (10) years..."⁵⁹ The CUPs do not provide any explanation about the what the single mandatory review would entail, whether subsequent reviews are contemplated, whether it constitutes an expiration date, or what will be reviewed. The operator may interpret this change in the permit as a license to continue its operations in perpetuity, until the last drop of oil is extracted from the formation. This interpretation could handcuff future efforts by the BZA and Board of Supervisors if they take action to protect natural resources from harm.

Approval without a specified expiration is irresponsible. As oil becomes harder to extract, oil companies turn to more dangerous and intensive methods to extract oil. Already, E&B is turning to waterflooding to maintain its oil production. In the future, it may employ other dangerous techniques to extract harder-to-reach oil. At the very least, future applications must be required so that the public and the BZA are able to review E&B's operations.

4. The BZA Adopted Amendments without Opportunity for Public Review or Comment

At the May 24 BZA meeting, E&B submitted a handwritten amendment to the CUPs and requested the BZA approve the CUPs containing the new language. E&B's submission came after the public had submitted comments on the permit. As a consequence, there has been no opportunity for the public to review or comment on the newly proposed and adopted language in the CUPs. The last-minute additions contravene the letter and spirit public notice requirements under County Code section 17.54.830, which are intended to offer a fair opportunity for the community affected by a proposed permit to voice its opinion.

V. The Approvals Are Not in the Interests of Current and Future Alameda County Residents.

⁵⁸ ACDEH Report, p. 4.

⁵⁹ PLN2017-00181 at p. 6.

At its core, the decision to allow E&B to extend its operations prioritizes the narrow, financial interests of a single oil company above the well-being of area residents. The Board of Supervisors has a duty to represent, and protect, the interests of its residents. The BZA failed to do so, but by denying these ill-conceived permits, Alameda County has a chance to rectify this mistake and move the county toward a safer, more sustainable future.

CONCLUSION

For the foregoing reasons, we urge the Board of Supervisors to deny Conditional Use Permits PLN2017-00110 and PLN2017-00181.

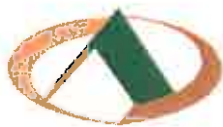
Respectfully submitted,

CENTER FOR BIOLOGICAL DIVERSITY



By: _____

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**ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT**

STAFF REPORT

TO: EAST COUNTY BOARD OF ZONING ADJUSTMENTS

HEARING DATE: MAY 24, 2018

GENERAL INFORMATION

APPLICATION

TYPE AND

NUMBER: CONDITIONAL USE PERMIT, PLN2017-00110

OWNER/

APPLICANT: RPM/E&B NATURAL RESOURCES/HOLTZCLAW

PROPOSAL: To allow continued operation of an oil production facility.

ADDRESS AND

SIZE OF PARCEL: 8467 Patterson Pass Road, south side, 950 feet west of Greenville Road, Livermore area of unincorporated area of Alameda County, bearing Assessor's Parcel Number: 099A-1650-001-05. Approximately 55.8 acres.

ZONING: "A" (Agricultural)

GENERAL PLAN

DESIGNATION: Large Parcel Agriculture (East County Area Plan)

ENVIRONMENTAL

REVIEW: This project is Categorically Exempt under *California Environmental Quality Act*; Article 19, Section 15301, Class 1, Existing Facilities.

RECOMMENDATION

Staff recommends the subject application for approval, subject to the included conditions.

PARCEL ZONING HISTORY

January 8, 1955, the 61st Zoning Unit classified the subject property and surrounding area into the "A" (Agricultural) District.

August 7, 1967, Conditional Use Permits, C-1762 and C-1763, conditionally approved production oil wells on the site with expiration in 20 years.

August, 1987, Conditional Use Permit, C-5275, allowed operation of oil production facilities with expiration of 20 years.

November 8, 2007, Conditional Use Permit, C-8653, allowed continued operation of oil production facilities with an expiration date of November 8, 2017.

SITE AND CONTEXT DESCRIPTION

Physical Features: The project site is a 100 foot by 200-foot, fenced portion of a 55.8 acre parcel. An unimproved access road extends 180 feet from Patterson Pass Road to a 20-foot-wide access drive and security gate. The interior equipment area has a gravel covered surface. The improvements within the lease area consist of equipment for the two oil production wells. No storage tanks are located on the site, as the production is conveyed by pipeline to tanks on the adjacent property. Access to the facility has been altered in recent years to favor an entrance shared with an access road for other uses on the property. An olive orchard has been recently planted between the facility and Patterson Pass Road. To the west of the lease area is a circa 1902 residence, with other residential accessory and structures, barns, and other structures supporting equestrian and landscaping uses on the property.

Adjacent Area: The area is primarily open grazing and dry farming lands. Other oil production and storage facilities operated by the applicant are located to the east (Nissen) and to the north across Patterson Pass Road (Schenone). To the northeast is a water management facility with several industrial structures, and to the northwest on an adjacent parcel are several dozen pieces of heavy equipment in apparent storage, mostly aggregate haul trailers with some semi- and construction tractor equipment. South Bay Aqueduct is to the east of the subject property and the Lawrence Livermore Laboratory is to the west across Greenville Road. Scattered rural residences are located on nearby parcels.

PROJECT DESCRIPTION

The applicant proposes to continue the operation of an oil production facility, without changes or expansion of the site at this time. The oil water mixture from the two on-site wells is transferred via pipeline to tanks located on the easterly adjacent parcel.

REFERRAL RESPONSES

Alameda County Fire Department, Fire Prevention Bureau: Responded to the referral request on February 7, 2017 stating that a Fire inspection is required for fire clearance.

Building Inspection Department: Responded to the referral request on August 10, 2017 without objection to the proposed project.

Clean Water Division, Alameda County Public Works Agency: As of February 15, has been contacted on two occasions without response to date. As of 3:30 February 15, in an email response indicated the staff will out of the office until February 20th.

Grading Division, Alameda County Public Works Agency: Responded to the referral request on August 10, 2017 without comment.

Land Development, Alameda County Public Works Agency: As of February 15, has been contacted on two occasions without response to date.

Alameda County Environmental Health Agency, Hazardous Materials Division: Responded on April 30, 2018 with a compliance history for both the GIG and Nissen oil production facilities, as well as information related to correspondence from the applicant and from the Center for Biological Diversity (CBD).

California State Department of Conservation, Division of Oil Gas, and Geothermal Resources: In a letter dated October 4, 2017, the Division stated that the subject facilities, and other facilities operated by the applicant in the vicinity are in compliance with the Department's environmental regulations.

STAFF ANALYSIS

Background and Analysis

The applicant proposes to continue operation of the subject facility with no proposed changes. The facility was originally authorized in 1967. Prior approvals of the subject facility have been based on a policy adopted by the Board of Supervisors on June 13, 1967. A water and oil mixture from two on-site wells is transferred via pipeline to tanks located on the easterly adjacent parcel.

The subject application was on the EBZA agenda for February 22, where it was moved from the action agenda. Action was continued for both this application and Conditional Use Permit PLN2017-00181 for the oil production facility on the adjacent property to avail staff time to provide information from the Environmental Health Agency regarding its site enforcement history. An attached is a letter dated April 30, 2018 from that Agency's Hazardous Materials Division to the Planning Department summarizes the Agency's recent inspection record and conclusions. Background information referenced in the letter is included in the public record.

Subsequent to the February 22 hearing, Planning Department staff met with individuals representing the Center for Biological Diversity (CBD) and Livermore Eco Watchdogs. Concerns raised by groups opposed to the application include impacts on local water quality, a potential for the site to expand beyond the current operation (with attention given to an Aquifer Exemption process currently under review by the Federal EPA), and other local and global issues such as seismicity and climate change. For this and another application for the same applicant on the adjacent property, staff have received 11 letters of support and 12 letters in opposition to the continued operation, and about 320 emails titled "Reject conditional use permits for EandB Natural Resources."

The protection of drinking water sources is the responsibility of the California State Water Board and Regional Water Board, State Department of Conservation, and the Federal EPA under the Safe Drinking Water Act. The process for the Aquifer Exemption was initiated by the Division of Oil Gas and Geothermal Resources (DOGGR) in consultation with the Federal EPA. These reviews are conducted for hydrocarbon-producing aquifers that are subject to the Federal Safe Water Drinking

Act. These reviews are being conducted statewide for dozens of oil producing reservoirs. The intent of this process is to more clearly define the boundaries for each reservoir using a combined scientific and geological package created by the field operators and critically reviewed by the agencies.

E&B Resources is the only site operator at this hydrocarbon bearing aquifer, which is also referred to as the Livermore Oil Field. According to DOGGR and the applicant, the Aquifer Exemption process is not being conducted at the behest of E&B Resources. E&B has no plans for changes to the current facilities. If E&B were to develop such plans in the future, it would consist of drilling new wells, changing an existing producing well to a water disposal well, or vice versa. Such changes would require permitting through DOGGR, through a process carried out with public notification.

Compliance with General Plan

The subject parcel is within the boundaries of the East County Area Plan, adopted by the Alameda County Board of Supervisors in May of 1994, most recently amended by the Board in May 2002 to reflect the provisions of Alameda County voter-approved Measure "D" Initiative. The land use designation for the property is Large Parcel Agriculture (LPA). Properties under this designation are limited to "a maximum building intensity" for residential uses of 12,000 square feet, for non-residential buildings .01 FAR of the entire parcel, but not less than 20,000 square feet. Total FAR for residential buildings is about 6,000 square feet, within the 12,000 square foot maximum. Under the guidance of the East County Area Plan, there is an allowable FAR of 25, 167 square feet, using the overall parcel area of 55.8 acres. Total square footage of the non residential structures on the subject property is about 20,000 square feet, which is well within the maximum. The applicant lease area does not contribute to the on-site building intensity.

Minimum parcel sizes under the Large Parcel Agriculture designation are 100 acres. This 55.8 acre parcel, having been created prior to the minimum parcel size requirement, would be considered to be legal non-conforming. In addition to uses such as quarries and utility corridors, this designation allows "similar uses compatible with agriculture." A well operated oil production facility can allow the space and the conditions for other uses to operate unfettered on the same property. With adherence to conditions of approval, uses such as the subject request are compatible with agriculture and consistent with the General Plan.

Compliance with Alameda County Zoning Ordinance

The application for an oil production facility on this parcel was first considered and approved by Alameda County Planning in August of 1967, with Conditional Use Permit, C-1762. Section 17.06.040 H. (*Conditional Uses – Board of Zoning Adjustments*) provides as a conditional use "Drilling for and removal of oil, gas or other hydrocarbon substances." Therefore, the processing of the subject application through the procedures for the Conditional Use Permit is appropriate.

Prior conditions of approval appear to have appropriately regulated these oil production facilities in the eastern Livermore area. Policy in this regard was adopted by the Board of Supervisors on June 13, 1967, and continues to be in effect. Prior applications for the operations on this property have been approved for 20-year terms, consistent with this policy. This is a substantial time over which to anticipate changes in the area that might result in land use conflicts that should be addressed by this permit. Therefore, the recommended period to review is for a period of ten years.

A site inspection by Planning Staff noted that the parcel is fenced and gated with a six feet high steel

slated fence. The gate is locked and has a Fire Department access lock, and emergence contact information is posted at the entry gate. The gate has a sign prohibiting smoking. Access in recent years has been changed from the northwest corner of the lease area to the lease area's eastern side, and consolidated with another driveway.

State of California Requirements

This facility is regulated by the State of California, Natural Resources Agency, Department of Conservation, Division of Oil, Gas and Geothermal Resources. (DOGGR). A letter from DOGGR dated October 4, 2017 indicates that inspections have determined that this and other E&B facilities within the Livermore Field are in compliance with DOGGR environmental regulations.

The State of California Dept. of Conservation requires bonding for similar guarantees of meeting conditions at a much higher level, in this case, a \$100,000 bond for the applicant's wells. The applicant currently maintains this bond. Given the larger size of the required State bond and the redundancy of any County bond, staff suggests that requirements for a County bond be waived, provided that the applicant submit evidence of this bond following this approval and at the time of each bond renewal. The applicant has provided a letter dated April 19, 2017, that states that evidence of the required State Bond is provided in a copy of "Standard Conditions for regulation of Production Oil Wells", providing a copy for County records. (Attached).

Alameda County Agencies

Alameda County Environmental Health Department Certified Unified Program Agency, (CUPA) identifies and regulates hazardous materials, and sites that contain hazardous materials. A CUPA Permit is not required for this site because there are no hazardous materials stored on-site. The CUPA was closed out with Alameda County Environmental Health in 2016.

For the purposes of prior permits on this and other similar oil production facilities in Alameda County, the oil production use was conditionally approved under the Alameda County Zoning Ordinance, which was in turn considered to be in conformance with the Alameda County General Plan. The findings necessary to reach this conclusion were made both before and after the adoption of the Alameda County East County Area Plan (ECAP) in 1994. Subsequently, the ECAP was amended by the passage of Alameda County Measure D in November, 2000 (officially adopted by the County Board of Supervisors in May 2002).

CONCLUSION

The continued operation of the subject oil production facility is consistent with the General Plan, and compliant with the Zoning Ordinance. The facility has been in operation for 50 years and when adherent to conditions of approval will continue to be compatible with the agricultural uses on the property. Moreover, the establishment fulfills a public need by providing continued development of a valuable natural resource for the community.

The proposed permit, if approved, would expire in ten (10) years if not renewed as conditioned herein.

TENTATIVE FINDINGS BASED ON INFORMATION AVAILABLE PRIOR TO THE PUBLIC HEARING:

1. Is the use required by the public need?

Yes. The Applicant proposes continued development operation and production of a valuable natural resource.

2. Will the use be properly related to other land uses and transportation and service facilities in the vicinity?

Yes. The facility is within the area of other similar facilities and at present the use remains compatible with the surrounding agricultural uses. Urban uses are a sufficient distance from the oil well facility so that these uses will be mutually protected for the foreseeable term of this permit.

3. Will the use, if permitted, under all circumstances and conditions of this particular case, materially affect adversely the health or safety of persons residing or working in the vicinity, or be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood?

No. The standard conditions of approval guarantee this finding.

4. Will the use be contrary to the specific intent clauses or performance standards established for the District in which it is to be considered?

No. All requirements of this County and the State Division of Oil, Gas and Geothermal Resources must be met. The use is consistent with the zoning of the area and in conformance with the Alameda County General Plan.

RECOMMENDATION

Staff recommends that the East County Board of Zoning Adjustments (EBZA) conditionally approve the application, with the determination that this is an appropriate land use at this location, and that the enclosed findings and conditions of approval should be considered.

1. Approval to allow continued operation of an oil production facility consisting of 2 oil production wells within a 100 foot X 200 foot, fenced lease area, in an "A" (Agricultural) District, located at 8467 Patterson Pass Road, south side, approximately one half mile east of Greenville Road, Livermore area of unincorporated Alameda County, bearing Assessor's Parcel Number: 99A-1650-001-05, subject to the following conditions:
2. The permit for this facility shall continue to be subject to Standard Conditions for Regulation of Production Oil Wells (attached and listed below), dated June 13, 1967, except that in lieu of a 20 year term prior to expiration, there shall be a mandatory review in ten (10) years, and that no bond shall be required by Alameda County, provided that the applicant/permittee shall submit evidence of the required State bond within 30 days of this approval and at the time of each bond renewal for the duration of this permit.

STANDARD CONDITIONS ADOPTED BY BOARD OF SUPERVISORS JULY 13, 1967

3. All waste material resulting from the drilling operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from said vault or sump at any time.

4. The access roads leading to the drilling sites and working areas in the immediate vicinity of the drill sites shall be maintained in a manner so as to reduce dust production. An access road shall not alter the existing drainage pattern.
5. All land within a radius of one hundred feet from any derrick, tank, building, machinery or equipment used in the development, production or storage of petroleum products shall at all times be kept free and clear from dry weeds or grass, rubbish, or other flammable material.
6. All lighting shall be installed so as not to cast direct glare on roads or adjacent properties.
7. During any drilling or redrilling operation, adequate toilet facilities shall be provided by means of an approved portable chemical toilet with routine scheduled servicing thereof, and a potable water supply shall be provided for all employees.
8. If any well is abandoned, all drilling apparatus shall be removed from the drill site within 60 days after the well is abandoned to the satisfaction of the State of California Division of Oil, Gas and Geothermal Resources; within 30 days of abandonment, all waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Board has prescribed requirement which permit deposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil, Gas and Geothermal Resources and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
9. If any well is completed, all drilling equipment shall be removed from the drilling site within 60 days after the completion of the well to the satisfaction of the State of California, Division of Oil, Gas, and Geothermal Resources. Within 30 days of completion all waste materials shall be removed from the drill site and disposed as required by Condition No. 8 above.
10. All waste materials resulting from oil production (ie. Waste oil or salt water) shall be retained in a steel tank or vault. All waste material resulting from any redrilling or deepening operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from any vault or sump at any time. All waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Board has prescribed requirement which permit deposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil, Gas and Geothermal Resources and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
11. Any redrilling or deepening of the well shall be diligently pursued to completion and shall be accomplished only by a portable derrick; drilling equipment shall not be stored on the site but shall remain only as long as necessary for the completion of the redrilling or deepening operation.

12. The access roads leading to any producing well and the fenced work area described in condition No. 13 shall be graveled and oiled or otherwise maintained in a comparable manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern. Access to County Roads shall be subject to an Encroachment Permit issued by Alameda County.
13. All work areas including the storage and pumping equipment shall be enclosed within a minimum 7' high fence. This fenced working area shall be provided a gate of similar material which shall be kept locked when the area is unattended by authorized personnel.
14. All pipe lines located outside the fenced work area described in Condition No. 13 shall be located underground.
15. All pumping or other power operation, other than redrilling, shall be carried on by electric power and not generated on the drilling site, or by natural gas internal combustion engines equipped with exhaust mufflers that prevent excessive or unusual noise.
16. All loading outlets shall be provided with a burlap tank to catch any oil-drip resulting from loading operations. This tank shall not be allowed to overflow at any time. There shall be provided adjacent to the loading outlets an off-street loading space that meets the requirements of the Alameda County Zoning Ordinance.
17. Oil storage tanks shall be of the permanent cylindrical variety, shall not exceed 20' in height, and shall not provide a capacity exceeding 2,000 barrels for each well serviced.
18. If the permittee is notified by the Building Official that any well approved by this permit is located within a subsidence area, the permittee shall cause to be filed within 30 days of such notice a "Voluntary Repressuring Plan" capable of being approved and administered by the California State Division of Oil, Gas and Geothermal Resources. Upon approval, the permittee shall implement said plan.
19. Prior to exercising this permit, the operator shall furnish the local Fire Chief with the name and telephone number of an authorized representative empowered to engage a fire fighting specialist. If the local Fire Chief finds it necessary to call upon such a specialist to assist in extinguishing an oil or gas well fire, on request of the local Fire Chief the operator shall immediately furnish the assistance of a qualified specialist. The expense of such specialist shall be borne by the operator.
20. The property owner, permittee, or its successor, shall defend, indemnify, and hold harmless Alameda County or its agents, officers, and employees from any claim, action, or proceeding against Alameda County or its, agents, officers or employees to attack, set aside, void, or annul Conditional Use Permit, PLN2017-00110, the findings of the CEQA determination, or any combination thereof. Such indemnification shall include, but not be limited to, an award of costs and attorney's fees incurred by Alameda County in its defense. The County shall promptly notify applicant of any such challenge.
21. A mandatory review shall be conducted ten years from approval for this Conditional Use Permit, PLN2017-00110. As a result of the mandatory review, a permit for renewal and public hearing may be required to review the original conditions of approval to determine

compliance with the findings that supported the original permit approval. Any condition of approval modified or added will ensure the activity continues in conformance with the intent and purpose of the zoning ordinance, and shall be of the same force and effect as if originally imposed. Review costs shall be borne by the applicant.

22. Permittee or successor shall maintain compliance with the requirements of the following agencies:
- a. Alameda County Public Works Agency, Building Inspection Department
 - b. Alameda County Public Works Agency, Land Development Department
 - c. Alameda County Fire Department
 - d. Division of Oil, Gas and Geothermal Resources, California State Department of Conservation
 - e. Zone 7 Water Agency

ATTACHMENTS

Referral Responses

Photographs

EXHIBITS

PREPARED BY: Damien Curry, Planner

REVIEWED BY: Sonia Urzua, Senior Planner

Figure 1 – Overview of Site Operation



Figure 2 – View of Facility from Patterson Pass Road





Alameda County Fire Department

Fire Prevention Bureau

Plan Review Comments

399 Elmhurst Street, Room 120, Hayward, California 94544 (510) 670-5853 Fax (510) 887-5836

02/07/2018

Alameda County
Community Development Agency
Planning Department
224 West Winton Ave., Room 111
Hayward, California 94544

To	Richard Tarbell	PLN #	2017-00110
Address	8467 Patterson Pass Rd.		
Job Description	Cup for continued operation of an oil production facility.		
Reviewed By	Cesar Avila, Deputy Fire Marshal		

Review of Planning referrals are usually based on information and plans that lack sufficient information and details for specific comments. The primary focus of our review is to assure fire access to the site. Specific fire and building code issues will be addressed during the regular building permit submittal and review process.

Conditions of Approval

The following conditions shall be met prior the issuance of a building permit and fire clearance for occupancy.

Fire inspection required. Contact Alameda County Fire Department at 510-670-5853 to schedule an inspection.



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT

Chris Bazar
Agency Director

PROJECT REFERRAL

Albert Lopez
Planning Director

224
West Winton Ave
Room 111

Hayward
California
94544

phone
510.670.5400
fax
510.785.8793

www.acgov.org/cda

Date: July 20, 2017
RE: Case No. PLN2017-00110
Conditional Use Permit

Due Date: August 10, 2017

ACPWA JOHN ROGERS
ACPWA CLEAN WATER DIVISION
ENV HEALTH HAZARDOUS MATERIALS
ARIU LEVI
DIVISION OF OIL, GAS AND
GEOTHERMAL

ACPWA BUILDING DEPARTMENT
ALAMEDA CO. FIRE DEPT.
ACPWA GRADING DIVISION

CALIFORNIA DEPT OF CONSERVATION

BRUCE JENSEN, SENIOR PLM

The following application is referred to you for your information and recommendation:

To allow to continued operation of an oil production facility., located at 8467 Patterson Pass Rd (Unincorporated), Side: East Distance; Direction; Of Cross Street: SE corner of Green Valley, unincorporated area of Livermore

APN: 099A-1650-001-05

This project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA), and State and County CEQA Guidelines (Section 15301 - Class 1, Existing Facilities), as the project is limited to the operation, maintenance, and permitting of a existing use, structure(s) or facilities with minor repair or alteration, involving negligible or no expansion of the use beyond that existing at the time that the County takes action on this project, or is otherwise consistent with CEQA Guidelines for Class 1 projects.

Receipt of your comments by the indicated due date will enable the inclusion of relevant information in the preparation of a written staff report; otherwise, please initial and date below that your organization, department or agency has no comment and return this notice by the indicated due date.

Please send a copy of your recommendation(s) to the applicant.

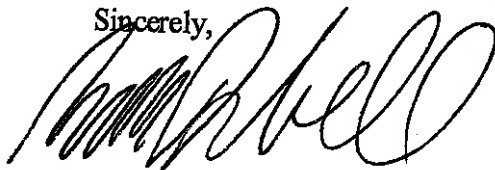
PROJECT REFERRAL

Date: July 20, 2017

RE: Case No. PLN2017-00110

If you have any questions, please contact me at the above number.

Sincerely,



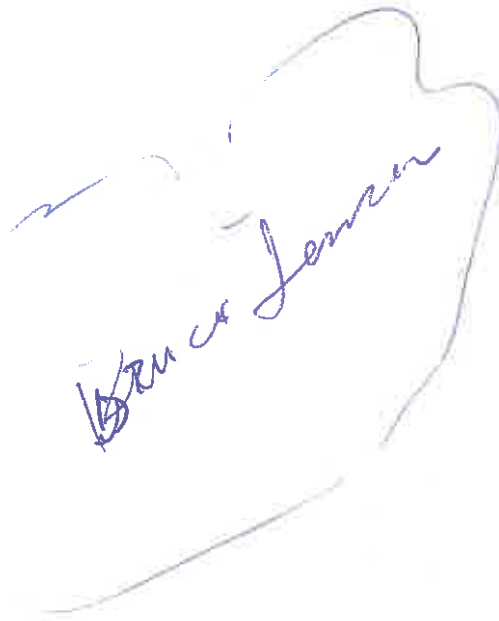
Richard Tarbell
Development Planning Division
richard.tarbell@acgov.org

cc: Applicant: JOYCE HOLTZCLAW 1600 Norris Road, Bakersfield, Ca 93308

Owner: RPM HOLDINGS LP Po Box 2228, Livermore, Ca 94551-2228

✓ No Comment - Date 1-29-2018

Attachments





State of California • Natural Resources Agency
Department of Conservation
Division of Oil, Gas, and Geothermal Resources
Northern CA District - Sacramento
801 K Street • MS 18-05
Sacramento, CA 95814
(916) 322-1110 • FAX (916) 445-3319

Edmund G. Brown Jr., Governor
Kenneth A. Harris Jr., State Oil and Gas Supervisor

COMPLIANCE LETTER

October 04, 2017

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation
1600 Norris Road
Bakersfield, CA 93308

FIELD: Livermore
DATE OF INSPECTION: 09/28/2017
INSPECTOR: Chris Costa

Dear Ms. Holtzclaw:

The inspection listed above has determined that the nine wells and their associated facilities located within Livermore Field are all in compliance with the California Division of Oil, Gas, and Geothermal's environmental regulations. If you have any questions regarding this matter, please contact the Engineering Geologist, Chris Costa, at (916) 322-1110.

API #	Lease Name	Well #
00100001	Greenville Investment Group	1
00120004	Greenville Investment Group	2
00120008	Nissen	2
00120009	Schenone	2
00120012	Nissen	3
00120031	Nissen	6
00120036	Nissen	7
00120041	Nissen	9
00120044	Schenone	1

Sincerely,

Charlene L Wardlow

Charlene L. Wardlow
Northern CA District Deputy

cc: Richard Tarbell, Alameda County



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT

Chris Bazar
Agency Director

PROJECT REFERRAL

Albert Lopez
Planning Director

Date: July 20, 2017

RE: Case No. PLN2017-00110

Conditional Use Permit

224
West Winton Ave
Room 111

Hayward
California
94544

Due Date: August 10, 2017

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510.670.5400
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ACPWA JOHN ROGERS
ACPWA CLEAN WATER DIVISION
ENV HEALTH HAZARDOUS MATERIALS
ARIU LEVI

ACPWA BUILDING DEPARTMENT
ALAMEDA CO. FIRE DEPT.
ACPWA GRADING DIVISION

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Please send a copy of your recommendation(s) to the applicant.

If you have any questions, please contact me at the above number.

Sincerely,

Richard Tarbell
Development Planning Division
richard.tarbell@acgov.org

cc: Applicant: JOYCE HOLTZCLAW 1600 Norris Road, Bakersfield, Ca 93308

PROJECT REFERRAL

Date: July 20, 2017

RE: Case No. PLN2017-00110

Owner: RPM HOLDINGS LP Po Box 2228, Livermore, Ca 94551-2228

✓ No Comment - Date 8/10/17

duh

Attachments

Grading



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT

Chris Bazar
Agency Director

PROJECT REFERRAL

Albert Lopez
Planning Director

Date: July 20, 2017

RE: Case No. PLN2017-00110

Conditional Use Permit

224
West Winton Ave
Room 111

Due Date: August 10, 2017

Hayward
California
94544

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ENV HEALTH HAZARDOUS MATERIALS

ARIU LEVI

ACPWA BUILDING DEPARTMENT

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Please send a copy of your recommendation(s) to the applicant.

If you have any questions, please contact me at the above number.

Sincerely,

Richard Tarbell
Development Planning Division
richard.tarbell@acgov.org

cc: Applicant: JOYCE HOLTZCLAW 1600 Norris Road, Bakersfield, Ca 93308

PROJECT REFERRAL

Date: July 20, 2017

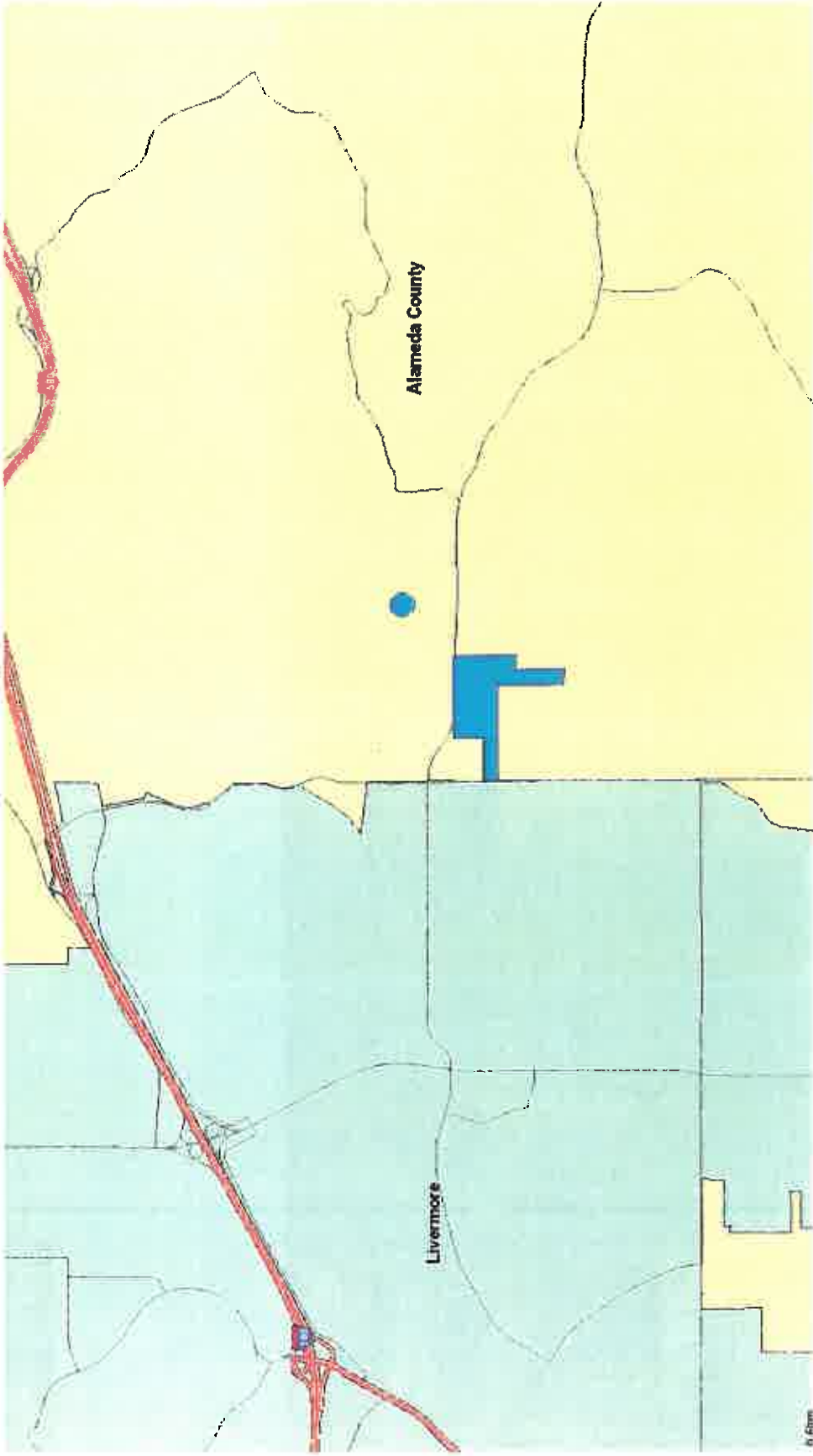
RE: Case No. PLN2017-00110

Owner: RPM HOLDINGS LP Po Box 2228, Livermore, Ca 94551-2228

X No Comment - Date 8/10/17

Attachments

B.I.D.



PLN2017-00110
VICINITY MAP

ALAMEDA COUNTY CDA – PLANNING DEPARTMENT

**STANDARD CONDITIONS APPLIED TO USE PERMIT APPLICATIONS THAT REQUEST BOTH EXPLORATORY
AND PRODUCTION WELLS**

1. There shall be full compliance with all regulations and directives administered by the Division of Oil and Gas, Department of Conservation and the Resources Agency of California.
2. This permit shall not be utilized until there is deposited with the County Building Official a bond in the amount of \$5,000, approved by the County Counsel, insuring to the County of Alameda a bond shall be maintained in full force and effect during the duration of this permit. The purpose of this bond is to insure compliance with all conditions of approval attached to this permit. If, at the termination of this permit, the Building Official determines that all conditions have been satisfied, the bond may be released. In lieu of the \$5,000 bond, there may be deposited under the same circumstances a bond in the amount of \$20,000 to cover all operations by the permittee in the unincorporated area of the County of Alameda, regardless of the number of wells to be drilled or operated.
3. All waste material resulting from the drilling operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from said vault or sump at any time.
4. The access roads leading to the drilling sites and working areas in the immediate vicinity of the drill sites shall be maintained in a manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern.
5. All land within a radius of one hundred feet from any derrick, tank, building, machinery or equipment used in the development, production or storage of petroleum products shall at all times be kept free and clear from dry weeds or grass, rubbish, or other flammable material.
6. All lighting shall be installed so as not to cast direct glare on roads or adjacent properties.
7. During any drilling or re-drilling operation, adequate toilet facilities shall be provided by means of an approved portable chemical toilet with routine scheduled servicing thereof, and a potable water supply shall be provided for all employees.
8. If any well is abandoned, all drilling apparatus shall be removed from the drill site within 60 days after the well is abandoned to the satisfaction of the State of California Division of Oil and Gas; within 30 days of abandonment, all waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Control Board has prescribed requirements which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil and Gas and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
9. If any well is completed, all drilling equipment shall be removed from the drilling site within 60 days after the completion of the well to the satisfaction of the State of California, Division of Oil and Gas. Within 30 days of completion all waste materials shall be removed from the drill site and disposed as required by Condition No. 8 above.

*For the purposes of this permit, the terms "completed" and "abandoned" are construed to be as defined in Sections 3208 and 3217 of Article 4, Chapter 1, Division 3 of the State of California Public Resources Code.

10. All waste materials resulting from oil production (i.e., waste oil or salt water) shall be retained in a steel tank or vault. All waste material resulting from any redrilling or deepening operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from any vault or sump at any time. All waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Control Board has prescribed requirements which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil and Gas and the Regional Water Quality Control Boards.
11. Any redrilling or deepening of the well shall be diligently pursued to completion^{**} and shall be accomplished only by a portable derrick; drilling equipment shall not be stored on the site but shall remain only as long as necessary for the completion of the redrilling or deepening operation.
12. The access roads leading to any producing well and the fenced work area described in Condition No. 13 shall be gravelled and oiled or otherwise maintained in a comparable manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern. Access to County Roads shall be subject to an Encroachment Permit issued by the County Road Commissioner's Office.
13. All work areas including the storage and pumping equipment shall be enclosed with a minimum 7' high fence. This fenced working area shall be provided a gate of similar material which shall be kept locked when the area is unattended by authorized personnel.
14. All pipe lines located outside the fenced work area described in Condition No. 13 shall be located underground.
15. All pumping or other power operations, other than redrilling, shall be carried on by electric power not generated on the drilling site, or by natural gas internal combustion engines equipped with exhaust mufflers that prevent excessive or unusual noise.
16. All loading outlets shall be provided with a buried tank to catch any oil drip resulting from loading operations. This tank shall not be allowed to overflow at any time. There shall be provided adjacent to the loading outlets an off-street loading space that meets the requirements of the Alameda County Zoning Ordinance (minimum dimensions of 10' x 60' with adequate access).
17. Oil storage tanks shall be of the permanent cylindrical variety, shall not exceed 20' in height, and shall not provide a capacity exceeding 2,000 barrels for each well serviced.
18. If the permittee is notified by the Building Official that any well approved by this permit is located within a subsidence area, the permittee shall cause to be filed within 30 days of such notice a "voluntary repressuring plan" capable of being approved and administered by the Division of Oil and Gas, State of California. Upon such approval, the permittee shall implement said plan.
19. Prior to exercising this permit, the operator shall furnish the local Fire Chief with the name and telephone number of an authorized representative empowered to engage a fire fighting specialist. If the local Fire Chief finds it necessary to call upon such a specialist to assist in extinguishing an oil or gas well fire, on request of the local Fire Chief the operator shall immediately furnish the assistance of a qualified specialist. The expense of such specialist shall be borne by the operator.

^{**}For the purposes of this permit, the term "completion" is construed to be as defined in Section 3208 of Article 4, Chapter 1, Division 3 of the State of California Public Resources Code.

20. As to exploratory wells hereby authorized, this permit shall terminate and end two years from the date of approval by the Planning Commission during which time it shall be subject to revocation for cause by the Planning Commission after seven (7) days notice and a hearing by said Commission.

As to production wells hereby authorized, this use permit shall terminate and end 20 years from the date of approval by the Planning Commission or the Board of Supervisors, during which time it shall be subject to revocation for cause by the Planning Commission after seven (7) days notice and a hearing by said Commission; provided, however, that after the expiration of one year from the date of issuance of said permit and thereafter at intervals of not less than three years, the Planning Commission may hold public hearings after due notice to the applicant for the purpose of re-evaluating the conditions hereinabove set forth as they relate to the public health, safety, and general welfare, and may add to or modify any such conditions where it is found that such permit as then conditioned adversely affects the public health, safety and general welfare.

Alameda County Planning Department
July 24, 1967

**RESOLUTION NO. ____ OF
THE EAST COUNTY BOARD OF ZONING ADJUSTMENTS
ADOPTED AT THE HEARING OF FEBRUARY 22, 2018, CONCERNING
CONDITIONAL USE PERMIT, PLN2017-00181**

WHEREAS E & B NATURAL RESOURCES MANAGEMENT CORPORATION has filed for CONDITIONAL USE PERMIT, PLN2017-00181, to allow continued operation of an oil production facility, in an "A" (Agricultural) District, located at 8617 Patterson Pass Road, south side, approximately ½ mile east of Greenville Road, Livermore area of unincorporated Alameda County, bearing Assessor's Parcel Number: 99A-1650-003-09; and

WHEREAS the Board did hold a public hearing on said application at the hour of 1:30 p.m. on the 22nd day of February, 2018, in the City of Pleasanton Council Chamber, 200 Old Bernal Avenue, Pleasanton, California; and

WHEREAS it satisfactorily appears from affidavits on file that proper notice of said public hearing was given in all respects as required by law; and

WHEREAS the State Division of Oil and Gas is the Lead Agency primarily responsible for compliance with the California Environmental Quality Act; the findings and determination of the Division have been adopted by Alameda County for the purposes of the prior permit and would continue with the permit under consideration. This application has been reviewed in accordance with the provisions of the California Environmental Quality Act and has been found to be categorically exempt per California Code of Regulations, Title 14, Chapter 3, Section 15301, Class 1, Existing Facilities; and

WHEREAS a Pre-Hearing Analysis was submitted recommending the application be conditionally approved; and

WHEREAS a representative appeared at said public hearing and presented testimony in support of the application; and

WHEREAS the Board did hear and consider all said reports, recommendations and testimony as hereinabove set forth;

NOW THEREFORE

BE IT RESOLVED that the Board finds that:

- (a) The use is required by the public need as the Applicant proposes continued development of a valuable natural resource.
- (b) The use will be properly related to other land uses and transportation and service facilities in the vicinity as the facility is within the area of other similar facilities and at present the use remains compatible with the surrounding agricultural uses. Urban uses are a sufficient distance from the

oil well facility so that these uses will be mutually protected for the foreseeable term of this permit.

- (a) The use, if permitted, under all the circumstances and conditions of this particular case, will not materially affect adversely the health or safety of persons residing or working in the vicinity, or be materially detrimental to the public welfare or injuries to property or improvements in the neighborhood as the standard conditions of approval guarantee this finding.
- (b) The use will not be contrary to the specific intent clauses or performance standards established for the District in which it is to be considered as all requirements of this County and the State Division of Oil, Gas and Geothermal Resources must be met. The use is consistent with the zoning of the area and in conformance with the Alameda County General Plan.

NOW THEREFORE

BE IT FURTHER RESOLVED that the Board does hereby approve the said application as shown by materials labeled Exhibit 'A' on file with the Alameda County Planning Department subject to the following conditions:

- 1. This permit authorizes the continued operation of an oil production facility (Four oil production wells, one produced water well, three test traps, six oil clarifying and storage tanks) consistent with plans marked Exhibit "A" dated January 16, 2018 on file with the Alameda County Planning Department, for the property located at 8617 Patterson Pass Road, Livermore, CA APN: 99A-1650-001-09.
- 2. The permit for this facility shall continue to be subject to Standard Conditions for Regulation of Production Oil Wells (attached and listed below), dated June 13, 1967, except that in lieu of a 20 year term prior to expiration, there shall be a mandatory review in ten (10) years, and that no bond shall be required by Alameda County, provided that the applicant/permittee shall submit evidence of the required State bond within 30 days of this approval and at the time of each bond renewal for the duration of this permit.

STANDARD CONDITIONS ADOPTED BY BOARD OF SUPERVISORS JULY 13, 1967

- 3. All waste material resulting from the drilling operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from said vault or sump at any time.
- 4. The access roads leading to the drilling sites and working areas in the immediate vicinity of the drill sites shall be maintained in a manner so as to reduce dust production. An access road shall not alter the existing drainage pattern.
- 5. All land within a radius of one hundred feet from any derrick, tank, building, machinery or equipment used in the development, production or storage of petroleum products shall at all times be kept free and clear from dry weeds or grass, rubbish, or other flammable material.

6. All lighting shall be installed so as not to cast direct glare on roads or adjacent properties.
7. During any drilling or redrilling operation, adequate toilet facilities shall be provided by means of an approved portable chemical toilet with routine scheduled servicing thereof, and a potable water supply shall be provided for all employees.
8. If any well is abandoned, all drilling apparatus shall be removed from the drill site within 60 days after the well is abandoned to the satisfaction of the State of California Division of Oil, Gas and Geothermal Resources; within 30 days of abandonment, all waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Board has prescribed requirement which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil, Gas and Geothermal Resources and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
9. If any well is completed, all drilling equipment shall be removed from the drilling site within 60 days after the completion of the well to the satisfaction of the State of California, Division of Oil, Gas, and Geothermal Resources. Within 30 days of completion all waste materials shall be removed from the drill site and disposed as required by Condition No. 8 above.
10. All waste materials resulting from oil production (ie. Waste oil or salt water) shall be retained in a steel tank or vault. All waste material resulting from any redrilling or deepening operation shall be contained in a vault or sump and shall not be allowed to overflow or escape from any vault or sump at any time. All waste materials shall be removed from the drill site and deposited at locations outside the Livermore-Amador Valley for which the San Francisco Bay Regional Water Quality Board has prescribed requirement which permit disposal of industrial wastes, or disposed by injection into formations of porous media not containing fresh water, pursuant to the "Procedure for Reporting Proposed Oil Field Waste Water Discharges and for Prescribing Discharge Requirements" which has been agreed to by the California State Division of Oil, Gas and Geothermal Resources and the Regional Water Quality Control Boards, and the site shall be restored as near as possible to its original condition.
11. Any redrilling or deepening of the well shall be diligently pursued to completion and shall be accomplished only by a portable derrick; drilling equipment shall not be stored on the site but shall remain only as long as necessary for the completion of the redrilling or deepening operation.
12. The access roads leading to any producing well and the fenced work area described in condition No. 13 shall be graveled and oiled or otherwise maintained in a comparable manner so as to reduce dust production. Any access road shall not alter the existing drainage pattern. Access to County Roads shall be subject to an Encroachment Permit issued by Alameda County.
13. All work areas including the storage and pumping equipment shall be enclosed within a minimum 7' high fence. This fenced working area shall be provided a gate of similar material which shall be kept locked when the area is unattended by authorized personnel.
14. All pipe lines located outside the fenced work area described in Condition No. 13 shall be located

underground.

15. All pumping or other power operation, other than redrilling, shall be carried on by electric power and not generated on the drilling site, or by natural gas internal combustion engines equipped with exhaust mufflers that prevent excessive or unusual noise.
16. All loading outlets shall be provided with a buried tank to catch any oil-drip resulting from loading operations. This tank shall not be allowed to overflow at any time. There shall be provided adjacent to the loading outlets an off-street loading space that meets the requirements of the Alameda County Zoning Ordinance.
17. Oil storage tanks shall be of the permanent cylindrical variety, shall not exceed 20' in height, and shall not provide a capacity exceeding 2,000 barrels for each well serviced.
18. If the permittee is notified by the Building Official that any well approved by this permit is located within a subsidence area, the permittee shall cause to be filed within 30 days of such notice a "Voluntary Repressuring Plan" capable of being approved and administered by the California State Division of Oil, Gas and Geothermal Resources. Upon approval, the permittee shall implement said plan.
19. Prior to exercising this permit, the operator shall furnish the local Fire Chief with the name and telephone number of an authorized representative empowered to engage a fire fighting specialist. If the local Fire Chief finds it necessary to call upon such a specialist to assist in extinguishing an oil or gas well fire, on request of the local Fire Chief the operator shall immediately furnish the assistance of a qualified specialist. The expense of such specialist shall be borne by the operator.
20. The property owner, permittee, or its successor, shall defend, indemnify, and hold harmless Alameda County or its agents, officers, and employees from any claim, action, or proceeding against Alameda County or its agents, officers or employees to attack, set aside, void, or annul Conditional Use Permit, PLN2017-00181, the findings of the CEQA determination, or any combination thereof. Such indemnification shall include, but not be limited to, an award of costs and attorney's fees incurred by Alameda County in its defense. The County shall promptly notify applicant of any such challenge.
21. A mandatory review shall be conducted ten years from approval for this Conditional Use Permit, PLN2017-00181. As a result of the mandatory review, a permit for renewal and public hearing may be required to review the original conditions of approval to determine compliance with the findings that supported the original permit approval. Any condition of approval modified or added will ensure the activity continues in conformance with the intent and purpose of the zoning ordinance, and shall be of the same force and effect as if originally imposed. Review costs shall be borne by the applicant.
22. Permittee or successor shall maintain compliance with the requirements of the following agencies:
 - a. Alameda County Public Works Agency, Building Inspection Department
 - b. Alameda County Public Works Agency, Land Development Department
 - c. Alameda County Fire Department
 - d. Division of Oil, Gas and Geothermal Resources, California State Department of Conservation
 - e. Zone 7 Water Agency

Pursuant to Section 17-52.050 of the Alameda County Zoning Ordinance said Conditional Use Permit shall be implemented within a term of three (3) years of its issuance or it shall be of no force or effect.

If implemented, said Conditional Use Permit shall terminate on February 22, 2028, and shall remain revocable for cause in accordance with Section 17-54.030 of the Alameda County Zoning Ordinance.

EAST COUNTY BOARD OF ZONING ADJUSTMENTS
ALAMEDA COUNTY PLANNING DEPARTMENT



State of California • Natural Resources Agency
Department of Conservation
Division of Oil, Gas, and Geothermal Resources
Northern CA District • Sacramento
801 K Street • MS 18-05
Sacramento, CA 95814
(916) 322-1110 • FAX (916) 445-3319

Edmund G. Brown Jr., Governor
Kenneth A. Harris Jr., State Oil and Gas Supervisor

COMPLIANCE LETTER

October 04, 2017

Ms. Madelyn (Joyce) Holtzclaw
E & B Natural Resources Management Corporation
1600 Norris Road
Bakersfield, CA 93308

FIELD: Livermore
DATE OF INSPECTION: 09/28/2017
INSPECTOR: Chris Costa

Dear Ms. Holtzclaw:

The inspection listed above has determined that the nine wells and their associated facilities located within Livermore Field are all in compliance with the California Division of Oil, Gas, and Geothermal's environmental regulations. If you have any questions regarding this matter, please contact the Engineering Geologist, Chris Costa, at (916) 322-1110.

API #	Lease Name	Well #
00100001	Greenville Investment Group	1
00120004	Greenville Investment Group	2
00120008	Nissen	2
00120009	Schenone	2
00120012	Nissen	3
00120031	Nissen	6
00120036	Nissen	7
00120041	Nissen	9
00120044	Schenone	1

Sincerely,

Charlene L Wardlow

Charlene L. Wardlow
Northern CA District Deputy

cc: Richard Tarbell, Alameda County

**ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY**

COLLEEN CHAWLA, Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS CUPA DIVISION
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502-6577
(510) 567-6702
FAX (510) 337-9335

(Sent via electronic mail)

April 30, 2018

Rodrigo Orduña, AICP
Assistant Planning Director
Alameda County Planning Department
Community Development Agency

Re: E&B Natural Resources Conditional Use Permits
PLN2017-00181 and PLN2017-00110

Dear Mr. Orduña:

Your office requested information from the Alameda County Department of Environmental Health (ACDEH) Hazardous Materials Division for the following.

- A. Compliance history on the facilities operated by E&B Natural Resources (E&B) at 8617 and 8467 Patterson Pass Road, Livermore; and
- B. Information related to statements regarding hazardous materials in the February 20, 2018 letter from the Center for Biological Diversity (CBD) and the February 22, 2018 response from E&B.

ACDEH Hazardous Materials Division is the Certified Unified Program Agency (CUPA) for the unincorporated areas of Livermore. ACDEH administers the permits, inspection and enforcement of the following CUPA programs:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (Tiered Permitting) Programs
- Underground Storage Tank (UST) Program
- Aboveground Petroleum Storage Act (APSA) Program
- California Accidental Release Prevention (CalARP) Program

ACDEH Hazardous Materials Division also inspects businesses for compliance with Alameda County's Stormwater Ordinance under the Clean Water Program (CWP).

The facilities located at 8617 and 8467 Patterson Pass Road, Livermore have been operated by E&B since April 2008. Below is a brief summary of CUPA program violation history for these two facilities and a listing of relevant documents that are being provided to you.

8617 Patterson Pass Road, Livermore (also known as NISSEN)

This facility is currently under the Hazardous Materials Business Plan (HMBP), hazardous waste generator (HWG) and CWP. ACDEH inspected the facility under these programs and documented the following.

June 1, 2010 – ACDEH issued a Failure to Submit Hazardous Material Business Plan Forms letter because annual HMBP forms were past due.

- 1) June 1, 2010 Letter (8617 Paterson Pass Road) is attached.

April 6, 2012 – ACDEH issued a Notice of Violation (NOV) for failure to annually submit a HMBP.

- 2) April 6, 2012 NOV (8617 Paterson Pass Road) is attached.

May 2, 2013 – During a routine inspection, ACDEH informed E&B to notify ACDEH and obtain an active EPA ID when hazardous waste is generated.

- 3) May 2, 2013, Inspection Report (8617 Paterson Pass Road) is attached.

June 11, 2015 – ACDEH conducted an inspection after receiving a complaint that in August 2014 or February 2015, E&B removed eight tanks that contained hazardous materials. ACDEH found that E&B failed to complete and electronically submit their hazardous materials inventory for all reportable hazardous materials on site and site map showing the locations of hazardous materials and emergency equipment. In addition, ACDEH noted the soil berm used as secondary container for the tanks was impacted with oil and that E&B should properly manage hazardous waste to prevent runoff including to the nearby creek. One of the removed tanks had lead concentration at a hazardous waste level. During this inspection ACDEH documented the following violations by E&B.

- Failure to obtain and/or maintain an Active EPA ID;
- Failure to determine if waste generated is a hazardous waste;
- Failure to maintain analysis results for three years;
- Failure to determine if waste is restricted from land disposal; and
- Failure to properly dispose of hazardous waste at an authorized location.

All of the June 2015 inspection reports are attached.

- 4) June 11, 2015, Inspection Report HMBP (8617 Paterson Pass Road)
- 5) June 11, 2015, Inspection Report HWG (8617 Paterson Pass Road)
- 6) June 11, 2015, Standard Stormwater Facility Inspection Report Form (8617 Paterson Pass Road)

August 6, 2015 – As is required, ACDEH referred the facility to the Alameda County District Attorney's (DA) Office for significant or Class 1 violations.

- 7) August 6, 2015 Notice to District Attorney of Class 1 Violation (8617 Paterson Pass Road) is attached.

September 17, 2015 – ACDEH issued a NOV to the facility for a significant or Class 1 violation due to failure to dispose of hazardous waste at an authorized location.

- 8) September 17, 2015 NOV (8617 Paterson Pass Road) is attached.

May 6, 2016 – During a routine inspection, ACDEH documented that E&B failed to test and maintain all communication and alarm systems, fire protection equipment, spill control equipment and decontamination equipment complete; and electronically submit an annotated site map showing hazardous materials storage and emergency response equipment. All of the May 6, 2016 inspection reports are attached.

- 9) May 6, 2016, Inspection Report HMBP (8617 Paterson Pass Road)
- 10) May 6, 2016, Inspection Report HWG (8617 Paterson Pass Road)

8467 Patterson Pass Road in Livermore (also known as GIG)

This facility had been regulated by CUPA until E&B reported in May 2016 that hazardous materials/waste regulated under the CUPA programs were removed from this facility. ACDEH previously inspected the facility under the HMBP, HWG and CWP and documented the following:

April 6, 2012 – ACDEH issued a NOV for failure to annually submit a HMBP.

- 11) April 6, 2012 NOV (8467 Paterson Pass Road) is attached.

May 2, 2013 – During a routine inspection, ACDEH informed E&B to notify ACDEH and obtain an active EPA ID when hazardous waste is generated.

- 12) May 2, 2013, Inspection Report (8467 Paterson Pass Road) is attached.

June 11, 2015 – ACDEH inspected the facility after a complaint that tanks were removed and contaminated soil were excavated. The facility failed to report an actual release to the CUPA and the California Governor's Office of Emergency Services (CalOES). ACDEH also found that E&B failed to complete and electronically submit their site map showing the locations of emergency equipment.

- 13) June 11, 2015, Inspection Report HMBP (8467 Paterson Pass Road) is attached.

August 6, 2015 – As required, ACDEH referred the facility to the DA for significant or Class 1 violations. Within ACDEH, the CUPA program referred the facility to the Local Oversight Program (LOP) for assistance. A voluntary agreement for LOP to oversee the petroleum release cleanup was entered into with facility (LOP case number RO-0003181). LOP files are available online at <http://gis.acgov.org/DEH/InspectionResults/?SITE=LOP> or by contacting Dilan Roe at dilan.roe@acgov.org or 510-567-6767 for further information.

- 14) August 6, 2015 Notice to District Attorney of Class 1 Violation (8467 Paterson Pass Road) is attached.

September 17, 2015 – ACDEH issued a NOV to the facility for a significant/Class 1 violation due to failure to provide immediate, verbal report of a release or threatened release of a hazardous material to the CUPA and the CalOES.

15) September 17, 2015 NOV (8467 Paterson Pass Road) is attached.

October 22, 2015 – ACDEH issued an Administrative Enforcement Order with a civil penalty of \$10,912 to E&B for not reporting a hazardous materials release documented in June 2015.

16) Final Order, Administrative Enforcement Order (8467 Paterson Pass Road) and invoice are attached.

May 6, 2016 – ACDEH verified that the facility no longer handles hazardous materials regulated by the CUPA.

17) May 6, 2016, Official Inspection Report is attached.

This facility is currently under only the CWP. The CWP referred this facility in May 2009 to the Water Board for enforcement of Stormwater Pollution Prevention Plan requirements.

An inspection was also conducted on June 6, 2014, as there were no violations identified in that report, it is not attached.

District Attorney Enforcement Action

Following the referral of the spill documented in June 2015, The DAs from Alameda and Kern Counties filed a complaint against E&B for violations of the Hazardous Waste Control Act and the Health and Safety Code on HMBP requirements. The action was settled by stipulation and a judgment entered in the Superior Court in the County of Alameda. The Final Judgment and Permanent Injunction states that E&B and their employees and agents are *"permanently enjoined and restrained from violating California Health and Safety Code Chapter 6.5 and all regulations enacted pursuant thereto; and California Health and Safety Code Chapter 6.95 and all regulations enacted pursuant thereto; California Fish and Game Code Section 5650; California Water Code Section 13350; and local storm water ordinance, including Pleasanton Ordinances set forth in Pleasanton Municipal Code Chapter 9.14."* They were also ordered to *"pay a total settlement amount of eighty-five thousand dollars"* of which \$4,036 shall be paid to ACDEH as costs. In addition to the injunction, E&B must report to ACDEH any change in their operations involving hazardous materials/waste.

18) Final Judgment and Permanent Injunction filed January 3, 2017 is attached.

The United States Environmental Protection Agency

The United States Environmental Protection Agency inspects the aboveground tanks at these facilities for compliance with the Spill Prevention, Control, and Countermeasure (SPCC) rule. The inspector is Janice Witul, Division: Enforcement at Mail Code: (ENF-3-2), 75 Hawthorne Street, San Francisco CA 94105. Her contact information is witul.janice@epa.gov or (415) 972-3089.

Letter from the Center for Biological Diversity (CBD) to the Alameda County Planning Department Dated February 20, 2018

ACDEH Hazardous Materials Division is only able to provide information within its jurisdiction. The following information is available through ACDEH's CUPA and CWP programs and provided to assist your office in its review of the letter.

Page 5, paragraphs 1 and 2: The letter refers to the CUPA inspection report, (citations 26, 27 and 28); however, the details cited in the letter are not contained in the referenced report and the CUPA program cannot verify the statements by CBD. The Hazmat Storage Closure Report prepared by E&B for the ACDEH LOP may have additional information related to these statements. A copy of the reference report is attached; however, for any questions on this report please contact Dilan Roe from LOP.

19) May 19, 2016 Hazmat Storage Closure Report, 8467 Patterson Pass Road, prepared by E&B is attached.

Page 5, paragraph 3 – The letter incorrectly identified the type of analysis in its discussion of the lead concentration found in the tank bottom sludge from Nissen Wash Tank #8. The result was from a hazardous waste analysis, not a water analysis.

Letter from E&B Natural Resources to the Alameda County Planning Department Dated February 22, 2018

ACDEH Hazardous Materials Division is only able to provide information within its jurisdiction. The following information is available through ACDEH's CUPA and CWP programs and provided to assist your office in its review of the letter.

Page 3, "2015 'Spill' at Livermore Site" – According to the Hazmat Storage Closure Report submitted by E&B to ACDEH, initial excavation of soil impacted by residual oil measured approximately 7 to 8 feet below ground surface at the greatest depth (western end), approximately 20 feet in width, and approximately 40 feet in length. The soil excavation and groundwater investigation was overseen by ACDEH's LOP.

Page 3, "California Office of Emergency Services (OES) Reporting" – E&B incorrectly stated that reporting to OES was not required when it discovered oil on the ground during its tank removal activities. Per HSC § 25510(a), *"Except as provided in subdivision (b), the handler or an employee, authorized representative, agent, or designee of a handler, shall, upon discovery, immediately report any release or threatened release of a hazardous material to the unified program agency, and to the office, in accordance with the regulations adopted pursuant to this section. The handler or an employee, authorized representative, agent, or designee of the handler shall provide all state, city, or county fire or public health or safety personnel and emergency response personnel with access to the handler's facilities."*

E&B also incorrectly stated that the affected area was entirely within E&B's leased property lines. Figures 3, 4 and 5 in the Hazmat Storage Closure Report submitted by E&B to ACDEH confirms ACDEH's report that stated the release extended outside of the E&B's leased property lines.

Page 4, "Other Alleged Violations at the Livermore Site" – E&B incorrectly stated that "a small amount of sludge from one Nissen facility tank (CBD claims there were seven tanks, which is inaccurate) to one of our Kern County facilities as non-hazardous material." There were more tank sludge and rinsate transported than a "small amount of sludge." Jennifer Brady, E&B's Environmental Compliance Coordinator, reported eight oil production facility tanks were removed from the two facilities. According to the Hazmat Storage Closure Report submitted by E&B, tank bottom sludge and rinsate from crude oil storage tanks GIG #1 and GIG #3 were transported by Bill of Lading to an E&B oil production facility in Kern County to be beneficially reused as road-base mix.

ACDEH Hazardous Materials Division hopes that the information provided will assist your office and the contact information provided will enable you to quickly reach the respective responsible agencies for other or additional information.

Please call me at 510-567-6780 should you have further questions.

Sincerely,



Digitally signed by Susan Hugo
Date: 2018.05.01 13:16:40 -07'00'

Susan Hugo
ACDEH Hazardous Materials Division Chief

cc: Ronald Browder, ACDEH Director
File

Inspection Report



DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502-854
(510) 567-8700
<http://www.acgov.org/aceh/>

Facility: E & B NATURAL RESOURCES -	Address: 8617 PATTERSON PASS RD NISSAN	City/State: LIVERMORE, CA	Zip Code: 94551	Date: 08/11/2015
Owner: E & B NATURAL RESOURCES MANAGEMENT		Facility email: jbrady@ebresources.com		Telephone: (925) 963-8859
FA #: FA0305544	PR: PR8504782	Program Element: HMBP 6-10 TYPES HM, CATEGORY 7		Inspection Type: ROUTINE INSPECTION - HMBP

NVO = No Violation Observed UD = Undetermined NA = Not Applicable VO = Violation Observed COS = Corrected On Site RPT = Repeat Violation

0	Has a valid ACDEH Operating Permit	
	<input type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	

Violation Code Definition/Section:

ALCO Title 6 6.92.050

Business Plan

1	Established and adequately implemented a business plan	
	<input type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	

Violation Code Definition/Section:

Failed to adequately establish and implement a Hazardous Materials Business Plan (HMBP) when storing and/or handling a hazardous material in reportable quantities.

Emergency shutoffs for chemical processes or equipment are labeled.

Emergency equipment (such as fire extinguishers, spill prevention & alarm equipment) tested & maintained as necessary (e.g. fire extinguishers assessed annually).

Spill control and spill mitigation materials are available (e.g. absorbents, rags, or shop vacuum).

All containers are kept closed unless in use.

All containers are in good condition.

Containers stored in a manner to prevent rupture, leaking or structural deterioration.

Containers are compatible with contents.

Containers are properly labeled.

All spills promptly addressed to prevent discharge to air, soil or surface water.

Storage area is maintained to separate incompatible materials.

19 CCR 4 2729.1, 2731(c), 2732; HSC 6.95 25507 HSC 6.95 25507.

Containers of hazardous materials are disposed of properly when empty. 22 CCR 68261.7.

Observed oil staining near the fueling point. Facility's procedures are to clean any spills immediately. Facility is currently storing soiled spill cleanup materials in a metal trash can roughly around 27 gallons.

Business Plan

2	Adequate completion and electronic submission of a business plan	
	<input type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	

Violation Code Definition/Section:

"Failed to complete and/or electronically submit a complete Hazardous Materials Business Plan (HMBP) when storing and/or handling hazardous materials or a mixture containing a hazardous material at or above the threshold quantities:

(1) equal to or greater than 500 pounds for a solid, 55 gallons for a liquid, or 200 cubic feet for a compressed gas, or

(2) equal to or greater than the applicable federal threshold planning quantity (TPQ) for an extremely hazardous substance (EHS) listed in Appendix A, Part 355, Title 40, of the Code of Federal Regulations.

(3) radioactive materials that are handled in quantities for which an emergency plan is required to be adopted pursuant to Part 30 (commencing with Section 30.1), Part 40 (commencing with Section 40.1), or Part 70 (commencing with Section 70.1), of Chapter 10 of Title 10 of the Code of Federal Regulations (54 Federal Register 14051), or pursuant to any regulations adopted by the state in accordance with those regulations. HSC 6.95 25505, 25508(a)(1), 25508(d)"

Business Plan

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Business Plan		
3	Notified property owner in writing that business is subject to HMBP program and has complied <input checked="" type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	
Violation Code Definition/Section: Failure to notify the property owner or provide a copy of the Hazardous Materials Business Plan (HMBP) to the owner or the owners agent within five working days after receiving a request for a copy from the owner or the owners agent. HSC 6.95 25503.6		
Business Plan		
4	Adequate completion and electronic submission of hazardous materials inventory information <input type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input checked="" type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	CUPA Minor COMPLY BY: 7/11/2015
Violation Code Definition/Section: "Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site. HSC 6.95 25506, 25505(a)(1), 25508(a)(1)"		
Violation Comments: OBSERVATION: The facility has not submitted the Hazardous Materials Inventory Chemical Description page for Scortron GR-216FB to the CUPA. CORRECTIVE ACTION: Complete and submit the Hazardous Materials Inventory Chemical Description page for all materials listed above electronically in the California Environmental Reporting System (CERS).		
Business Plan		
5	Adequate completion and electronic submission of Owner/Operator and Business Activities Forms <input checked="" type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	
Violation Code Definition/Section: "Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page. HSC 25508(a)(1), 19 CCR 4 2729.2(a)(1)"		
Business Plan		
6	Adequate completion and electronic submission of annotated Site Map with all required content <input type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input checked="" type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	CUPA Minor COMPLY BY: 7/11/2015
Violation Code Definition/Section: "Failure to complete and electronically submit an annotated site map with all required content (north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment). Updates to existing maps to meet these requirements shall be completed by January 1, 2015. HSC 25505(a)(2), 25508(a)(1)"		
Violation Comments: OBSERVATION: The annotated site map submitted to the CUPA does not include all the requires elements. The site map shall contain the missing elements: HAZARDOUS MATERIALS STORAGE (Scortron GR-216FB - OOS Separators) and EMERGENCY RESPONSE EQUIPMENT (Fire extinguishers and spill kits). CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS).		
Business Plan		
7	Adequate completion and electronic submission of Emergency Response Plan and procedures <input checked="" type="checkbox"/> NVO <input type="checkbox"/> UD <input type="checkbox"/> NA <input type="checkbox"/> VO <input type="checkbox"/> COS <input type="checkbox"/> RPT	
Violation Code Definition/Section: "Failure to establish and electronically submit an adequate Emergency Response Plan and procedures in the event of a reportable release or threatened release of a hazardous material, including, but not limited to, all of the following: (A) Immediate notification to the appropriate local emergency rescue personnel and to the unified program agency. (B) Procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to persons, property, or the environment. (C) Evacuation plans and procedures, including immediate notice, for the business site. HSC 6.95 25505(a)(3), 25508(a)(1)"		

Annual Certification/Update

8

"Annually reviewed and electronically certified that HMBP is complete, accurate and up-to-date"

☒ NVO ☐ UD ☐ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

"Failure to annually review and electronically certify that the Hazardous Materials Business Plan (HMBP) is complete, accurate, and up-to-date. HSC 6.95 25508(c), 25508.2"

Business Plan

9

"HMBP updated within 30 days: chemical inventory, change of address, ownership, or business name"

☐ NVO ☐ UD ☒ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

"Failure to electronically update the Hazardous Materials Business Plan (HMBP) information within 30 days of: (a) A 100 percent or more increase in the quantity of a previously disclosed material, (b) Any handling of a previously undisclosed hazardous material, (c) Change of business address, (d) Change of business ownership, (e) Change of business name. HSC 6.95 25508.1(a)-(e)."

Annual Certification/Update

10

Business plan electronically updated within 30 days of substantial changes in operations

☐ NVO ☐ UD ☐ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

Failure to electronically update the Hazardous Materials Business Plan (HMBP) information within 30 days of a substantial change in the handler's operations that requires modification to any portion of the HMBP. HSC 6.95 25508.1(f)

Facility has removed 5 tanks. 4 tanks of Schenone and 1 Tank of Nissen

Training

11

Training program submitted and adequate for the size of the business and materials handled

☐ NVO ☒ UD ☐ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

Failure to include and electronically submit an adequate training program in the Hazardous Materials Business Plan (HMBP), which is reasonable and appropriate for the size of the business and the nature of the hazardous material handled. HSC 6.95 25505(a)(4), 25508(a)(1)

Training

12

Initial and annual employee training completed, documented and records made available for 3 years

☐ NVO ☒ UD ☐ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

Failure to (1) provide initial training and annual training, including refresher courses, to all employees in safety procedures in the event of a release or threatened release of a hazardous material, including, but not limited to, the Emergency Response Plan, and (2) document electronically or by hard copy and make available for a minimum of three years. HSC 6.95 25505(a)(4)

Notification

13

Actual or threatened release reported to the CUPA and the California OES Warning Center

☐ NVO ☐ UD ☒ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

Failure of business to provide an immediate, verbal report of a release or threatened release of a hazardous material to the CUPA and the California Office of Emergency Services (OES) Warning Center. HSC 6.95 25510(a)

Remote Unstaffed Facility

Remote Unstaffed Facility

14

Remote unstaffed facility exemption requirements are met when not submitting a business plan

☐ NVO ☐ UD ☒ NA ☐ VO ☐ COS ☐ RPT**Violation Code Definition/Section:**

Failure to meet one or more of the following to comply with the remote unstaffed facility exemption of electronically submitting a business plan:

(1) The types and quantities of materials onsite are limited to one or more of the following:

(A) One thousand standard cubic feet of compressed inert gases (asphyxiation and pressure hazards only).

(B) Five hundred gallons of combustible liquid used as a fuel source.

(C) Two hundred gallons of corrosive liquids used as electrolytes in closed containers.

(D) Five hundred gallons of lubricating and hydraulic fluids.

(E) One thousand two hundred gallons of flammable gas used as a fuel source.

(F) Any quantity of mineral oil contained within electrical equipment, such as transformers, bushings, electrical switches, and voltage regulators, if the spill prevention control and countermeasure plan has been prepared for quantities that meet or exceed 1,320 gallons.

(2) The facility is secured and not accessible to the public.

(3) Warning signs are posted and maintained for hazardous materials pursuant to the California Fire Code.

(4) A one-time notification and inventory are provided to the unified program agency along with a processing fee in lieu of the existing fee. The fee shall not exceed the actual cost of processing the notification and inventory, including a verification inspection, if necessary.

(5) If the information contained in the initial notification or inventory changes and the time period of the change is longer than 30 days, the notification or inventory shall be resubmitted within 30 days to the unified program agency to reflect the change, along with a processing fee, in lieu of the existing fee, that does not exceed the actual cost of processing the amended notification or inventory, including a verification inspection, if necessary.

HSC 6.95 25505, 25506, 25507, 25508(a)(1)

Overall Inspection Comments:

ACDEH inspectors Chris Tougeron and Kevin Horn onsite to conduct a Hazardous Materials Business Plan inspection at E & B Natural Resources Nissen - 8617 Patterson Pass Rd., Livermore, CA with Director of Operations, Mike Smith, Vice President of Land, Gary Richardson, Environmental Compliance Coordinator, Jennifer Brady, and HSE Manager, Shams Hasan. Janice Witul of US EPA was onsite to inspect the Aboveground Storage Tank systems. Most recent HMBP submittal was on 3/23/2015.

Facility operates as a Oil production and exploration facility that is in the process of removing and replacing tanks.

Based on submittal of soil sample analytical results, this site was forward to ACDEH LOP for review.

Signatures

Facility Representative who granted permission to conduct inspection



Jennifer Brady 06/11/2015

Environmental Specialist



Kevin Horn

Hazardous Materials Specialist

Remote Unstaffed Facility

14

Remote unstaffed facility exemption requirements are met when not submitting a business plan

☐ NVO ☐ UD ☐ NA ☐ VO ☐ COS ☐ RPT

Violation Code Definition/Section:

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- (1) The types and quantities of materials onsite are limited to one or more of the following:
 - (A) One thousand standard cubic feet of compressed inert gases (asphyxiation and pressure hazards only).
 - (B) Five hundred gallons of combustible liquid used as a fuel source.
 - (C) Two hundred gallons of corrosive liquids used as electrolytes in closed containers.
 - (D) Five hundred gallons of lubricating and hydraulic fluids.
 - (E) One thousand two hundred gallons of flammable gas used as a fuel source.
 - (F) Any quantity of mineral oil contained within electrical equipment, such as transformers, bushings, electrical switches, and voltage regulators, if the spill prevention control and countermeasure plan has been prepared for quantities that meet or exceed 1,320 gallons.
 - (2) The facility is secured and not accessible to the public.
 - (3) Warning signs are posted and maintained for hazardous materials pursuant to the California Fire Code.
 - (4) A one-time notification and inventory are provided to the unified program agency along with a processing fee in lieu of the existing fee. The fee shall not exceed the actual cost of processing the notification and inventory, including a verification inspection, if necessary.
 - (5) If the information contained in the initial notification or inventory changes and the time period of the change is longer than 30 days, the notification or inventory shall be resubmitted within 30 days to the unified program agency to reflect the change, along with a processing fee, in lieu of the existing fee, that does not exceed the actual cost of processing the amended notification or inventory, including a verification inspection, if necessary.
- HSC 6.95 25505, 25506, 25507, 25508(a)(1)

Overall Inspection Comments:

ACDEH inspectors Chris Tougeron and Kevin Horn onsite to conduct a Hazardous Materials Business Plan inspection at E & S Natural Resources Nissen - 8617 Patterson Pass Rd., Livermore, CA with Director of Operations, Mike Smith, Vice President of Land, Gary Richardson, Environmental Compliance Coordinator, Jennifer Brady, and HSE Manager, Shams Hasan. Janice Witul of US EPA was onsite to inspect the Aboveground Storage Tank systems. Most recent HMBP submittal was on 3/23/2015.

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Based on submittal of soil sample analytical results, this site was forward to ACDEH LOP for review.

Signatures

Facility Representative who granted permission to conduct inspection.

Jennifer Brady

Jennifer Brady 06/11/2015
Environmental Specialist

Kevin Horn

Kevin Horn
Hazardous Materials Specialist

Jennifer Brady 7/10/15

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: FACILITY

Photo # 1 of 26



DESCRIPTION: PILE OF SOIL FROM SITE'S EXCAVATION

Photo # 2 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551

Date: 06/11/2015

Photo Taken by: KEVIN HOM



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DESCRIPTION: TRASH DUMPSTER WITH CLOSED LID

Photo # 3 of 26



DESCRIPTION: VIEW OF ENTRANCE AND PARKING AREA – PERMEABLE GRAVEL

Photo # 4 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



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DESCRIPTION: EXCAVATION AREA WHERE 4 TANKS WERE REMOVED

Photo # 5 of 26



DESCRIPTION: EXCAVATION AREA WHERE 4 TANKS WERE REMOVED

Photo # 6 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



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Alameda, CA 94502-6577
(510) 567-6700
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DESCRIPTION: FUEL LOADING AREA WITH SPILL CAPTURE BASIN THAT RUNS BACK INTO THE SYSTEM

Photo # 7 of 26



DESCRIPTION: BALL TRAP OIL AND WATER SEPARATOR SYSTEM

Photo # 8 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



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(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: BALL TRAP OIL AND WATER SEPARATOR SYSTEM

Photo # 9 of 26



DESCRIPTION: VIEW OF INSIDE OF FUELING SPILL CATCHING BASIN

Photo # 10 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM
Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551

Date: 06/11/2015

Photo Taken by: KEVIN HOM



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DESCRIPTION: PIPE AND VALVE

Photo # 11 of 26



DESCRIPTION: VIEW OF OIL SPILL STAIN ON THE GRAVEL AND PIPING

Photo # 12 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: VAREC LEVEL GAUGE OF STOCK TANK

Photo # 13 of 26



DESCRIPTION: SCORTRON MATERIALS NOT IN HAZARDOUS MATERIAL INVENTORY

Photo # 14 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551

Date: 06/11/2015

Photo Taken by: KEVIN HOM



ALAMEDA COUNTY
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DESCRIPTION: SCORTRON MATERIALS WITH ELECTRICAL CORDS

Photo # 15 of 26



DESCRIPTION: SCORTRON MATERIALS WITH ELECTRICAL CORDS

Photo # 16 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
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(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: STOCK TANK #1

Photo # 17 of 26



DESCRIPTION: STOCK TANK #1 – VALVES WIL MINOR WEEPING.

Photo # 18 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
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Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: POLISHER WATER TANK

Photo # 19 of 26



DESCRIPTION: CURRENTLY CLOSED SYSTEM, LEVEL GAUGE IS BROKEN

Photo # 20 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
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Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: CURRENTLY CLOSED SYSTEM, LEVEL GAUGE IS BROKEN

Photo # 21 of 26



DESCRIPTION: GAS SYSTEM THAT SENDS GAS TO ENCLOSED COMBUSTION

Photo # 22 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
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(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: ENCLOSED COMBUSTION SYSTEM

Photo # 23 of 26



DESCRIPTION: SOIL BERM OUTSIDE THE FENCE BETWEEN FACILITY AND CREEK

Photo # 24 of 26

Program Photo Log

Name: E&B NATURAL RESOURCES – NISSEN TANK FARM

**Address: 8617 PATTERSON PASS ROAD
LIVERMORE, CA 94551**

Date: 06/11/2015

Photo Taken by: KEVIN HOM



**ALAMEDA COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335**



DESCRIPTION: SOIL BERM WITH OIL CONTAMINATED SOIL – POTENTIAL FOR OIL RUNOFF ON OUTSIDE OF BERM

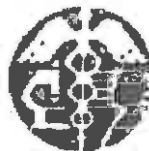
Photo # 25 of 26



DESCRIPTION: SOIL BERM WITH OIL CONTAMINATED SOIL – POTENTIAL FOR OIL RUNOFF ON OUTSIDE OF BERM

Photo # 26 of 26

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director



April 6, 2012

Certified Mailer Number: 70063450000005031639

Mr. Greg Youngblood
E&B Natural Resource NISSEN
34740 Merced Ave.
Bakersfield, CA 93306

DEPARTMENT OF ENVIRONMENTAL HEALTH
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway
Alameda, CA 94502-8577
(510) 567-6700
FAX (510) 337-9335

NOTICE OF VIOLATION

Failure to Submit Hazardous Materials Business Plan (HMBP) Forms

Re: E&B Natural Resource NISSEN, 8617 Patterson Pass Rd., Livermore CA

Dear Mr. Youngblood:

This letter is to inform you that your annual HMBP forms for your business are past due. It is the responsibility of the business owner to ensure that the HMBP forms are completed and received by Alameda County Department of Environmental Health (ACDEH) within a year from the last submittal as required by Article 1, Chapter 6.95, Division 20 of California Health and Safety Code.

Please submit a HMBP or the Annual Update Certification form by April 30, 2012.

Additional copies of the HMBP forms and instructions are available online at our website:
<http://www.acgov.org/aceh>.

Per California Health and Safety Code 6.95, Section 25514.5, failure to submit your HMBP by the date shown on this notice may subject you to administrative civil penalties up to \$2000/day or \$5000/day for knowingly violating the law for each day your HMBP is delinquent.

ACDEH staff is available to assist you in completing your HMBP. Please contact My Le Huynh at (510) 567-6762 or Barney Chan at (510) 567-6765.

Please contact me at (510) 567-6780 or Barney Chan at (510) 567-6765 if you have any questions.

Sincerely,

Susan Hugo
Supervising Hazardous Materials Specialist

Cc: file

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Postmark Here	
Mr. Greg Youngblood E&B Natural Resource GIG 34740 Merced Ave. Bakersfield, CA 93306	

LEFT 0500 0000 0546 9002

October 26, 2017

Board Member Frank J. Imhof
Board Member Scott Beyer
East County Board of Zoning Adjustments
224 W. Winton Avenue, # 111
Hayward, CA 94544

Dear Board member Beyer and Board member Imhof,

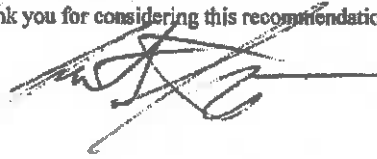
I am writing to recommend that you approve the request from E&B Natural Resources to renew their Conditional Use Permits for their Livermore operations. The reference numbers for these are CUP# C-8653 (assigned PLN2017-00110) and CUP# C-8688.

I am a Livermore resident and have the opportunity to observe what E&B does at the site as well as had the pleasure of meeting employees who work there. They keep the site clean, are professional and polite at all times and always ready to lend a helping hand. We have developed a good working and neighborly relationship. One of their employees, Ernesto, is a former member of the US military and displays a very organized and responsible approach to his work.

E&B is more than just a business operator, the company is a land owner so they have more of a vested interest in maintaining their operations and keeping the property up. All of which will continue to make E&B a good neighbor.

Thank you for considering this recommendation and I hope the E&B permits are continued.

Sincerely,



Jonathan Stickney
Livermore Resident

October 25, 2017

Board Members Frank J. Imhof and Scott Beyer
Members of the East County Board of Zoning Adjustments
224 W. Winton Avenue, # 111
Hayward, CA 94544

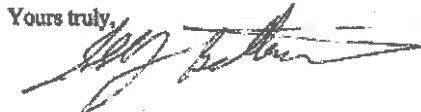
Dear Mr. Scott Beyer and Mr. Frank Imhof,

I know the area that E&B works in very well and I am comfortable with this company and how they do the work that they do. I'm an employee of the City of Livermore and one of my responsibilities is to prepare reports that deal with the Clean Water Act. Also I grew up right next to one of the oil sites. Ranching is in my blood and that of my teenage daughter. My daughter participates in rodeos, the Alameda County Fair and other high school events. She is focused on animal wellbeing and her early experiences here have inspired her to pursue becoming a veterinarian. E&B respects the rural nature of our area and I have an agreement with them that allows our family to graze and tend to cattle on their land.

These lifelong interests of our family and my current work make me focused and knowledgeable about how our land and natural resources are treated in the Livermore area. I have watched the oil operations around here for many years and saw a significant improvement when E&B took over about 10 years ago. They continue to make improvements like fencing, painting and general clean up to make them look even better. They also supported partnerships like the one with my family. Additionally, E&B's operations are quiet, clean and compatible with this area.

Because of all of these reasons, I recommend that you approve their renewal applications for CUP# C-8653 (assigned PLN2017-00110) and CUP# C-8688. Thank you for your attention to this letter.

Yours truly,



Todd Bettencourt



NATIONAL ASSOCIATION OF ROYALTY OWNERS – CALIFORNIA, INC.
Serving the Citizens Who Own California's Natural Resources

Frank J. Imhof
Scott Beyer
Matthew B. Ford
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

February 12, 2018

Re: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)

Dear Mr. Beyer, Imhof and Ford:

I am writing on behalf of the California Chapter of the National Association of Royalty Owners (NARO-CA) and our members in Alameda County. We wish to express support for E&B Natural Resources requests for a continuation of their two CUPs (C-8653 and C-8688).

The rural property owners in Alameda County (that NARO-California represents) are terrific stewards of their land. They are environmentalists who take care of the land and who want to make sure these resources are passed down to future generations. This is why E&B's operations should be continued. E&B is a Livermore area land owner as well as business operator; which means the company has a vested interest in maintaining the long-term wellbeing of the area.

Oil and gas is currently produced in Alameda County under the strictest environmental regulations in the world. California unfortunately has a high dependence on foreign oil thus passing all benefits from such imported oil over to countries such as Iraq and Russia who have lesser regulations. We should keep as much oil production in California as possible. It is the most environmentally and economically beneficial way to meet the current energy demands of this state.

NARO-CA represents over 600,000 private citizens who own oil and gas royalty interests in this state, including people in Alameda County. NARO-CA works to preserve and protect the well-established right of California's royalty owners to extract oil and gas from their property. Royalty owners are a lesser known group of men and women (mostly women age 60 and above) who are dependent on the income that their property and mineral rights provide them. The vast majority are not "wealthy" people, but women and families that depend on this income to survive in an increasingly expensive world.

Thank you for your consideration.

Sincerely,

Edward S. Hazard, President

CC: Nilma Singh, Richard Tarbell, Damien Curry

**WARREN K. KOURT & ASSOCIATES, INC.
PETROLEUM CONSULTANTS**

**1355 MILLER DRIVE
LOS ANGELES, CA. 90069
Tel. (323)654-1980
Fax. (419)818-1627
email wpkourt@aol.com**

February 19, 2018

Frank J. Imhof
Scott Beyer
Matthew B. Ford
East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA. 94544

Re: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)

Dear Misters Beyer, Imhof, and Ford:

I am a consulting petroleum engineer in private practice and have been engaged in my profession for over fifty years. I am also an Adjunct Professor in the Department of Energy Resources Engineering at Stanford University where I have taught graduate level classes for over thirty-five years. I am currently teaching a course entitled "Engineering Valuation and Appraisal of Oil and Gas Wells, Facilities, and Properties. I am offering herein details of my experience with E&B Natural Resources, the Operator of the Livermore Oil Field in your County.

Coincidentally, a former company of mine drilled and produced oil from the Livermore Field in the 1970s and as I recall we conducted operations there without incident. I have no specific knowledge of the Field's operations for the last several years. I have had the occasion to know E&B Natural Resources in their capacity as Operator of a field in West Kern County. I represent the beneficiaries of an Estate that owns both the Surface and Mineral Rights in this field. My experience with them has been extremely satisfactory; they are a very competent and responsible Operator and have been able to increase oil production in the Field through the application of the most updated techniques of oil extraction. Our surface lands are leased to Grazing and Agricultural interests and they have never reported anything related to the oil production that has adversely affected their operations.

I have also had experience with E&B as Operator of two other oil fields in other parts of the State. In these two fields I have interacted with E&B in my capacity as a board member of an investments fund which owns Royalty interests in those fields. They have operated both fields efficiently and safely.

My professional observation of and personal experience with E&B Natural Resource Management Company has instilled tremendous confidence in the Company's engineers and management. I find them to consistently invest in employee and public safety, facility upgrades, and continuous improvements wherever they are needed. I believe the Company to be one of the best operators among independent companies here in California.

I think I can say with confidence that E&B will operate the Livermore field consistent with the best oilfield practices and within the Rules and Regulations of the State of California and Federal Laws pertaining to oil operations. I trust my comments will be helpful to you in making a determination to renew E&B's Conditional Use Permits.

In writing these comments I am speaking for myself and not as a representative of Stanford University.

Yours very truly,


Warren K. Kourt

October 27, 2017

Frank J. Imhof
Scott Beyer
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: CUPs C-8653 (assigned PLN2017-00110), C-8688

Dear Sirs:

As a Visiting Professor of Petroleum Geology and Civilization & Energy at UC Berkeley, as well as serving on several science and energy related National Committees (NRC, DOE, NSF, AIP), I write in support of continuing the above cited E&B Natural Resources CUPs. I believe that the request is straight forward and reasonable. As such, I encourage your approval.

California's Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) is responsible for compliance with the Federal Safe Drinking Water Act. DOGGR has formally affirmed that E&B's Livermore operation is in compliance with these requirements. The oil reservoir (aquifer) does not currently serve as a source of drinking water; and going forward it is not reasonably expected to supply a public water system. DOGGR also recently affirmed that E&B's operations are in full compliance with environmental regulations.

Further, recent testing of nearby groundwater proves that E&B operations have had no impact whatsoever on groundwater.

Of additional note, E&B pumps up a mixture of oil and water from the reservoir and recycles it back into the ground after the hydrocarbons have been removed. Water recycled back into the reservoir in this manner is the most environmentally-responsible handling solution because it has absolutely no other beneficial reuse and may help to maintain underground reservoir pressure.

I also have given public presentations on Climate Change and Alternative Energy to public audiences including Berkeley Sierra Club and League of Women Voters Chapters, and university groups.

Thank you for considering the above comments that I hope add value to and have a positive impact on your deliberations. The requested E&B CUP extensions will allow the company to continue current operations and therefore I recommend that they be granted.

Sincerely,


Dr. Paul Henshaw, PhD

cc: Nilma Singh & Richard Tarbell, Alameda County

February 15, 2018

Frank J. Imhof
Scott Beyer
Matthew B. Ford
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)

Dear Mr. Beyer, Mr. Imhof and Mr. Ford:

I write to you as a 40-year Livermore resident and an individual with nearly thirty years of experience working on oil shale retorting and petroleum geochemistry, first at Lawrence Livermore National Laboratory adjacent to the Livermore oil field, subsequently at American Shale Oil LLC in Colorado, currently at Stanford University as an adjunct professor in Energy Resources Engineering, and as an independent consultant since the late 1990s for numerous petroleum companies. I helped develop advanced models of natural petroleum formation and expulsion, wrote a book on chemical kinetics of fossil fuels, and have published numerous papers, including one on identification and estimation of neutral organic contaminants in potable water, which led to an EPA-approved method in the 1970s.

From my overall knowledge of the nature and content of oil reservoirs combined with a familiarity of Livermore area geology, my independent professional opinion is that E&B's oil extraction and produced water recycling, if properly permitted and operated, would not have an impact on local sources of groundwater, nor would their operations induce seismicity (i.e., would not promote earthquakes). Further, the natural construction of the oil reservoir fully contains its contents, so there would be no migration of the reservoir contents outside of its natural barriers.

My experience is that extraneous information, inappropriate analogies, and unfounded fears are often introduced during public comment. Therefore, I encourage you to rely on facts and objective science in your decision on E&B's CUP application.

Sincerely,



Alan K. Burnham

cc: Nilma Singh, Alameda County
Richard Tarbell, Alameda County
Damien Curry, Alameda County

Rex Warren
PO Box 20246
Castro Valley, CA
94546

October 30, 2017

Mr. Frank J. Imhof
Mr. Scott Beyer
Members of the East County Board of Zoning Adjustments
224 W. Winton Avenue, # 111
Hayward, CA 94544

Dear Mr. Beyer
Dear Mr. Imhof:

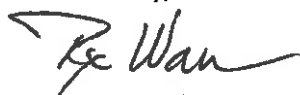
I am rancher, someone who is active and knowledgeable about land use, and a person who cares about preserving and promoting local agricultural activities. Although E&B Natural Resources is not an agricultural company, they are a land owner with a cattle grazing tenant on their property and I believe that their oil operations are compatible with the open and rural nature of our area.

E&B reached out to let me know that they are seeking extensions to their existing CUPs # C-8653 (assigned PLN2017-00110) and C-8688, which will allow them to continue their current operations, so I support approval.

I appreciate that E&B keeps their property maintained. I also know from attending hearings on the County's recent fracking ordinance that E&B does not engage in environmentally destructive processes, and that their operations do not compromise our drinking water. Both of these are important local considerations.

As a result, I encourage you to approve the E&B CUP applications that are presented for your consideration. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Rex Warren", with a stylized flourish at the end.

Rex Warren

02/16/17

Frank J. Imhof
Scott Beyer
Matthew B. Ford
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: CUPs C-8653 (assigned PLN2017-00110), C-8688

Dear Mr. Beyer, Imhof and Mr. Ford:

My name is Matthew Castle and as a resident of the area, I would like to express my support for E&B's CUP Renewal of the Livermore Oil Fields. Responsible oil production has allowed California to meet the energy demands of its citizens while protecting the environment and providing valuable jobs, taxes, and economic activity to our community. Producers like E&B Resources hold themselves to higher standards because they respect the environment in which they are able to work.

While operating in the Livermore oil fields, E&B has met all regulatory requirements set by the Alameda County, The Bay Area Air Quality Management District California Conservation, California Division of Oil, Gas, and Geothermal Resources, and other agencies. E&B also spent millions to improve the infrastructure and safety standards of the lease.

Although, E&B is a small producer they have gone above beyond what our area has required of them to operate and have proven to be excellent environmental stewards. This CUP is an ask to extend their time of operation and I believe they will continue to operate to same high standards.

Please support E&B and approve their CUP renewal.

Sincerely,



Matthew Castle

cc: Nilma Singh, Alameda County
Damien Curry, Alameda County
Richard Tarbell, Alameda County



February 9th, 2018

Frank J. Imhof
Scott Beyer
Matthew B. Ford
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: CUPs C-8653 (assigned PLN2017-00110), C-8688 (assigned PLN2017-00181)

Dear Gentlemen:

I am an active member of the Eastern Alameda County business community who represents Tri-Valley Bank on the Chamber Business Alliance. My family also own a small local business that grows olives and produces olive oil. These commitments of mine have one thing in common. They each involve small and medium size businesses in industries that include large and mega-size companies. I work everyday to help local business operations succeed and support E&B Natural Resources because it is a comparatively small, independent, responsible and responsive company that operates in the Livermore area, in an industry dominated by large impersonal conglomerates.

E&B Natural Resources works to ensure they are safely operating while being good stewards of the environment. They appear to be highly regulated by various agencies and have been found to be in compliance with all requirements. They have made the commitment to seek to continue their current oil operations in the same responsible and locally responsive manner. Therefore, I write today in support for your approval of their two conditional use permits. This action will allow them to continue with their existing operations. I ask that their request be approved.

Thank you,

A handwritten signature in black ink, appearing to read "Charles Crohare".

Charles Crohare

cc: Nilma Singh, Planning Department, Alameda County
Richard Tarbell, Planning Department, Alameda County
Damien Curry, Planning Department, Alameda County



3160 Crow Canyon Road, Suite 160 † San Ramon, CA 94583 † 925-791-4340 † Fax 925-837-2569
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February 16, 2018

Alameda County
East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: CUPs C-8653 (assigned PLN2017-00110), C-8688 (assigned PLN2017-00181)

Dear Board Members:

On behalf of the Livermore Valley Chamber of Commerce, I am writing to express support for E&B Natural Resources and the renewal of its Conditional Use Permits with Alameda County.


We appreciate that E&B Natural Resources has proactively reached out to the community, including to LVCC members, about their operations in a transparent and informative manner. E & B presented information highlighting its business, operational and public protection activities of its Livermore area oil production sites.

The mission of the LVCC organization is to enhance the quality of life in the Livermore Valley. E&B Natural Resources is an active participant in meeting this expectation. LVCC further appreciates that E&B Natural Resources is a small independent company that continues to succeed in an industry dominated by large multi-national corporations, a circumstance that resonates within the LVCC organization. E&B Natural Resources runs a responsible operation, especially given the many governmental agencies overseeing their regulatory compliance. They are dedicated to the Livermore Valley.

LVCC is pleased to have E&B Natural Resources continue as an active and contributing business in the Livermore Valley. LVCC supports their application and recommends its approval.

Thank you for considering my comments above.

Respectfully,


Dawn P. Argula
President & CEO

cc: Scott Haggerty, First District Supervisor, Alameda County BOS
Nilma Singh, Planning Department, Alameda County
Richard Tarbell, Planning Department, Alameda County
Damien Curry, Planning Department, Alameda County
Amy Roth, E & B Natural Resources

Livermore Valley Chamber of Commerce
2157 First Street Livermore CA 94550
925.447.1606

www.livermorechamber.org



May 16, 2018

**Frank J. Imhof
Scott Beyer
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544**

Re: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)

Dear Mr. Beyer and Mr. Imhof:

RPM Holdings LP is the land owner at 8433 Patterson Pass Road, which is the location of one of E&B Natural Resources' sites. I have been informed that another party has submitted a letter to this board that I wrote last year regarding E&B's activities on my property and the neighboring property. I would like to clarify that I did not send this letter to Mr. Curry or his predecessor for submission as a public comment for this Conditional Use Permit renewal application.

At one point last year this letter was written by me and submitted as a public comment for E&B's aquifer exemption application. Since then, RPM and E&B have addressed many of the issues that were raised in the letter and we have a better understanding about the circumstances at the site.

As a result, we do not oppose the renewal of E&B's CUPs, provided that E&B complies with any and all conditions imposed by this Board or any other appropriate regulatory agencies, and the commitments made to RPM Holdings are fulfilled.

**Sincerely,
RPM Holdings, L.P.**

**By: RPM Management LLC
Its General Partner**

BY:

A handwritten signature in black ink, appearing to read "Phillip W. Marshall", written over a horizontal line.

**Phillip W. Marshall
Manager**

cc: Damien Curry, Alameda County

Curry, Damien, CDA

From: Edward S. Hazard <ehazard57@yahoo.com>
Sent: Tuesday, May 15, 2018 1:20 PM
To: Curry, Damien, CDA
Subject: E&B Natural Resources, Livermore Oil Field, CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)
Attachments: NARO-CA Alameda County CUP Letter and Expert Statement Combined PDF 5-10-2018.pdf

Dear Mr. Curry,

The attached information is being submitted by the California Chapter of the National Association of Royalty Owners (NARO-CA) in support of the application for renewal of the above referenced CUPs.

One of the responsibilities of NARO-CA is to protect the rights of California's estimated 600,000 oil and gas royalty owners, including those in Alameda County. Another of our responsibilities is to educate royalty owners and the public in regards to oil and gas production in this state. Therefore, we are compelled to address the incredible amount of misinformation regarding oil production in the Livermore oilfield and regarding its operator, E&B Natural Resources (E&B).

Attached is an Expert Statement prepared by Dr. Steve Bohlen, PhD together with a cover letter from NARO-CA. The Expert Statement provides facts and science in response to the misleading and incorrect information being disseminated by those in opposition to the above referenced CUP renewals.

Dr. Bohlen is a well respected scientist and a highly regarded authority on oil and gas issues. His qualifications are impressive. Appointed by Governor Brown, he is the past Oil and Gas Supervisor for the State of California. He currently serves as Program Manager for Energy and Homeland Security at Lawrence Livermore National Laboratory. He lives and works in Livermore. I urge you to read his biography at the end of the attached Expert Statement.

Please include the attached cover letter and Expert Statement in the briefing packet being prepared for the meeting of the East County Board of Zoning Adjustments scheduled for May 24, 2018.

If you have any questions or need further information, please feel free to contact me at:
ehazard57@yahoo.com

Sincerely,
Ed Hazard

Edward S. Hazard
President, NARO-California



NATIONAL ASSOCIATION OF ROYALTY OWNERS – CALIFORNIA, INC.
Serving the Citizens Who Own California's Oil and Gas Resources

Frank J. Imhof
Scott Beyer
Matthew B. Ford
Members, East County Board of Zoning Adjustments
224 W. Winton Avenue, Room 111
Hayward, CA 94544

May 10, 2018

Re: CUPs C-8653 (PLN2017-00110), C-8688 (PLN2017-00181)

Dear Mr. Beyer, Mr. Imhof and Mr. Ford:

As president of National Association of Royalty Owners–California (NARO-CA), I am writing to share the attached, fact-based, data-affirmed and scientifically reasoned document on water quality, seismicity, methane release and natural gas issues related to E&B Natural Resources' (E&B) oil production in Alameda County.

Accusations by organizations opposed to fossil fuel use are designed to incite concerns over local oil operations, whether or not the elicited concerns apply to the oil production facility in question. Additionally, these assertions are generally not grounded in scientific fact. The attachment by Dr. Steve Bohlen, Ph.D., specifically addresses each item of concern with respect to the Livermore Oil Production facility, and helps to debunk the hysteria. My hope is that you will give due consideration to scientific study, logical assessment and reasoned conclusions in making your decisions.

Dr. Bohlen's independent comments are based on his professional expertise and many years of experience as a geologist and engagement with oil and gas operations. Dr. Bohlen's previous experience includes:

- Appointee of Governor Edmund G. Brown Jr. as a senior advisor for oil and gas issues and leader of the California Division of Oil, Gas, and Geothermal Resources (DOGGR)
- Member of the U.S. EPA science advisory board for the national scientific study on the hazards of hydraulic fracturing and other well stimulation and completion practices
- Associate Chief Geologist for Science and Chief Scientist at the U.S. Geological Survey
- Executive Director of the Ocean Drilling Program

He currently serves as Program Manager for Energy and Homeland Security at the Lawrence Livermore National Laboratory and lives and works in Livermore.

The following is a summary of Dr. Bohlen's Livermore Oil Operations Expert Statement:

Assertions about oil industry contamination of "fresh water" aquifers are generally false and simply not supported by science or the operational track record. Additional claims that the state's current aquifer exemption initiative will expand operations are also not accurate. Essentially, DOGGR with its primary authority to regulate state aquifers under the Federal Safe Drinking Water Act, is simply updating defined boundaries of those aquifers, which were established in the early 1980s. This process does not permit changes to operations whatsoever.

Founded in 1980, the National Association of Royalty Owners is the only national organization representing solely, and without compromise, oil and gas royalty owners' interests.

Further, these aquifers (i.e. oil reservoirs) naturally contain large amounts of salts, benzene, other organic compounds, boron and other metals toxic to animals and humans, rendering their water unfit to be used or treated for beneficial use. Finally, the fluids in the oil reservoir are fully contained and have been for thousands, possibly millions of years; there is no reason to expect that they will not remain so.

Local residents should have assurance that water supply wells near oil production wells are safe from contamination now and in the future. Formations into which produced water, separated of oil, is returned are much deeper than local water wells. Local wells derive water from the upper 500 surface feet and oil wells operate at depths over 1000 feet, with at least 500 feet of rock layers that completely block the flow of fluids between the two. Produced water can be returned to the oil reservoir safely and without fear of environmental damage or harm to more shallow groundwater.

Another fear concerns the creation of earthquakes from oil operations. The few such, out-of-California instances, primarily in Oklahoma, have been shown to be caused by over-injection of millions of gallons of wastewater deep into disposal wells at very high pressure. E&B does not employ this practice. E&B's conventional oil production also does not rely on hydraulic fracturing or the introduction of large amounts of chemicals with water to help extract oil. Quite the contrary, E&B's recycling of its produced water back into the reservoir helps maintain, not add to, reservoir pressure. Therefore, comparisons of oil and gas activities with those from Oklahoma, Texas, North Dakota, among other states cannot be made and are irrelevant. If a connection existed, oil production would regularly produce small earthquakes along the fault, and observational evidence over the past 50 years in Alameda County demonstrates this is not the case. **Ultimately, the risk of seismicity from oil production at the Livermore site is essentially zero.**

Opponents claim that there is a threat of leakage from the oil reservoir due to the Greenville fault, when this fault actually creates a barrier that restricts fluids from leaving the oil reservoir

An additional allegation is that oil and gas activities release significant amounts of methane and contribute greenhouse gas to the atmosphere. Opponents point to a well failure at the Aliso Canyon gas storage facility. Release of highly compressed gas from a storage facility has absolutely no connection or relevance to routine operations at a conventional oil production facility such as Livermore's. **Quite frankly, more methane is likely released each year by the cattle grazing on the grassy slopes around the oil wells than the wells will produce in their lifetime.**

An additional fear tactic is employed by connecting a natural gas explosion at a retail establishment in urban Los Angeles to E&B's operations. **That natural gas incident was scientifically proven to have nothing to do with oil production.** Instead it was caused by a naturally-created buildup of natural gas from decomposing organic material that seeped into a building and ignited.

The observational evidence over nearly fifty years of oil field operations at Livermore shows that oil can be produced, without incident, induced earthquakes, ground water contamination or gas leakage.

NARO-CA is a nonprofit organization representing the interests of California's estimated 600,000 private citizen oil and gas royalty owners, including those in Alameda County. We are an affiliated chapter of the National Association of Royalty Owners (NARO). Founded in 1980 NARO and its state and regional chapters represent the interests of the estimated 8.5 to 12 million private citizen oil and gas royalty owners of the United States.

On behalf of our organization, including our Alameda County members, thank you for considering these scientific findings in this process.

Sincerely,



Edward S. Hazard, President

Attachments: Livermore Oil Operations Expert Statement and Dr. Steve Bohlen Bio.

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies

KEY POINTS

1. Oil production at the Livermore Oil Field has been going on for over 50 years. Testing has proven that groundwater supplies used for drinking water by local residents or agricultural purposes has not been and is not contaminated.
2. Samples from three monitoring wells and two nearby groundwater wells water show no contamination.
3. The geologic formation from which the oil is produced forms a robust container that has trapped the oil for hundreds of thousands or perhaps millions of years; hence, when wells return produced water to the geologic formation, it is safely contained therein.
4. The geologic formation from which oil is produced is separated from the formations from which groundwater supplies are obtained by several hundred feet of rocks that preclude migration of fluids. This prevents groundwater from being contaminated.
5. Assertions that Livermore Field oil production will contaminate local groundwater supplies are not supported by the operational results of over half a century, current monitoring wells' sample results or the scientific facts of robust containment of the oil and water mixture in the geologic formation that has been the source of oil for geologically long periods.

Many claims have been made that oil and gas production has caused contamination of geologic formations containing water (aquifers) fit for use by agriculture or human consumption. The levels of concern and the number of accusations have increased dramatically as well stimulation and hydraulic fracturing practices have become more widespread across the country.

In California, in addition to accusations that well stimulation practices (hydraulic fracturing is just one type of well stimulation) cause contamination of near surface aquifers, oil and gas operations in areas of formations lacking exemption from the Safe Drinking Water Act have led to widespread, and very vocal, assertions of contamination of "fresh water" aquifers. Environmental organizations have aggressively asserted that the oil and gas industry is permanently spoiling "fresh water" aquifers statewide via their drilling activities. Although this characterization is false, the facts have difficulty being heard and considered on their merits because a small number of environmental organizations have grossly distorted the circumstances and confused and scared the public.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

Three important facts:

To be clear, there has not been nor will there be hydraulic fracturing at the Livermore Oil Field. Therefore, concerns about contamination of drinking water supplies caused by hydraulic fracturing are not relevant.

The Livermore Oil Field has never operated outside of the zone originally exempted from the Safe Drinking Water Act (SDWA). Note that the state took on the regulatory responsibilities relating to the SDWA in the early 1980s.

Accusations by a few environmental groups that approval of the Conditional Use Permit will allow E&B Resources to greatly expand the oil field operations or increase land-use intensity are conjectural and illogical. For decades, output from the Livermore Oil Field has been in the range of tens of barrel per day. It is a small field whose productivity has been prolonged by careful, steady and measured operations.

Often the life of an oil field and the ultimate recovery is dependent on careful stewardship of the resource.

Background on Aquifer Exemption Issues Across the State

In some California locations, *but not Alameda County*, oil and gas operations have been determined to operate beyond the exempted boundaries of oil-bearing formations (commonly referred to as aquifers because they generally contain more water than oil) established in the early 1980s, when the U.S. EPA granted the state primacy to regulate aquifers under provisions of the Federal Safe Drinking Water Act.

In other areas of the state, *but not Livermore*, although oil and gas activities had operated beyond the boundaries of aquifers exempted in the early 1980s, operators were extracting oil and returning produced water separated from the oil back into geologic formations containing economic amounts of oil and gas. Far from the characterization that the oil industry was permanently contaminating “fresh water” aquifers, the industry was and has been conducting operations in aquifers containing oil. Hence the water in these oil reservoirs was not then and is not now “fresh,” but rather contains large amounts of salts, benzene and other organic compounds, and boron and other metals toxic to animals and humans, thus rendering the water unfit for use. Furthermore, and most important, there is no expectation that the water would ever be pumped to the surface and treated for beneficial use. The costs of pumping and treatment are prohibitive.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

In my role as State Oil and Gas Supervisor, I negotiated a compliance agreement with the U.S. EPA to return the state to full compliance with the Safe Drinking Water Act, and over the past 4 years, the Division of Oil, Gas and Geothermal Resources in partnership with the State Water Board has made significant progress on these compliance issues. Though there are many aquifer exemption amendments in process across the state, in general the state has found that:

- Oil and gas activities have been conducted in aquifers containing oil,
- The formations contained water of such poor quality so as to render the water unfit for beneficial use, and
- The geologic formations provided geologic closure – that is the formations provided containment of the fluids to within acceptable portions of the formation and leakage of the fluids beyond formation is highly unlikely.

These three conditions are central to exempting an aquifer from the provisions of the Safe Drinking Water Act.

Livermore Oil Operations and the Safe Drinking Water Act

There are several issues that need to be de-convoluted when assessing accusations that oil production in Livermore will destroy aquifers containing water that could be used by agriculture or is fit for human use.

First, as has been stated, the Livermore oil production facility operated by E&B Resources has not, does not and will not employ hydraulic fracturing or other such well stimulation techniques. Therefore, the rhetoric and accusations concerning hydraulic fracturing and well stimulation do not have any relevance in the context of oil operations in Livermore.

Second, the Livermore oil field operates within an existing geologic formation that has been exempted from the Safe Drinking Water Act. An amendment to the exemption boundary has been filed, and the Division of Oil, Gas Geothermal Resources and the State Water Board have concurred that the amendment meets all of the criteria for exemption. To emphasize what this means, both state agencies with responsibilities for the long term health of the state's aquifers and drinking water supplies have determined that the formation in which oil operations are being conducted in Livermore fully meet the three key criteria required for exemption – the formation contains oil, water quality is too low for beneficial use, and the formation is geologically closed (bounded) so fluids will not migrate beyond the boundaries of the formation.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

Concern for Local Well Water Contamination

Given the exaggerated and often false claims about the contamination of well water supplies by the oil and gas industry across the country, local residents need to be assured that their local water supplies from wells drilled in properties adjacent to oil production wells are not in danger of being contaminated.

KEY POINTS

Several lines of evidence can provide local residents assurance that their local water supplies are safe from contamination now and into the future.

1. The groundwater in the area has been tested both in monitoring wells drilled by E&B Resources and in two wells used for domestic drinking water. The water sampled showed a null result for hydrocarbons and related compounds. Considering that the Livermore Oil Field has been in operation for over 50 years, the absence of hydrocarbons in the groundwater is significant, and demonstrates the safe operation of the oil field.
2. The formation from which oil-bearing water is extracted and into which water separated from the oil is returned is at depths much greater than local groundwater wells. The oil and water disposal wells are operating at depths in excess of 1000 feet, and at least 500 feet of geologic formations (rock layers) containing rocks that do not allow for the flow of fluids between the oil bearing formation and rocks within 500 feet of the surface. Local wells derive groundwater from the upper 500 feet of gravels and sediments near the surface.
3. As explained above, the pressures within the reservoir from which oil is extracted are decreasing very slowly with time. This means that any driving force that might push fluids out of the boundaries of the formation have been and are currently insufficient to do so and are decreasing with time.
4. As summarized above in the section on aquifer exemption requirements, the oil-bearing formation is bounded geologically by rocks that do not allow for the migration of fluids out of the formation.
5. Properly drilled and maintained wells provide multiple layers of protection against the migration of fluids out of the well. In October 2017, following inspection by the Division of Oil, Gas and Geothermal Resources, it was determined that all nine wells and their associated facilities located within Livermore Field are all in compliance with the California Division of Oil, Gas, and Geothermal's environmental regulations.

That the wells at the Livermore oil facility have been operating as designed for many years is evidence of the protection they provide to local water supplies.

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Protecting Drinking Water Supplies (continued)

Injection of produced water as an acceptable standard for waste removal

The recycling or return of water produced in the process of producing oil from depth is a standard practice that has been reviewed repeatedly for its efficacy and environmental safety. Indeed, many decades ago, the EPA established an entire class of disposal wells for the oil and gas industry to regulate the return of water produced with oil back into the geologic formation from which it is was produced. Hence the U.S. EPA Class II well regulations were established to protect groundwater. And the program has been successful across the country and in California.

The U.S. EPA has other classes of disposal wells for different classes of water. The fundamental point is, sequestration in geologic formations that are sealed has been, and continues to be, the preferred (and legislated) method. Produced water has been dealt with in this way for decades. For disposal wells that have been properly drilled and maintained, there has been little if any environmental harm from disposal of fluids in this way. In E&B's case, it should be further noted that the returned produced water is cleaner than when it is first pumped up.

KEY POINT

With respect to the production facility in Livermore, as noted above, the formation is geologically closed, and the water in the oil reservoir is sequestered and contained. Hence produced water can be returned to the geologic formation of its origin safely and without fear of environmental damage or harm to separate aquifers used to obtain groundwater for beneficial use.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Seismicity

KEY POINTS

1. The risk of seismicity as a result of oil production at the Livermore site is essentially zero. Scientific evidence does not support the assertion that oil production on the east side of Livermore has caused or will cause damaging earthquakes.
2. There is no mechanism or driving force within the oil field that could have caused any of the tectonic earthquakes that have occurred in 1980, 1981 or more recently. The assertion that oil production has caused or will cause significant earthquakes is not based on scientific evidence.
3. The reduction in pressure within the geologic formation as oil is extracted, if anything, reduces stresses on the Greenville Fault. The volumes of oil and water involved at the Livermore Oil Field are so small that there is insufficient energy in the recycling of water produced with the oil to spawn earthquakes.
4. Conditions that have led to well publicized earthquakes in Oklahoma and other areas of the country are irrelevant to the conditions at the Livermore Oil Field.
5. Earthquakes along the Greenville Fault, which is part of the San Andreas Fault system, are well explained and understood in the context of the regional geologic stresses and natural earthquake cycle and are tectonic in character.

Seismicity Risks from Oil Production

The risk of earthquakes from oil and gas production is a topic much in the news. Most of the headlines greatly exaggerate, confuse and conflate the earthquake risk from significant and impactful tectonic earthquakes with earthquakes induced by the injection of water produced from oil production into deep disposal wells in other parts of the U.S., most notably northern and central portions of the State of Oklahoma.

Assertions that oil and gas production activities in conventional (such as the Livermore Oil Field) and so-called unconventional oil and gas-bearing formations causes earthquakes are exaggerated. Many baseless claims have been made to scare the public into thinking that oil and gas production is too dangerous to be allowed. That said, this topic is complicated and entangles many different issues concerning earthquake risk, well stimulation practices, and produced water recycling; which provides many ways to conflate issues and promote conclusions that are not based in scientific fact.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

Seismic Risk Along the Greenville Fault

Oil production at the Livermore site has been going on for over 50 years, a period over which several earthquakes have occurred along the Greenville Fault. However, earthquakes spawned by small movements along the fault have been going on for millions of years in the past and will continue long into the future, well after any oil production has ceased. These earthquakes need to be put into the context of the full scope of earthquake activity in the northern California region, specifically the Bay Area.

Following the Loma Prieta earthquake in 1989, the USGS reported that this earthquake had reduced regional tectonic stresses such that the area was in what the USGS called a stress shadow. Based on their analysis, the USGS predicted a period of seismic quiet that would last for circa 25-30 years. As the years have passed, the analysis by the USGS has proved to be correct. Seismic activity in the Bay Area has been nearly non-existent until the past few years and the region has emerged from the seismic shadow created by fault movement in 1989. The South Napa earthquake, a few small earthquakes along the Calaveras fault south of San Jose, and a few small earthquakes along the Greenville fault are consistent with the USGS analysis and suggest a return to a more normal rate of earthquake activity in the region.

At least three lines of evidence indicate that the very modest oil production in Livermore has no connection to seismicity along the Greenville fault:

First, had there been some sort of connection, the expectation would be that oil production would have continued to produce small earthquakes along the fault on a regular basis. Instead, the Greenville along with other faults in the region, have been quiet for the past 30 years.

Second, the depth of the initiation of the earthquakes along the Greenville fault is many kilometers. The depth of initial rupture for the 1980 and 1981 earthquakes were 12 and 10.5 kilometers, or 40,000 and 35,000 feet deep, respectively. In comparison, the depth of the wells at the Livermore oil field are approximately 2,000 feet or less, and produced water, separated from the oil, is recycled into the reservoir from which it is produced. Hence there is a net reduction in pressure in the geologic formation as opposed to the buildup of pressure required for seismicity to be induced.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

Third, elementary rock mechanics (the physics of rock behavior) indicates that small pressure variations in geologic formations close to the surface (such as at the Livermore Oil Field) will have no influence on stresses at much greater depth. Put another way, there is no plausible mechanism to link the limited amounts of oil being extracted from the Livermore Oil Field to earthquakes that have rupture initiation tens of thousands of feet below, and off-set from the field by several miles.

KEY POINT

Hence, for the reasons explained above, the risk of seismicity as a result of oil production at the Livermore site is essentially zero. There is no mechanism or driving force within the oil field that could have caused any of the tectonic earthquakes that have occurred in 1980, 1981 or more recently. The assertion that oil production has caused or will cause significant earthquakes is not based on scientific evidence.

Facts and myths concerning seismicity induced by oil and gas production – general background

Some opposed to the reissuing of the conditional use permit for the Livermore Oil Field have asserted that oil production in Livermore relies on hydraulic fracturing and for this reason the risk of earthquake exists.

It is simply a matter of record that there has never been hydraulic fracturing at the Livermore Oil Field, nor will there ever be. Purposely fracturing the oil-bearing geologic formation would damage the oil reservoir and would be in fact counterproductive.

Though not an issue for the Livermore Oil Field, below is background information that allows the full picture of the risks of earthquakes from different types of oil production techniques to be put into perspective.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

Seismic Risk from Hydraulic Fracturing

Out of over a million wells drilled in North America and stimulated using hydraulic fracturing in the past 15 years, fewer than about 20 of these operations have any felt seismicity associated with them, and the kinds of wells associated with seismicity are not those that are drilled in the state of California. Of the few wells that have been stimulated by hydraulic fracturing known to have caused felt earthquakes – the cases routinely used as evidence proving increased seismic risk – are exceptionally unusual in their depth and the large volumes of water used for fracturing (several million gallons of water). Such wells have not been drilled in California. Nor is there any expectation such wells will be drilled in the state owing to the geological conditions in this state that are very different from those in other states. For example in Texas, North Dakota, Colorado, Pennsylvania geologic conditions are such that it is advantageous to drill oil and gas wells that are very deep (many thousands of feet) with very long (sometimes 2 mile long) horizontal extensions and are stimulated with large volumes (millions of gallons) of water.

Class II water disposal in California

In contrast to the situations in other states, California's geology and experience with Class II water disposal is very different. The state has over 1900 permitted Class II disposal wells that are regulated, and the volumes injected, dates and times are required to be submitted to the state. The state's disposal wells are drilled into geologically young formations with substantial amounts of porosity, and therefore formations capable of accepting significant amounts of water without increasing reservoir pressures enough to induce earthquakes. Usually, as is the case at the Livermore Oil Field, the produced water is recycled back into the formation from which the oil and water were pumped, hence ensuring that the pressure inside the formation declines with time.

Because the state is blessed with a seismic network second only to that which exists in Japan, seismologists from universities, the state and federal agencies have the opportunity to study seismicity in the state in exquisite detail, and they have been able to do so over decades.

Recently detailed academic studies (Goebel and others, *Geophysical Research Letters*, 10.1002, 2015, 1092-1099) have attempted to correlate any type of seismicity, including seismic events well below the felt threshold of around magnitude 3 and in the magnitude range 1-3 with produced water recycling. The results of these studies have been far from definitive, but do definitively show that the geologic circumstances in California are quite different from those in, for example, Oklahoma (Goebel, *The Leading Edge*, 2015, 640-648). The situation in Oklahoma has been inappropriately cited, without any scientific basis, as applying across the country. Such assertions are for all practical purposes irrelevant.

Livermore Oil Operations Expert Statement

Steve Bohlen, PhD

Livermore Oil Field – Seismicity (continued)

KEY POINT

The central point is seismicity induced by oil and gas activities in California has been non-existent the past several decades, and comparisons of oil and gas activities in California with those from Oklahoma, Texas, North Dakota, among other states cannot be made and are irrelevant.

Seismic risk for large-volume, conventional oil production

Recent analysis by the US Geological Survey of relatively large earthquakes have found that some conventional oil and gas activities, such as those around Long Beach, CA, are implicated with significant seismic activity. However, the circumstances are quite different than elsewhere in the state and harken to a bygone era. In the 1930s and 40s, the Los Angeles Basin was *the* world's supplier of petroleum. One could call southern California the Saudi Arabia of the world at that time without exaggeration. Millions upon millions of barrels of oil were pumped from super-giant (of which only a handful have been found globally) oil-bearing reservoirs in the LA Basin. In such extreme cases, seismicity can be linked to oil and gas activities, and this behavior was observed in a few places around the world but bears no resemblance to the circumstances in Livermore.

KEY POINT

To reiterate, circumstances historically extant in Long Beach, bear absolutely no resemblance to the circumstances in Livermore, or other oil-producing locations in California.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Methane emissions

KEY POINTS

1. The Livermore Oil Field does not produce natural gas as a product.
2. Comparisons to other oil fields in the state for which gas leakage has been found to be a problem are not germane to this field and are irrelevant as a comparison to the oil production processes in Livermore.
3. The amount of methane released by the cattle grazing on Livermore hillsides is very likely greater than that released by oil production.
4. There is **zero risk** of an incident (gas explosion or violent release of gas).

Concerns have been expressed that oil and gas activities release significant amounts of methane and hence contribute a powerful greenhouse gas to the atmosphere. Perspective is important with respect to this issue and studies show that the amount of methane released from oil and gas production methods is less than that released by agriculture and animal husbandry.

The amount of methane emitted by oil and gas activities is a topic of great interest in this state, and much scientific study is ongoing. Both the California Energy Commission and the California Air Resources Board have funded studies currently underway.

Consistent trends in data collected via these and other studies put the leakage of methane from oil and gas wells in perspective. Gas wells show much greater leakage of methane than oil wells (*Note: there are no gas wells in the Livermore Oil Field operation*). The sources of methane release are numerous in the process of producing, compressing and shipping natural gas via pipeline.

Further, studies indicate that releases of methane from oil and gas production are relatively small in comparison with leaking gas pipelines, especially in cities (*Note: there are no gas pipelines associated with the Livermore Oil Field operation*). Scientific studies indicate that about 80-85% of methane leaking into the atmosphere from the production and distribution of oil and gas comes from leaking gas pipelines of all types – from large interstate pipelines to the small pipes that provide gas for residential use. Observations within cities indicate that most of the methane lost to the atmosphere occurs in a relatively few places, known as methane leak “hotspots.”

The Livermore operations have regular inspections conducted to ensure there are no leaks. The facility is in compliance with the recently adopted California’s Air Resources Board methane emissions from oil and gas operations regulations.

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Methane emissions (continued)

Comparisons of the risk of release of small amounts of methane from wells drilled for oil and gas production with the failure of a well at the Aliso Canyon gas storage facility are meaningless. The release of highly compressed gas from a storage facility bears no resemblance to routine operations at a conventional oil production facility, such as the one in Livermore.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Ross Dress for Less Event

KEY POINTS

1. Circumstances surrounding the Ross Dress-for-Less gas explosion in Los Angeles in March, 1985 bear no resemblance whatsoever to the Livermore Oil Field operations.
2. An independent task force empaneled to investigate the event concluded that it was caused by the build-up of pockets of natural gas produced from decay of organic matter in conjunction with a rising water table. The gas seeped into the basement of the building and was ignited.
3. Accumulations of natural gas could not be connected to the operation of oil and gas wells from previous decades.
4. Geologic conditions at the Livermore Oil Field do not resemble those under and around the general area of the Ross Dress-for-Less store.
5. The risk of a gas explosion such as the Ross Dress-for-Less event occurring at the Livermore Oil Field is zero.

Geology at Livermore versus Downtown Los Angeles

The geology near the surface surrounding the Livermore Oil Field is such that there is essentially no chance of an accumulation of natural gas pockets.

Natural gas abatement is common

Though not much needed, if at all, in the Bay Area, methane abatement is routine in much of the country. States such as Wyoming, Utah, Colorado, and Pennsylvania, to name a few, commonly have natural gas abatement requirements in areas underlain by coal seams. Natural gas, generated as part of a geologically long-term maturation of the coal, can cause a risk of explosion if gas abatement practices are not in place.

Similarly, other areas of the country underlain by recent sediments rich in organic material also have to consider natural gas abatement procedures

In short, dealing with the natural flow of natural gas from sediments is common practice across the country and around the world. Most of the areas in which natural gas abatement is practiced have nothing to do with oil development. Hence the a priori assertion that natural gas events are always, or usually, or even often connected with oil and gas production is without merit. The geology of the area under and around the Livermore Oil Field bears essentially no resemblance to those areas in which natural gas abatement is an important issue.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD

Livermore Oil Field – Essential Background

The Science of the Field

The oil production activities conducted by E&B Natural Resources are well described as conventional oil production, that is, the production of oil that has been trapped within a contained, geologic formation. Here, at the Livermore Oil Field, this formation is bounded on the eastern side by the Greenville Fault. (Indeed, the fault itself forms part of the geologic seal that has contained the oil for hundreds of thousands if not millions of years.) The water-oil mixture exists in pore spaces between the sand grains of the sandstone formation and slowly, over geologic timescales, the oil and some water migrates to the upper most part of the geologic formation, where the oil accumulates and forms an economically recoverable oil deposit.

In this type of oil deposit, the oil and water mixture are brought to the surface in one of two ways. In some cases because the pressure in the reservoir is sufficient to lift the oil/water to the surface once a well has been emplaced, the oil along with water rises naturally to the surface. In most cases, however, the reservoir pressure is insufficient to lift the oil-water mixture to the surface, so the oil and water is pumped to the surface. This latter scenario is the case for the Livermore Oil Field. The oil is then separated from the water, and the water is returned to the reservoir. Notably, as the oil is removed pressure inside the geologic formation gradually declines and so does the oil production.

Several important realities about these conventional oil production procedures are important to understand in the context of seismic activity risk as well as impacts to groundwater and other potential consequences of oil production:

Livermore Oil Operations Expert Statement
Steve Bohlen, PhD

Livermore Oil Field – Essential Background (continued)

KEY POINTS

1. There would be no oil accumulation were it not for the fact that the geologic setting provides a robust geologic trap for the oil-water mixture, and this geologic trap has persisted for geologic periods lasting hundreds of thousands to millions of years. The oil accumulation postdates the formation of the Greenville Fault, which helps to trap the oil in the sandstone formation from which it is produced. Hence, this trap has survived the long-term motion of the Greenville Fault, expressed as episodic earthquakes as part of the natural earthquake cycle, for millions of years. In other words, the geologic formations above, below, and all around the sandstone formation in which the oil-water mixture has been held captive have formed an impenetrable container that has lasted for very long periods of time and persisted through many, many tectonic earthquakes.
2. **This kind of conventional oil production does not rely on or require hydraulic fracturing, the injection of high-pressure fluids, or the introduction of chemicals with the water.** In fact, the creation of fractures is something the oil operator avoids completely in conventional oil production.
3. As the oil-water mixture is brought to the surface, the oil is separated and the water is returned to the reservoir both to help maintain the pressure in the reservoir and to assist with the migration of oil-bearing water toward the production wells (so-called water flooding). The water-oil mixture brought to the surface contains water that is in equilibrium with oil and therefore naturally contains a variety of organic compounds including benzene. In addition, because oil forms from organisms growing in ocean water, the water in the formation is highly saline. Hence the natural combination of salt and organics in the water render the water unfit for any use, even with the oil removed. **This water is therefore safely and completely returned to the reservoir via what the U.S. EPA categorizes as Class II water disposal wells.**
4. The presence of oil, other organic compounds and chemicals, and the highly salty (saline) nature of the water in the oil-bearing formation forms the basis of the exemption of this formation from the Safe Water Drinking Act. **The water in this formation is not expected ever to be use for what is called beneficial use – either for agriculture or human consumption.**
5. Because the geology forms a robust rock-bounded container that has persisted for geologically long periods of time, the water-oil mixture contained within this rock container sequester the fluids within the formation and seals them in permanently. This means that there is no communication or connection between the fluids within the rock container and those in other formations above, below and around the oil-bearing formation. This is a second critical element in the designation of the formation as exempt from the Safe Drinking Water Act – that is, the geology forms a seal and prevents the migration of oil-bearing fluids out of the formation in which they are contained.

Livermore Oil Operations Expert Statement Steve Bohlen, PhD



STEVE BOHLEN, PhD

Dr. Steve Bohlen has served science and society as a prominent researcher, professor, senior manager in the US Federal and CA State governments, CEO of a systems engineering and naval architecture firm, and currently a member of the Lawrence Livermore National Laboratory.

Steve is the E-Program Manager in the Global Security Directorate. E-Program's mission is to develop advanced energy technologies and manufacturing techniques and to advance the resilience of the nation's energy system to physical and cyber-attack.

A graduate of the Dartmouth College, Steve earned a Ph.D. in geochemistry from The University of Michigan in 1979. Following a postdoctoral fellowship at UCLA, he became a tenured professor at Stony Brook University. From 1995 through 2000, Steve was Associate Chief Geologist for Science at the US Geological Survey. He was responsible for the scientific priorities and funding of the broad portfolio of USGS research, including the National Earthquake Hazards Reduction, Climate Change, Global Energy, and Minerals Resource programs. As President and CEO of Joint Oceanographic Institutions from 2000-2008, Steve led the global effort in scientific ocean drilling and the Integrated Ocean Drilling Program and the systems engineering and deployment of the US National Science Foundation's Ocean Observatories. In May 2014, Steve was appointed by Governor Brown to lead the CA Division of Oil, Gas and Geothermal Resources. Steve rebuilt the Division and developed and implemented the nation's most comprehensive and environmentally focused regulations on well stimulation and hydraulic fracturing.

With a deep understanding of how the Earth works, Steve writes and speaks about future challenges and risk assessment of energy, climate, water, and food on a small planet. His 25 years of research on the evolution and stabilization of continental crust is widely cited, and he is among a select group in ISI's Web of Science of Highly Cited Researchers in the field of Geoscience (atmosphere, ocean, and solid Earth).

**Public Comment Summaries and Responses
Aquifer Exemption Proposal
Livermore Oil Field
Greenville Sands Member, Cierbo Formation**

INTRODUCTION

Before submitting to the United States Environmental Protection Agency (US EPA) the proposal for expansion of the existing exemption for the Greenville Sands member of the Cierbo Formation in the Livermore Oil Field, the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Division or DOGGR) and the State Water Resources Control Board (State Water Board) jointly conducted a public participation process to solicit input on the aquifer exemption proposal. Following publication of notice in a local newspaper and mailing or emailing notice to interested parties, public comments on the proposal were accepted from December 9, 2016 through January 25, 2017. On January 11, 2017, the Division and the State Water Board jointly conducted a public comment hearing in Livermore, California.

Over the course of the public comment period, the Division received a variety of public comments via email, regular mail, and public comment hearing. To facilitate the process of reviewing and responding to comments, the Division assigned to each comment a unique numerical signifier. This signifier consists of three components: first, a unique code number assigned to each commenter entity; second, a separating hyphen; third, a sequential number assigned to each comment from the identified commenter entity.

This document summarizes all comments received and presents responses to those comments from the Division and the State Water Board. Comment summaries are arranged in groups under one or more corresponding numerical signifiers. Responses to comments appear below the respective comment summaries, in italicized text.

COMMENTERS

Number	Name and/or Entity
0001	Rosemary Ehat
0002	Abigail Thompson
0003	Alan Burnham
0004	Alessandro Gagliardi
0005	Alexis Shusterman
0006	Alice Re
0007	Allison Rodaker
0008	Steering Committee
0009	Andrew Shotland
0010	Angela Ramirez Holmes
0011	Peter Bauer
0012	Aura Walker
0013	Tri-Valley Sierra Club Executive Committee
0014	Bradford A. Barker

0015	Brian Bonner
0016	Brian Toy
0017	Brigid Ryan
0018	Chandresh Patel
0019	Caren Klarman
0020	Carla Mill
0021	Carol and David Counts
0022	Carolyn Frances
0023	Carolynn Kohn
0024	Catherine Bishop
0025	Cheryl Sims
0026	Chethan Venkatappa
0027	Chris Dragon
0028	Chris Vlasses
0029	Christina Miller
0030	Christine Wranovics
0031	Claire Broome
0032	Colleen Woods
0033	Mayor of the City of Livermore John Marchand
0034	Dan Murray
0035	Dana Ostrowski
0036	Danielle Daley
0037	Darren Archer
0038	Deana Jensen
0039	Michael and Debbie Campbell
0040	Deborah Gomez
0041	Denise Taylor
0042	Donna Minagawa
0043	Duane Marble
0044	Eloise Hamann
0045	Eloise Sanchez
0046	Frances Aubrey
0047	Francine Sneddon
0048	Greg Naderi
0049	Justin and Ashley Weber
0050	Deborah McQueen
0051	Michael Torres
0052	Colin Kalahar
0053	Rheem Boosalida
0054	Hayley Bubb
0055	Jacqueline Simone
0056	Jacky Poulsen
0057	Jeanette Ostrowski
0058	Jeanetter Maurer

0059	Jeff Thayer
0060	Jen Glossup
0061	Jennifer Tilson
0062	Melinda Brecheisen
0063	Jegath Athilingam
0064	Jim Miller
0065	Jillian Haddad
0066	Jim Mehner
0067	John Anderson and Amy Allen
0068	Jonathan Curley
0069	Julia Dashe
0070	Justin Griffin
0071	Karen Beck
0072	Karen Mattison
0073	Karla Scott
0074	Kate Hoyle
0075	Kelly Hammargren
0076	Kenneth Gibson
0077	Kerry Skemp
0078	Kimberlea Buczeke
0079	John and Colleen Cameron
0080	Kathy Petricca
0081	Kristina Coates
0082	Evva Linden
0083	Lawrence Burdick
0084	Linda Eshia
0085	Lisa Poyneer
0086	Lizard Blizzard
0087	Lori Drummond
0088	Lisa Ronan
0089	Lynn Davidson
0090	Tomas, M house
0091	Margaret Sharpe
0092	Marc J. Miller
0093	Marci Markel
0094	Margaret Hasselman
0095	Margaret Pearce
0096	Marian Berges
0097	Mark Grossman
0098	Mary Kay Benson
0099	Mary Stolz
0100	Megan Hagelis
0101	Michael Houston
0102	Mike Plunkett

0103	Mike Brosius
0104	Nadia Stanis
0105	Nancy Harrington
0106	Niranjana Badrinarayanan
0107	Oona Backers
0108	Pam Shwayka
0109	Patrice Curedale
0110	Patrick Feng
0111	Patricia MacLeod
0112	Paul Backers
0113	Paula Lester
0114	Peter Poulsen
0115	RPM Holdings LP
0116	Renee Cowan
0117	Jessica Humerickhouse
0118	Roger Blair
0119	Ron Hague
0120	Rusty McCall
0121	Sandra Bruns
0122	Sara Burant
0123	Sara Greenwald
0124	Sarah Palmer
0125	Shashi
0126	Shoshana Wechsler
0127	Steve Drapcho
0128	Tracy Racanelli
0129	Tracy Maurer
0130	Veronica Stewart
0131	Yvonne Graser
0132	Ziv Tzvieli
0133	Deb Nudelman
0134	Peter Dsouza
0135	Center for Biological Diversity
0136	Leanne Nhan
0137	Trent Rosenlieb
0138	Quanah Parker Brightman
0139	Michael Stettner
0140	Peter Paulsen
0141	Paul Henshaw
0142	Bob Abbot
0143	Mike Finch
0144	Rex Warren
0145	Tim Loveley
0146	Chuck Moore

0147	Willie Rivera
0148	Tracy Leach
0149	John Cameron
0150	Ella Teevan
0151	Hollin Kretzmann
0152	Laura McCamy
0153	Ash Lauth
0154	Barbara Stebbins
0155	Pat Scofield
0156	Ralph Boniello
0157	David Braun
0158	Mary Lia Kelley
0159	Alan Burnham
0160	Lawrence Danos
0161	Ed Hazard
0162	Gil Stratton
0163	Philip Marshall
0164	Lawrence Abbott
0165	Peter De Souza
0166	Kenneth Gibson
0167	Samuel Kohn
0168	Brendan Folie
0169	Donna Cabanne
0170	Eloise Hamann
0171	Heather Macleod
0172	Tina Darmohray
0173	Amy Allen
0174	Virginia Madsen
0175	Larry Kriegaum

COMMENT SUMMARIES AND RESPONSES

COMMENTS IN SUPPORT

0003-2, 0137-1, 0137-2, 0137-3, 0139-1, 0139-2, 0139-3, 0139-4, 0139-5, 0141-1, 0141-5, 0141-6, 0141-2, 0141-3, 0142-1, 0143-1, 0143-2, 0143-3, 0143-4, 0143-5, 0144-1, 0144-2, 0144-3, 0145-1, 0144-5, 0144-6, 0145-2, 0145-3, 0145-4, 0146-1, 0146-2, 0146-3, 0147-1, 0147-2, 0147-3, 0148-1, 0148-3, 0148-4, 0148-5, 0159-2, 0159-3, 0161-1, 0161-2, 0161-3, 0161-4

Commenters expressed support for the methods, analysis, and conclusions presented in the aquifer exemption proposal materials, and encouraged approval of the proposed exemption.

Response to the comment summary above:

Thank you for your comments.

COMMENTS IN OPPOSITION

General Opposition

0001-1, 0005-5, 0006-1, 0033-1, 0016-2, 0002-1, 0004-5, 0005-5, 0007-1, 0008-1, 0008-7, 0009-1, 0011-2, 0012-1, 0012-2, 0013-1, 0014-1, 0015-1, 0017-1, 0018-1, 0019-1, 0020-1, 0021-1, 0021-2, 0022-3, 0023-1, 0023-3, 0023-4, 0024-1, 0025-3, 0026-3, 0027-1, 0028-1, 0028-2, 0029-1, 0030-1, 0031-3, 0032-1, 0034-1, 0034-3, 0035-6, 0036-3, 0037-1, 0038-1, 0039-1, 0040-4, 0041-1, 0042-1, 0042-2, 0043-1, 0043-3, 0044-1, 0045-1, 0046-1, 0046-7, 0047-1, 0047-6, 0048-1, 0048-2, 0048-6, 0049-1, 0050-1, 0051-1, 0052-1, 0053-1, 0054-5, 0056-1, 0057-1, 0058-3, 0058-4, 0059-1, 0060-2, 0060-4, 0061-1, 0061-2, 0062-3, 0063-4, 0064-1, 0065-1, 0065-3, 0066-1, 0066-2, 0067-1, 0067-7, 0068-1, 0068-2, 0069-2, 0070-1, 0070-3, 0071-1, 0072-1, 0072-3, 0073-1, 0074-1, 0075-1, 0075-2, 0075-5, 0076-6, 0077-1, 0077-3, 0078-1, 0079-1, 0080-1, 0081-1, 0082-1, 0083-1, 0083-2, 0084-1, 0084-2, 0085-3, 0086-1, 0086-2, 0087-1, 0088-1, 0090-2, 0090-3, 0091-1, 0092-1, 0093-1, 0094-2, 0094-4, 0095-1, 0096-1, 0097-3, 0097-4, 0098-1, 0098-3, 0099-1, 0100-1, 0101-2, 0101-3, 0101-5, 0101-7, 0102-1, 0103-1, 0104-1, 0105-1, 0105-2, 0106-1, 0107-1, 0108-2, 0109-1, 0110-5, 0111-1, 0112-1, 0113-1, 0114-2, 0115-3, 0116-1, 0117-1, 0119-1, 0120-1, 0121-1, 0122-1, 0122-2, 0123-1, 0125-2, 0126-2, 0127-1, 0127-2, 0128-1, 0129-1, 0129-2, 0130-1, 0131-1, 0131-2, 0132-1, 0132-7, 0133-4, 0134-1, 0135-1, 0135-5, 0136-1, 0138-3, 0149-5, 0150-1, 0151-1, 0152-1, 0153-1, 0153-10, 0154-1, 0155-3, 0156-3, 0157-1, 0157-3, 0160-1, 0160-5, 0162-1, 0162-4, 0163-2, 0164-2, 0165-1, 0166-1, 0167-2, 0168-1, 0168-2, 0169-1, 0170-3, 0171-1, 0171-4, 0171-5, 0172-3, 0173-1, 0173-3, 0175-3

Commenters expressed generalized opposition to approval of the aquifer exemption proposal, or to oil extraction activities.

Response to the comment summary above:

No activities are being authorized by this proposal for expanded exemption area. Rather, the aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. Operators may apply to the Division for approval of proposed Class II underground injection projects into aquifers that have been exempted. Appropriate environmental reviews will be completed at the project level as part of the Division's approval process for underground injection projects, and the Division and State Water Board staff may incorporate conditions on such approvals, as necessary to ensure that injected fluids do not affect the quality of water that may be used for any beneficial use.

In preparing this aquifer exemption proposal, the Division utilized a combination of information supplied by third parties and its own independent analysis. After careful consideration, the Division, with concurrence from the State Water Board, has determined that the data and analysis contained in the proposal materials adequately demonstrate satisfaction of the prerequisite criteria for exemption, as set forth in Public Resources Code section 3131, subdivision (a), and on that basis the proposal warrants submission to the US EPA for an exemption determination. The US EPA is responsible for final review and approval of the aquifer exemption proposal.

Aquifer Exemption Criteria are Outdated

0005-4, 0098-4, 0126-8, 0135-7

The exemption criteria are antiquated and do not reflect current understanding of hydrology, water treatment, or the dangers of oil and gas activity. Nor do they reflect California's changing water supply in response to the recent historic drought. DOGGR and the US EPA must instead apply contemporary standards to today's needs when analyzing whether it is appropriate to exempt this aquifer from the requirements of the Safe Drinking Water Act.

0005-1, 0008-6, 0009-3, 0012-4, 0013-3, 0013-7, 0014-2, 0014-3, 0015-2, 0018-3, 0031-1, 0035-1, 0035-2, 0039-5, 0044-4, 0046-6, 0048-7, 0049-4, 0050-6, 0051-4, 0050-2, 0052-4, 0053-4, 0054-1, 0057-3, 0057-4, 0060-3, 0063-1, 0064-3, 0066-4, 0072-2, 0074-4, 0077-8, 0079-3, 0080-3, 0082-3, 0083-4, 0088-4, 0091-2, 0094-1, 0095-2, 0096-2, 0097-1, 0099-2, 0100-4, 0107-4, 0112-4, 0122-7, 0123-3, 0126-1, 0127-7, 0129-4, 0132-6, 0133-2, 0135-1, 0135-3, 0136-6, 0151-3, 0153-4, 0153-6, 0154-3, 0156-2, 0157-6, 0158-4, 0160-2, 0165-4, 0167-1, 0169-3, 0169-9, 0170-1, 0171-6, 0173-2

Current and projected future droughts are straining California's water supply. As much water as possible must be preserved for domestic and agriculture uses. There is the possibility that new technologies can make the groundwater that is considered too contaminated now, usable in the future. Given these facts we should not allow aquifers to be filled with waste materials today in sake of tomorrow.

Response to comments 0005-1, 0005-4, 0008-6, 0009-3, 0012-4, 0013-3, 0013-7, 0014-3, 0015-2, 0018-3, 0031-1, 0035-1, 0039-5, 0044-4, 0046-6, 0048-7, 0049-4, 0050-2, 0050-6, 0051-4, 0052-4, 0053-4, 0054-1, 0057-3, 0057-4, 0060-3, 0063-1, 0064-3, 0066-4, 0072-2, 0074-4, 0077-8, 0079-3, 0080-3, 0082-3, 0083-4, 0088-4, 0091-2, 0094-1, 0095-2, 0096-2, 0097-1, 0098-4, 0099-2, 0100-4, 0107-4, 0112-4, 0122-7, 0123-3, 0126-1, 0126-8, 0127-7, 0129-4, 0132-6, 0133-2, 0135-1, 0135-3, 0136-6, 0135-7, 0151-3, 0153-4, 0153-6, 0154-3, 0156-2, 0157-6, 0158-4, 0160-2, 0165-4, 0167-1, 0169-3, 0170-1, 0171-6, 0173-2:

The criteria for aquifer exemption are established in federal law under title 40, part 146.4, of the Code of Federal Regulations, and expanded upon in State law under Public Resources Code section 3131. Amendment of these federal and state laws is outside the scope of the determination to be made by the Division and the State Water Board within the context of this aquifer exemption proposal. Nonetheless, the Division and the State Water Board do appreciate the role technology and climate conditions play in the wise use of natural resources.

Based on the evidence presented in the proposal materials, it is the Division's determination that the aquifer exemption proposal satisfies the prerequisite criteria for submission of an aquifer exemption proposal to the US EPA, as set forth in Public Resources Code section 3131, subdivision (a). These criteria include a determination that the aquifer proposed for exemption does not currently serve as a source of drinking water, and that it is not reasonably expected to supply a public water system in the future. This determination is based in part on the relatively high levels of total dissolved solids in water samples collected from the aquifer, the presence of naturally-occurring hydrocarbons within portions of the aquifer, and the local availability of high quality groundwater in shallower geologic zones. The data in the proposal materials also demonstrate that injected fluids are expected to remain within the proposed exemption area due to a combination of geologic conditions and hydraulic controls.

State Water Board staff have reviewed the proposal materials and concurred with the Division's determinations on a preliminary basis, as reflected and more fully described in the State Water Board's letter of preliminary concurrence, dated November 15, 2016.

Bond Requirements

0162-5

E&B should be encouraged to post a sizable bond if they want to inject into the exempted aquifer.

Response to comment 0162-5:

There is no bond requirement specifically associated with the aquifer exemption process. Public Resources Code section 3131, subdivision (a), sets forth the state law prerequisite criteria for submission of an aquifer exemption proposal to the US EPA.

Existing state law does impose various bond requirements in connection with the drilling, alteration, and operation of oil and gas wells and related production facilities. See, e.g., Public Resources Code sections 3204, 3205, 3205.2, 3206, and 3270.4. The Division shall continue to monitor and enforce ongoing compliance with these requirements as applicable to all operators of oil and gas wells in California, including E&B Natural Resources.

California Environmental Quality Act (CEQA)/ National Environmental Policy Act (NEPA)

0135-4, 0135-8, 0151-6

The Division's failure to conduct environmental review of the impact of allowing oil and gas operators to inject into protected California aquifers protected by the Safe Drinking Water Act is a clear violation of the CEQA. In addition, as a specific determination requiring EPA's approval, the exemption of an aquifer from protection under the Safe Drinking Water Act is also a major federal action that must adhere to the requirements of the NEPA, which compels all federal agencies to undergo environmental review for "every major Federal action significantly affecting the quality of the human environment."

Response to comments 0135-4, 0135-8, 0151-6:

No activities are being authorized by this proposal for an expanded exemption area. Rather, the aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. Operators may apply to the Division for approval of proposed Class II underground injection projects into aquifers that have been exempted. Appropriate environmental reviews will be completed at the project level as part of the Division's approval process for underground injection projects.

The authority to approve aquifer exemptions resides with the US EPA. The applicability of NEPA to the US EPA's exemption determination is not a matter to be addressed by the State within the context of this aquifer exemption proposal.

Climate Change

0004-4, 0008-5, 0024-4, 0027-2, 0036-5, 0046-5, 0063-3, 0067-5, 0077-7, 0090-1, 0122-6, 0127-6, 0130-2, 0132-5, 0135-2, 136-5, 0151-4, 0151-5, 0152-7, 0154-2, 0160-1, 0167-6

This aquifer exemption proposal is inconsistent not only with United States' climate commitments under the Paris Agreement but also with California's mandates for rapid statewide GHG emissions reductions. California has strict mandates to rapidly reduce emissions to prescribed levels by the years 2020, 2030, and 2050. The Governor's Executive Order B-30-15 and Senate Bill 32 establish an ambitious greenhouse gas emissions reduction target for California of 40 percent below 1990 levels by 2030. Executive Order S-3-05 calls for the state to reduce emissions levels by 80 percent below 1990 levels by 2050. Due to climate change, California cannot afford to invest in new fossil fuel extraction and infrastructure that locks in carbon intensive oil production for years into the future.

Response to comments 0004-4, 0008-5, 0024-4, 0027-2, 0036-5, 0046-5, 0063-3, 0067-5, 0077-7, 0090-1, 0122-6, 0127-6, 0130-2, 0132-5, 0135-2, 136-5, 0151-4, 0151-5, 0152-7, 0154-2, 0160-1, 0167-6:

The purpose of the aquifer exemption process is to assess the characteristics of the aquifer at issue. The aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. The criteria for aquifer exemption are established in federal law under title 40, part 146.4, of the Code of Federal Regulations, and expanded upon in state law under Public Resources Code section 3131. Greenhouse gas emissions are not among the criteria for aquifer exemption under applicable state or federal law.

Cumulative Impact

0135-4

The State must move beyond the case by case analysis that looks at each exemption application in a vacuum. The State must examine the cumulative impacts of multiple exemptions on water supply at a regional level and a statewide level.

Response to comment 0135-4:

The aquifer exemption process includes an evaluation of whether the aquifer at issue currently serves as a source of drinking water supply, and an evaluation of whether the aquifer may serve as a source of drinking water supply in future. Based on the available data, the Division and the State Water Board have determined that the Greenville Sands member of the Cierbo Formation within the Livermore Oil Field is not currently used as a source of drinking water, and that it is not expected to be used as a source of drinking water in the future. As discussed in the proposal materials, these conclusions are based on multiple factors, including the relatively high concentration of total dissolved solids present in water samples from the formation, the presence of hydrocarbons in water samples from the formation, and the regional availability of better-quality, sustainable groundwater sources in shallower, easier-to-access formations. Additionally, and also as discussed in the proposal materials, the Division and the State Water Board have determined that injection of fluids into the Greenville Sands member of the Cierbo Formation within the Livermore Oil Field is not expected to affect the quality of any other groundwater

that may be used for any beneficial use. This is because a combination of geologic conditions and operational controls will provide containment—effectively isolating injected fluids from other groundwater sources. A cumulative statewide analysis of all temporally proximate aquifer exemption proposals is not necessary in order to determine the characterization of an aquifer as exempt for purposes of the Safe Drinking Water Act, and such analysis is not required by applicable federal or state law.

Economic Concerns

0036-6, 0039-4, 0040-2, 0047-3, 0058-1, 0061-4, 0072-4, 0079-5, 0083-3, 0085-1, 0087-2, 0088-6, 0091-4, 0095-5, 0099-3, 0100-7, 0104-2, 0123-6, 0129-7, 0175-1

Livermore is a thriving community that relies on the local environment to drive tourism and support its agricultural industry. Allowing this exemption and subsequent underground injection could endanger the local environment, thus negatively impacting Livermore's economy and local property values.

Response to comments 0036-6, 0039-4, 0040-2, 0047-3, 0058-1, 0061-4, 0072-4, 0079-5, 0083-3, 0085-1, 0087-2, 0088-6, 0091-4, 0095-5, 0099-3, 0100-7, 0104-2, 0123-6, 0129-7, 0175-1:

The operation of an injection project is an activity subject to approval and regulatory processes separate from the determination of an aquifer exemption. Any injection activity within the area proposed for exemption must undergo a separate approval process and ongoing regulatory evaluation that considers, among the other things, limitations on injection pressures and volumes as necessary to ensure injected fluids remain within the exempted area. No activities are being authorized by this proposal for an expanded exemption area. Rather, the aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. The criteria for aquifer exemption are established in federal law under title 40, part 146.4, of the Code of Federal Regulations, and expanded upon in state law under Public Resources Code section 3131. Hypothetical regional economic impacts related to oil and gas operations are not among the criteria for aquifer exemption under applicable state or federal law.

Based on the evidence presented in the proposal materials, it is the Division's determination that the aquifer exemption proposal satisfies the prerequisite criteria for submission of an aquifer exemption proposal to the US EPA, as set forth in Public Resources Code section 3131, subdivision (a). State Water Board staff have reviewed the proposal materials and concurred with the Division's determinations on a preliminary basis, as reflected and more fully described in the State Water Board's letter of preliminary concurrence, dated November 15, 2016.

0003-1, 0006-3, 0018-6, 0019-3, 0023-2, 0029-3, 0037-3, 0038-3, 0048-3, 0073-3, 0076-5, 0081-3, 0093-3, 0102-3, 0106-3, 0111-3, 0116-3, 0121-3, 0142-2, 0149-4, 0154-2, 0174-4, 0174-5

The economic viability of oil extraction in the Livermore Oil Field does not justify putting underground drinking water and the greater environment at risk.

Response to comments 0003-1, 0006-3, 0018-6, 0019-3, 0023-2, 0029-3, 0037-3, 0038-3, 0048-3, 0073-3, 0076-5, 0081-3, 0093-3, 0102-3, 0106-3, 0111-3, 0116-3, 0121-3, 0142-2, 0149-4, 0174-5:

The purpose of the aquifer exemption process is not to assess the economic viability of oil extraction, but rather to assess the characteristics of the aquifer at issue. The aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted.

This proposal for expansion of the exemption area for the Greenville Sands member of the Cierbo Formation at the Livermore Oil Field is not based on an evaluation of the commercial productivity of the Livermore Oil Field. As discussed in the proposal materials, the factors supporting the proposed expansion of the exemption area relate to the characteristics of the aquifer, including the relatively high levels of total dissolved solids in water samples collected from the aquifer, the presence of naturally-occurring hydrocarbons within portions of the aquifer, and the local availability of high quality groundwater in shallower geologic zones. The data in the aquifer exemption proposal materials also demonstrate that injected fluids are expected to remain within the proposed exemption area due to a combination of geologic conditions and hydraulic controls.

Fracking

0002-1, 0004-1, 0010-2, 0012-3, 0013-6, 0016-1, 0016-3, 0018-2, 0018-5, 0022-1, 0025-1, 0026-1, 0027-1, 0028-3, 0033-4, 0035-3, 0036-4, 0047-7, 0058-2, 0061-3, 0062-1, 0062-2, 0065-2, 0068-3, 0069-1, 0080-2, 0089-2, 0092-2, 0101-1, 0108-1, 0108-3, 0109-2, 0110-1, 0117-2, 0117-5, 0120-4, 0124-1, 0124-4, 0125-1, 0126-7, 0134-2, 0134-3, 0169-7

Commenters expressed opposition to the practice of hydraulic fracturing generally, and argued that approval of the aquifer exemption proposal would be inconsistent with a recently-adopted Alameda County zoning ordinance that prohibited the use of certain "high-intensity oil and gas operations" within unincorporated areas of the county.

Response to comments 0002-1, 0004-1, 0010-2, 0012-3, 0013-6, 0016-1, 0016-3, 0018-2, 0018-5, 0022-1, 0025-1, 0026-1, 0027-1, 0028-3, 0033-4, 0035-3, 0036-4, 0047-7, 0058-2, 0061-3, 0062-2, 0065-2, 0068-3, 0069-1, 0080-2, 0089-2, 0092-2, 0101-1, 0108-1, 0108-3, 0109-2, 0110-1, 0117-2, 0117-5, 0120-4, 0124-1, 0124-4, 0125-1, 0126-7, 0134-2, 0134-3, 0169-7:

This proposal for an expanded exemption area does not authorize any activities, including fracking within the Livermore Oil Field, nor does the aquifer exemption proposal provide an exemption from compliance with any laws that govern fracking, including any applicable county-level requirements or restrictions.

Rather, the aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. Operators may apply to the Division for approval of proposed Class II underground injection projects into aquifers that have been exempted. Appropriate environmental reviews will be completed at the project level as part of the Division's approval process for underground injection projects, and the Division and State Water Board staff may incorporate conditions on such approvals, as necessary to ensure that injected fluids do not affect the quality of water that may be used for any beneficial use.

Idle and Abandoned Wells

0135-13, 0174-2

The Application indicates there are 8 abandoned or idle production wells and 18 dry hole wells in the Livermore Oil Field. This Application failed to provide a thorough analysis of these wellbores as potential conduits for contamination from the proposed exemption area to nearby USDWs, especially with some of these wellbores dating back to early in the last century. Thus, the State cannot approve this exemption.

Response to comments 0003-6, 0135-13, 0174-2:

Safe management of idle and abandoned wells is a broader issue not directly related to the aquifer exemption determination. Existing state law imposes requirements for testing and management of all idle wells, and standards for abandonment of wells, to minimize the risk of damage from fluid migration. Additionally, under existing state law the process for approval of any new injection project already requires a careful study of the area affected by the project to ensure existing idle and abandoned wells are identified and that they will not have an adverse effect on the project or cause damage.

Injection of Wastewater Produced from Other Locations

0003-5, 0003-6, 0008-2, 0033-5, 0046-2, 0066-4, 0067-2, 0077-4, 0122-3, 0127-3, 0132-2, 0136-2

The exemption proposal asserts that an inward pressure gradient will keep injected fluids isolated in the exempted area, because more fluids are being removed than are being injected. But the exemption proposal does not specify any limits on the source or amounts of fluids that may be injected. Currently, a number of aquifer exemption proposals involving disposal of Class II fluids in California remain under review. If some of those pending aquifer exemption proposals are denied, other oil companies may wind up looking for new places to dispose of their wastewater. If this expanded exemption for the Greenville Sands is approved, oil companies may want dispose of their wastewater by injecting it into the Greenville Sands in the Livermore Oil Field, increasing the amount of fluid injected without increasing the amount of fluid removed, and thereby disrupting the inward pressure gradient that helps to keep the injected fluids isolated.

Response to comments 0003-5, 0008-2 0033-5, 0046-2, 0066-4, 0067-2, 0077-4, 0122-3, 0127-3, 0132-2, 0136-2:

The operation of an injection project is an activity subject to approval and regulatory processes separate from the determination of an aquifer exemption. Any injection activity within the area proposed for exemption must undergo a separate approval process and ongoing regulatory evaluation that considers, among the other things, limitations on injection pressures and volumes as necessary to ensure injected fluids remain within the exempted area.

Injection Well Operator's Compliance History

0003-3, 0003-7, 0006-4, 0009-2, 0013-8, 0013-9, 0019-4, 0022-2, 0029-4, 0035-4, 0037-4, 0038-4, 0039-3, 0040-3, 0041-3, 0048-5, 0049-2, 0050-3, 0051-2, 0052-2, 0053-2, 0056-2, 0057-2, 0060-1,

0064-2, 0066-7, 0073-4, 0074-2, 0076-1, 0078-2, 0079-2, 0081-4, 0082-4, 0084-3, 0085-2, 0088-2, 0093-4, 0095-6, 0100-2, 0102-4, 0106-4, 0111-4, 0115-2, 0116-4, 0121-4, 0128-3, 0129-3, 0135-6, 0149-2, 0150-4, 0151-11, 0163-1, 0167-3, 0169-10, 0173-5, 0174-3

E&B Natural Resources is not a safe or trustworthy operator of wells. E&B Natural Resources has had previous incidents involving spills or other environmental and safety concerns, some of which led to imposition of financial penalties against E&B Natural Resources by regulatory entities. The aquifer exemption proposal should be denied on this basis.

Response to comments 0003-3, 0003-7, 0006-4, 0009-2, 0013-8, 0013-9, 0019-4, 0022-2, 0029-4, 0035-4, 0037-4, 0038-4, 0039-3, 0040-3, 0041-3, 0048-5, 0049-2, 0050-3, 0051-2, 0052-2, 0053-2, 0056-2, 0057-2, 0060-1, 0064-2, 0066-7, 0073-4, 0074-2, 0076-1, 0076-2, 0078-2, 0079-2, 0081-4, 0082-4, 0084-3, 0085-2, 0088-2, 0093-4, 0095-6, 0100-2, 0102-4, 0106-4, 0111-4, 0115-2, 0116-4, 0121-4, 0128-3, 0129-3, 0135-6, 0149-2, 0150-4, 0151-11, 0163-1, 0167-3, 0169-10, 0173-5, 0174-3:

An exemption determination is not contingent on the compliance history of a particular operator, nor does approval of an aquifer exemption excuse any operator from compliance with the applicable requirements for operation of oil and gas wells in California. The purpose of the aquifer exemption process is to assess the characteristics of the aquifer at issue. The aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. As discussed in the proposal materials, based on a review of the data, and with concurrence from the State Water Board, the Division has determined that the aquifer at issue satisfies the criteria for exemption under applicable state and federal law. This determination is based in part on the relatively high levels of total dissolved solids in water samples collected from the aquifer, the presence of naturally-occurring hydrocarbons within portions of the aquifer, and the local availability of high quality groundwater in shallower geologic zones. The data in the aquifer exemption proposal materials also demonstrate that injected fluids are expected to remain within the proposed exemption area due to a combination of geologic conditions and hydraulic controls.

Seismic Activity

0002-2, 0004-2, 0005-3, 0013-5, 0015-4, 0016-4, 0018-4, 0024-3, 0025-2, 0030-2, 0031-2, 0032-2, 0034-2, 0036-2, 0040-1, 0047-2, 0054-3, 0056-3, 0057-5, 0063-2, 0072-6, 0075-4, 0080-5, 0082-5, 0089-4, 0091-3, 0092-3, 0095-4, 0097-2, 0099-4, 0100-5, 0108-4, 0109-3, 0110-3, 0114-1, 0117-4, 0123-5, 0124-2, 0126-5, 0129-5, 0134-4, 0135-11, 0138-2, 0140-3, 0150-2, 0151-10, 0153-2, 0153-8, 0155-1, 0157-4, 0160-4, 0162-2, 0165-3, 0167-5, 0168-3, 0169-5, 0171-2, 0172-1, 0173-4

This aquifer exemption would allow injection in a region that is seismically active. This raises concerns of induced seismicity, like that seen in Oklahoma, Texas, and California's Central Valley.

0003-4, 0008-3, 0011-1, 0015-5, 0013-4, 0044-3, 0046-3, 0049-5, 0050-7, 0051-5, 0052-5, 0053-5, 0056-3, 0062-6, 0067-3, 0071-2, 0074-5, 0076-3, 0077-5, 0079-4, 0080-4, 0082-6, 0088-5, 0096-4, 0100-6, 0101-9, 0107-3, 0110-4, 0112-3, 0122-4, 0123-4, 0124-3, 0126-6, 0127-4, 0129-6, 0132-3, 0133-6, 0135-12, 0136-3, 0140-2, 0150-3, 0153-7, 0155-2, 0156-4, 0157-5, 0158-3, 0171-3, 0160-3, 0162-3, 0164-1, 0167-4, 0168-4, 0169-4, 0169-5, 0170-2, 0173-4, 0175-2

Even if faults are currently an effective sealant, the Greenville fault zone is active, with a quake reported in 1980. Current fault activity calls into question the viability of geological features to prevent injected fluid migration.

Response to comments 0002-2, 0003-4, 0004-2, 0005-3, 0008-3, 0011-1, 0013-4, 0015-4, 0015-5, 0016-4, 0018-4, 0024-3, 0025-2, 0030-2, 0031-2, 0034-2, 0036-2, 0040-1, 0044-3, 0046-3, 0047-2, 0049-5, 0050-7, 0051-5, 0052-5, 0053-5, 0054-3, 0056-3, 0057-5, 0062-6, 0063-2, 0067-3, 0071-2, 0072-6, 0074-5, 0075-4, 0076-3, 0077-5, 0079-4, 0080-4, 0080-5, 0082-5, 0082-6, 0088-5, 0089-4, 0091-3, 0092-3, 0095-4, 0096-4, 0097-2, , 0099-4, 0100-5, 0100-6, 0101-9, 0107-3, 0108-4, 0109-3, 0110-3, 0110-4, 0112-3, 0114-1, 0117-4, 0122-4, 0123, 0138-2, -4, 0123-5, 0124-2, 0124-3, 0126-5, 0126-6, 0127-4, 0129-5, 0129-6, 0132-3, 0133-6, 0134-4, 0135-11, 135-12, 0136-3, 0138-2, 0140-2, 0140-3, 0150-2, 0150-3, 0151-10, 0153-2, 0153-7, 0153-8, 0155-1, 0155-2, 0156-4, 0157-4, 0157-5, 0158-3, 0171-3, 0160-3, 0160-4, 0162-2, 0162-3, 0164-1, 0165-3, 0167-4, 0167-5, 0168-3, 0168-4, 0169-4, 0169-5, 0169-5, 0170-2, 0171-2, 0173-4, 0175-2:

The criteria for aquifer exemption do not contemplate speculative evaluation of seismic activity. The Division and State Water Board have determined that hydraulic and geologic conditions in the area are such that injected fluids are expected to remain in the exempted area and will not affect the quality of water that is used, or may reasonably be used, for any beneficial use. The basis for this determination is set forth in the proposal materials. If the US EPA approves the proposed expansion of the existing aquifer exemption, new injection activity within the exempted area will undergo a separate approval process that considers, among the other things, limitations on injection pressures and volumes as necessary to ensure injected fluids remain within the exempted area. A seismic monitoring program may be a component of such future approvals.

Water Quality

0015-3, 0158-1

The adjacent Lawrence Livermore National Laboratory site has been mediating contaminated groundwater. Has the State considered if the expanded injection regime alters the movement of the waste plume?

Response to comments 0015-3, 0158-1:

The waste plumes near the Lawrence Livermore National Laboratory site are reported in very shallow groundwater aquifers. The proposed exemption area, located much deeper in the subsurface, is hydraulically isolated from the shallow groundwater aquifers affected by these waste plumes, due to a combination of geologic conditions and hydraulic controls, as discussed in the proposal materials. The operation of an injection project is an activity subject to approval and regulatory processes separate from the determination of an aquifer exemption. Any injection activity within the area proposed for exemption must undergo a separate approval process and ongoing regulatory evaluation that considers, among the other things, limitations on injection pressures and volumes as necessary to ensure injected fluids remain within the exempted area.

0001-1, 0002-3, 0004-3, 0006-2, 0019-2, 0024-2, 0026-2, 0029-2, 0030-3, 0032-3, 0035-5, 0036-1, 0037-2, 0038-2, 0039-2, 0041-2, 0047-4, 0048-4, 0049-6, 0051-6, 0052-6, 0053-6, 0071-3, 0073-2, 0074-3, 0074-6, 0081-2, 0082-2, 0088-7, 0092-4, 0093-2, 0095-3, 0100-8, 0102-2, 0104-3, 0106-2, 0107-5, 0111-2, 0112-5, 0116-2, 0117-3, 0120-2, 0121-2, 0128-2, 0133-7, 0138-1, 0156-6

Approval of this aquifer exemption would allow dangerous chemicals to be injected into underground water supplies. Please do not allow our groundwater to be put at risk of contamination.

0010-1, 0033-2, 0118-1

Water injected into the Livermore Oil Field should be of equal or better quality than natural, uncontaminated baseline groundwater. Prior to injection, water samples should be collected from the zone to determine the baseline.

0098-2, 0151-7, 0153-5, 0157-2, 0169-6

Both DOGGR and the oil industry in general claim that the process of injection is safe, but the testing used to prove this is insufficient. The testing that is currently done does not test for the presence of all chemicals used in oil production. 38 percent of the chemicals used are not disclosed due to “trade secrets” meaning water may be polluted with carcinogenic chemicals without the public’s knowledge. Unless these chemicals are included in the water testing, this exemption must not be approved.

0135-9

The Water Board states in Resolution 68-16 that waters of the state must be protected “to promote the peace, health, safety, and welfare of the state.” Water disposal may not create pollution or a nuisance and must be “consistent with the maximum benefit of to the people of the state....” Allowing wastewater injection into the Livermore aquifer, Greenville sands is inconsistent with this statewide policy.

0135-9

The injection of chemical-laden fluid into this aquifer may be contrary to Proposition 65. Proposition 65 prohibits the knowing discharge of certain toxic chemicals into any source of drinking water. The application provides insufficient information about the specific constituents that will be injected into the aquifer. Produced water from oil extraction may contain chemicals known to be toxic if consumed. A disclosure of all chemicals that could be present in produced water must be completed in order to assess the risks injection poses to drinking water.

Response to comments 0001-1, 0002-3, 0004-3, 0006-2, 0010-1, 0019-2, 0024-2, 0026-2, 0029-2, 0030-3, 0032-3, 0033-2, 0035-5, 0036-1, 0037-2, 0038-2, 0039-2, 0041-2, 0047-4, 0048-4, 0049-6, 0051-6, 0052-6, 0053-6, 0071-3, 0073-2, 0074-3, 0074-6, 0081-2, 0082-2, 0088-7, 0092-4, 0093-2, 0095-3, 0098-2, 0100-8, 0102-2, 0104-3, 0106-2, 0107-5, 0111-2, 0112-5, 0116-2, 0117-3, 0118-1, 0120-2, 0121-2, 0128-2, 0133-7, 0135-9, 0138-1, 0153-5, 0156-6, 0157-2, 0169-6:

Public Resources Code section 3131, subdivision (a), sets forth the state law prerequisite criteria for submission of an aquifer exemption proposal to the US EPA. These exemption criteria do not impose specific limitations on the content or quality of injected fluids. Instead, these criteria condition proposal of an aquifer exemption on a determination that the injected fluids will not affect the quality of water that many reasonably be used for any beneficial use—regardless of the content of the injected fluids. The Division is not aware of any invoked trade secret protections that would materially impact evaluation of this aquifer exemption proposal.

Based on the evidence presented in the proposal materials, it is the Division’s determination that the aquifer exemption proposal satisfies the prerequisite criteria for submission of an aquifer exemption proposal to the US EPA, as set forth in Public Resources Code section 3131, subdivision (a). This determination is based in part on the relatively high levels of total dissolved solids in water samples collected from the aquifer, the presence of naturally-occurring hydrocarbons within portions of the

aquifer, and the local availability of high quality groundwater in shallower geologic zones. The data in the aquifer exemption proposal materials also demonstrate that injected fluids are expected to remain within the proposed exemption area due to a combination of geologic conditions and hydraulic controls. State Water Board staff have reviewed the proposal materials and concurred with the Division's determinations on a preliminary basis, as reflected and more fully described in the State Water Board's letter of preliminary concurrence, dated November 15, 2016. Although it is a separate consideration from the prerequisite criteria for an aquifer exemption determination, as noted in the State Water Board's letter of preliminary concurrence, the Division and the State Water Board may incorporate conditions into approvals of injection projects within the proposed exemption area, and these conditions may include a requirement that injected fluids be of equal or better quality than baseline groundwater quality.

Well Integrity

0076-4

The very act of drilling creates a channel for fluids to move through the vertical column within and outside the drill string. In a low pressure well system, as now exists in the Greenville Sands, a loss of containment due to pipe or cement failure, can occur with a nearly imperceptible change of pressure in the well. How will E&B know when such an event occurs? How will it then cure the problem, before the useful aquifer above the Greenville Sands formation is damaged?

0047-5, 0126-4, 0129-9, 0165-2

Injection may lead to well casing fractures and subsequent leakage into fresh ground water.

0129-8

Water injection destabilizes the land-sink holes, which can lead to water leakage.

0159-3

Wells can fail. Injection wells should undergo careful evaluation to ensure they are, and remain, safe to use.

Response to comments 0047-5, 0076-4, 0126-4, 0129-8, 0129-9, 0159-3, 0165-2:

Safe construction and operation of injection wells is a broader issue not directly related to the aquifer exemption determination. The Division regulates the drilling, operation, maintenance, and abandonment of oil and gas wells in the state of California pursuant to Public Resources Code section 3000 et seq., and California Code of Regulations, title 14, section 1712 et seq. Within these authorities are various requirements pertaining to the construction, maintenance, and testing of wells and related facilities, intended to reduce the risks associated with structural integrity problems. Enforcing compliance with those requirements is a cornerstone of the Division's regulatory mission.

Wildlife/Habitat

0072-5, 0135-14, 0135-15, 0151-6

The application does not contain a discussion of the potential negative impacts on the habitats and species near the proposed exemption area due to drilling, construction work, traffic and injection. The

California Endangered Species Act requires State agencies to "...conserve endangered species and threatened species..." and "state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered species or threatened species . . . if there are reasonable and prudent alternatives available." Additionally, the Federal Endangered Species Act also affords protections to imperiled species in the in the Livermore Oil Field area. The area of the proposed aquifer exemption overlaps with the habitats of numerous federally managed species and habitats.

Response to comments 0072-5, 0135-14, 0135-15, 0151-6:

No activities are being authorized by this proposal for an expanded exemption area. Rather, the aquifer exemption process formally recognizes (1) that an aquifer, or the portion of an aquifer, does not currently and will not in the future serve as a source of drinking water, (2) that the injection of fluids in the proposed exemption area will not affect the quality of water that is, or may reasonably be, used for any beneficial use, and (3) that injected fluid will remain in the aquifer or portion of the aquifer that would be exempted. Operators may apply to the Division for approval of proposed Class II underground injection projects into aquifers that have been exempted. Appropriate environmental reviews will be completed at the project level as part of the Division's approval process for underground injection projects.

Zonal Isolation

0008-4, 0013-2, 0013-3, 0017-2, 0033-3, 0043-2, 0046-4, 0049-3, 0050-4, 0051-3, 0052-3, 0053-3, 0054-2, 0066-5, 0067-4, 0070-2, 0075-3, 0076-4, 0077-6, 0088-3, 0089-5, 0096-3, 0100-3, 0101-6, 0110-2, 0122-5, 0127-5, 0132-4, 0133-3, 0133-5, 0135-10, 0136-4, 0149-3, 0151-2, 0151-8, 0152-2, 0152-3, 0152-4, 0153-3, 0156-5, 0158-2, 0169-2, 0169-8, 0172-2, 0174-1, 0175-2

Hydrological connections between groundwater resources are complex and difficult to predict. The Application does not contain information sufficient to demonstrate that this aquifer is, and will remain, zonally isolated.

0005-2, 0044-2, 0050-4, 0056-4, 0107-2, 0123-2, 0126-3, 0140-1

The aquifer exemption proposal materials identify at least 15 existing water supply wells located near the proposed exemption area. The proposed exemption area is too close to these wells. Allowing injection there could contaminate the water supply used by those wells.

Response to comments 0005-2, 0008-4, 0013-2, 0013-3, 0017-2, 0033-3, 0043-2, 0044-2, 0046-4, 0049-3, 0050-4, 0051-3, 0052-3, 0053-3, 0054-2, 0056-4, 0066-5, 0067-4, 0070-2, 0075-3, 0076-4, 0077-6, 0088-3, 0089-5, 0096-3, 0100-3, 0101-6, 0107-2, 0110-2, 0122-5, 0123-2, 0126-3, 0127-5, 0132-4, 0133-3, 0133-5, 0135-10, 0136-4, 0140-1, 0149-3, 0151-2, 0151-8, 0152-2, 0152-3, 0152-4, 0153-3, 0156-5, 0158-2, 0169-2, 0169-8, 0172-2, 0174-1, 0175-2:

Data and analysis presented in the proposal materials indicate that a combination of geologic features and hydraulic controls will cause fluids injected into the proposed exemption area to remain there. Geologic features that form the lateral containment boundaries include the Greenville Fault along the eastern and northeastern boundary, and the Main Fault along the southern boundary. These faults are sealing, as demonstrated by the presence of oil-saturated formations on the oilfield side of the fault and non-saturated formations across the fault. The proposed exemption area is overlain by the Upper Cierbo and Neroly Formations, which range in combined vertical thickness from 430 feet to 1500 feet within the

Livermore Oil Field, and are comprised of 45 to 85 percent low-permeability siltstone, claystone, and shale, providing a vertical barrier to fluid migration. Below the area proposed for exemption, at the base of the Greenville Sands, lies a layer of sandy siltstone and silty shale that ranges in thickness from 25 to 50 feet. Additionally, injected fluids in the proposed exemption area are expected to be contained hydraulically, both vertically and laterally, due to the inward hydraulic gradient created by oilfield production.

No water supply wells identified near the area proposed for exemption have been completed within the Greenville Sands. At least 1,500 feet of vertical separation exists between the bottom of the deepest nearby water supply wells and the top of the Greenville Sands within the area proposed for exemption.

In preparing this aquifer exemption proposal, the Division utilized a combination of information supplied by third parties and its own independent analysis. After careful consideration, the Division, with concurrence from the State Water Board, has determined that the data and analysis contained in the proposal materials adequately demonstrate satisfaction of the prerequisite criteria for exemption, as set forth in Public Resources Code section 3131, subdivision (a), and on that basis the proposal warrants submission to the US EPA for an exemption determination. The US EPA is responsible for final review and approval of the aquifer exemption proposal.

The operation of an injection project is an activity subject to approval and regulatory processes separate from the determination of an aquifer exemption. Any injection activity within the area proposed for exemption must undergo a separate approval process and ongoing regulatory evaluation that considers, among the other things, limitations on injection pressures and volumes as necessary to ensure injected fluids remain within the exempted area.

0135-12, 0151-9, 0152-5, 0153-9

As a result of a pressure sink, the Operator states that formation water will enter the proposed exemption area across oil-water contacts to the north and west. Thus, waters not originally within the zone of exemption will be subject to potential contamination from activities in the oilfield. With the oil field itself pulling potentially beneficial use water from regions outside of the proposed exemption area, it is incumbent upon the Operator to make sure that the integrity of these entering waters is not compromised.

Response to comments 0135-12, 0151-9, 0152-5, 0153-9:

The hydraulic gradient, or pressure sink, created by oil production activity within the Livermore Oil Field draws in non-beneficial use water already present within the Greenville Sands. Data presented in the proposal materials indicate that other groundwater sources of potential beneficial use, including groundwater sources tapped by water supply wells in relative proximity to the proposed exemption area, are not hydraulically connected to the Greenville Sands, and thus are not affected by this hydraulic gradient.

0135-12

The proposal materials assert that the volume and frequency of impermeable beds within the Upper Cierbo and Neroly formations are sufficient to create effective vertical confinement, but the evidence presented to prove this point is not convincing. The composition of the overlying Upper Cierbo and Neroly formations are said to range from 45% to 85% silt, clay, and shale, based upon a review of mudlogs. If the percent of silt, clay, and shale presents a range as large as 45% to 85%, then it cannot be definitively stated that impermeable beds are uniformly distributed. Furthermore, sands and

conglomerates are present in these formations. Sands and conglomerates do not exhibit the same level of impermeability as silt, clay, and shale. Such variability leaves open the possibility of relatively permeable sections of overlying layers, meaning that the upward mobility of injected fluids is possible.

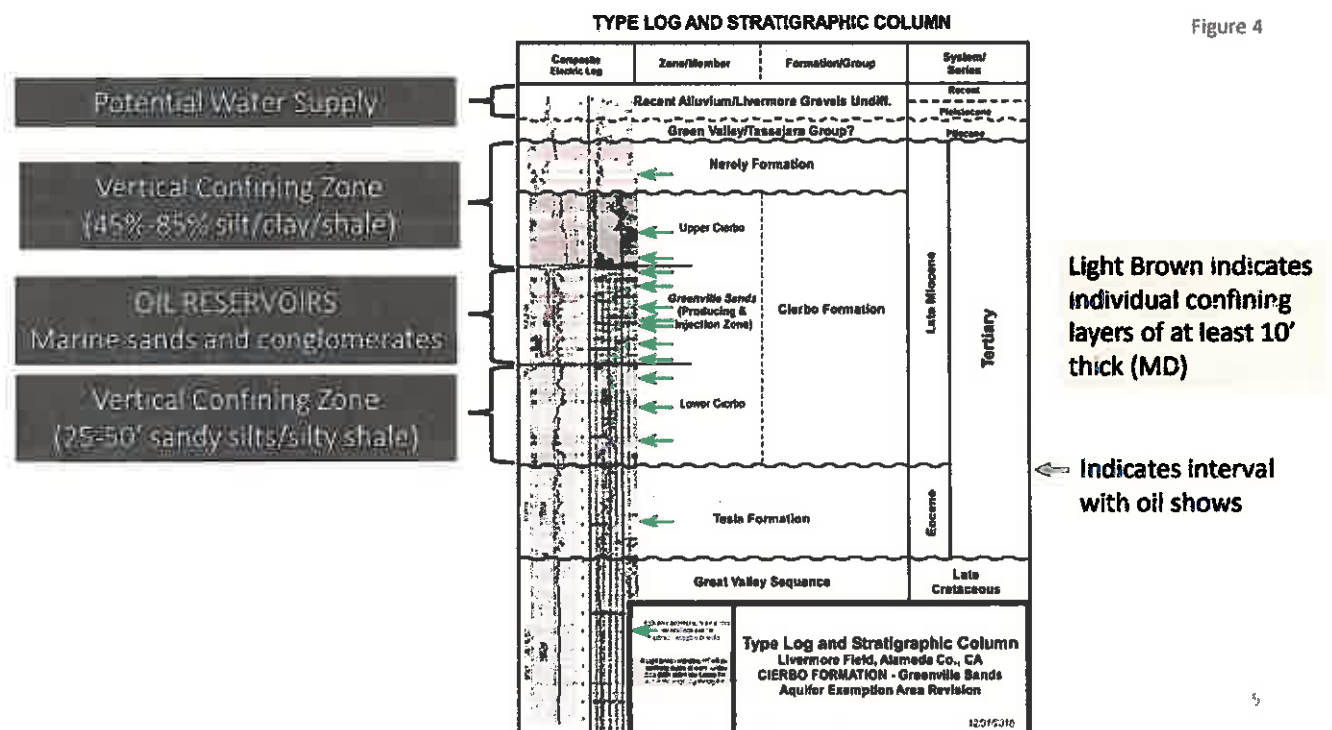
Response to comment 0135-12:

The proposed exemption area is overlain by the Upper Cierbo and Neroly Formations. These formations are comprised of numerous "strata." In geology, a stratum (plural: strata) is a well-defined (usually more-or-less horizontal) layer made of similar material across its dimension. Strata appear organized parallel layers, one on top of the other, frequently more-or-less horizontal in orientation, and vary in thickness, depending on the natural process by which their constituent materials were laid down. Based on stratigraphic interpretation of data obtained from mudlogs and sidewall core samples, throughout the proposed exemption area roughly 45% to 85% of the total vertical formation thickness of the Upper Cierbo and Neroly Formations consists of these horizontally-contiguous, relatively uniform layers made of low permeability siltstone, claystone, and shale.

Slide 5 from the materials presented at the January 11, 2017 public hearing features a graphical depiction of the strata in the Upper Cierbo and Neroly Formations. This slide is reproduced below. In the graphical depiction, brown-shaded horizontal lines indicate the presence of a low permeability layer estimated to be 10 or more feet thick.

These low permeability, contiguous, horizontally-oriented layers are barriers to vertical fluid migration, and their presence effectively isolates fluids in the Greenville Sands from fluids located in shallower aquifers. The accumulation of petroleum hydrocarbons in the Greenville Sands indicates that these layers have provided effective vertical fluid isolation for a long period of time. Observations from shallow monitoring wells near the Livermore Oil Field support the conclusion that these layers continue to do so now.

Reproduction of Slide 5 from presentation materials titled "Aquifer Exemption: Livermore Oil Field, Alameda County, California," (Jan. 11, 2017)



COMPARISON OF CENTER FOR BIOLOGICAL DIVERSITY ALLEGATIONS AND E&B RESPONSES

ISSUE	CBD ALLEGATIONS	E&B RESPONSES
Expanded Operations	<p>Repeated allegation that E&B has stated the intention to use enhanced oil recovery techniques in the future; that E&B “openly admitted” plans to expand, and therefore the County must apply CEQA.</p> <p>E&B will “exploit that loophole” in the recently passed ordinance to use wastewater (i.e. produced water being recycled) to produce oil.</p> <p>There is no analysis of E&B’s expansion of EOR activities, which are energy-intensive.</p>	<p><u>CBD Alleged “Expansion”</u> CBD repeatedly alleges that E&B “openly admitted” plans to expand, and therefore the County must apply CEQA. County Planning staff’s report correctly states that E&B does not propose any changes at this time. Although CBD attempts to negate the County’s CEQA analysis, this is an existing facility undergoing an ordinary renewal process with no changes to previously approved conditions. Therefore, CEQA is not prescribed.</p> <p>E&B has reviewed all of our past documents and cannot locate this alleged “admission”. E&B has consistently stated that our extraction methodology will continue as it is now. E&B pumps a mixture of oil and water from the underground reservoir to the surface, separates this mixture and recycles this water, with no beneficial reuse, back into the reservoir in a closed loop process. No external water is used in day-to-day operations. E&B plans to continue this process under the renewed CUP.</p> <p>CBD claims that E&B will “exploit that loophole” in the recently passed ordinance to use wastewater (i.e. produced water being recycled) to produce oil. To reiterate, we are recycling the produced water and our intention is to continue this practice. The designation on the UIC permit (water disposal or water flooding), for the record, is determined by the DOGGR through consideration of various technical factors that do not change the way in which E&B operates.</p> <p>Of note, CBD was part of the process to develop the ordinance which was comprehensive and inclusive involving the public, the</p>

		<p>regulators, and other impacted parties. CBD is raising those same poorly constructed arguments again after the policy makers unanimously voted to allow for water disposal or water flooding without the use of external water.</p> <p><u>Proposed Aquifer Exemption Amendment</u></p> <p>Further, CBD's 2/20/18 comment letter also wrongly claims that the aquifer exemption is evidence of E&B's expansion plans. The aquifer exemption is in fact a federally required update of the productive boundaries of the existing Livermore Oil Field based on its static geological formation. The fully contained oil reservoir (i.e., the "aquifer") that was formed by nature, potentially over a million years ago, does not change size as a result of the aquifer exemption review process.</p> <p>In response to CBD's CEQA demands during last year's aquifer exemption public comment process, the State confirmed that CBD's CEQA claim is incorrect because the review process was not a new "project" requiring CEQA (Attachment 1). Separately and elsewhere in the State, CBD has lost this same argument in court.</p> <p>E&B is highly regulated and maintains all appropriate permits in good standing for Livermore Oil Field activities. E&B would apply for all necessary permits, and adhere to any permitting requirements, by all involved governmental agencies, in the event of any future operational changes or site adjustments.</p>
Alleged "Spills"		
	In April 2015 crude oil storage tank discovered to be leaking/leaching into soil below.	E&B did not have a spill. Upon removing an old, empty storage tank, a small patch of dry, oil-stained soil was discovered underneath. E&B was not under a regulatory requirement or other legal obligation to remove the tank and was doing so solely to improve site aesthetics.
	"Spill" reached further than 12 feet deep, went beyond E&B's leased property boundary.	As shown in the attached photograph (Attachment 2), when initially discovered, the affected area appeared entirely within E&B's

		fenced area. Additionally, the Alameda County Department of Environmental Health Inspection report of June 11, 2015 incorrectly states the release extended beyond E&B's leased portion of the Property. It was entirely within E&B's leased Property (surface rights and oil and gas lease rights).
	"Spill" beyond internal capacity of E&B to clean up	E&B engaged an independent environmental remediation specialist so that the best expertise and technology would be applied.
	History of spills and accidents across the state.	Another example of CBD's mischaracterizations and attempts to distract with allegations that are not relevant to Alameda County CUP renewal.
	Not timely reported to proper authorities; failed to immediately notify CA Unified Program Agencies ("CUPA") & CA Office of Emergency Services (OES) Warning Service of hazardous material release.	E&B disputes County-cited violation for reporting failure because situation met no required triggers for reporting under OES compliance guidelines. E&B requested a correction of the record and made business decision to not contest violation, as expense to do so may exceed amount of any fine.
	As of July 29, 2015, quantity of spilled produced water unknown	A small patch of dry, oil-stained soil was discovered underneath an unused tank that did not contain any produced water.
	E&B remediation work plan, including chemical analysis from soil collected March, 2015, is inconsistent with E&B report to OES that spill discovered in April, 2015.	A clerical error of the date was discovered and corrected by E&B.
	2015 "spill" put Alameda County groundwater supplies at risk; area groundwater is extremely shallow; "spill" depth not currently known; numerous critiques of leak remediation work plan.	E&B's County-approved, voluntary remediation project is completed. Alameda County reviewed every action and approved the work plans. They also reviewed results from each step through County determination of completion. Groundwater sampling and testing was conducted in cooperation with Alameda County. Tested samples from three groundwater monitoring wells within fenced operation and two closest domestic wells confirmed no impact whatsoever to groundwater. Groundwater testing results were provided to Alameda County Environmental Health in early 2016. Zone 7 Water Agency confirmed their groundwater monitoring well downgradient from E&B operations has no obvious signs of hydrocarbons (oil).
Other Issues		

	E&B failed to determine if waste from seven tanks was hazardous before disposing as non-hazardous	Seven tank claim is not factual; only one tank involved.
	Failure to determine whether waste was hazardous, restricted from land disposal and to maintain analysis results for 3 years was contrary to State law.	Small amount of sludge was transported from one Livermore facility tank to Kern County facilities as non-hazardous material. When later determined that material should be classified differently, immediate corrective action was taken. Disposal of material never posed threat to human health or environment.
	Failure to map locations of specific fire extinguishers, hazardous material storage and spill kits.	Analyses were maintained for three years.
	2014 fine of \$7,500 by the Bay Area Air Quality Management District related to organic liquids storage.	All site maps and inventory have been updated electronically through the California Environmental Reporting System ("CERS").
	Neighbors previously alerted government agencies about numerous and routine spills and releases, noting horrible safety and containment practices.	2013 air issue resolved this issue and subsequent BAAQMD inspections have been satisfactory.
	E&B's other operations around the state prove no safer and further demonstrate the company's inability to adhere to the law or protect public health and safety.	Hearsay, not supported by demonstrable facts. E&B has had no routine spills, releases or safety issues at any Alameda County sites.
	Numerous other alleged violations in areas outside of Alameda County.	Inaccurate, misleading, and immaterial to Alameda County considerations.
CEQA Applicability		Numerous inaccurate and misleading characterizations of situations in other areas of the state. Not factual or applicable to Alameda County CUP renewal.
	Granting permits inconsistent with CA Environmental Quality Act (CEQA)	Ongoing operations are "Categorically Exempt" as this is an existing facility continuing with the same operating methodology.
		In response to CBD's CEQA demands during last year's aquifer exemption public comment process, the State confirmed that CBD's CEQA claim is incorrect because the review process was not a new "project" requiring CEQA. Separately and elsewhere in the State, CBD has lost this same argument in court.
	Local agency must prepare an EIR on any project with potential significant environmental effect; may adopt negative declaration if no substantial evidence of such effect. With "fair argument" of foreseeable significant impacts, full environmental impact report must be done	This is not a new project seeking approval to begin, merely a CUP continuation of current operations whose impacts are known.

	before project approval.		
	E&B's intention to expand operations makes clear that statutory exemptions for pre-existing, unchanging projects have no application here.	Response on expanded operations on page 1.	
	County can't separately consider the two different CUPs (this and another in renewal process) separately; to do so improperly "piecemeals" the whole of the action.	Two separate wells were drilled at two different times, have two different expiration dates and are not dependent on each other.	
Overall Environmental Impact			
	E&B's operations have caused serious environmental degradation in Alameda County.	No evidence exists or is on record to support or confirm this allegation.	
	Oil and gas operations use dangerous chemicals; E&B operations have and will require use of harmful chemicals at all production stages.	Very small amounts of chemicals, for example to maintain well integrity, are used. Information on these few, small amounts have been provided to Alameda County. All use is in compliance with all federal, state and local laws.	
	E&B produced water contains known carcinogen benzene at levels nine times higher than maximum limit for drinking water; toluene, ethylbenzene, and xylenes. Bringing these to the surface and recycling them back to the subsurface creates opportunities for spills, leaks, and migration.	No evidence exists or is on record to support or confirm that there have been any such spills or leaks. DOGGR's Underground Injection Control (UIC) program effectively ensures that recycled produced water stays in its approved zone. E&B maintains a UIC permit and adheres to all program and permit requirements.	
	Statewide, there were 31 chemical spills in oil fields, nine of them acid spills; one acid spill ruptured beyond secondary containment and spilled 5,500 gallons of hydrochloric acid.	E&B has had no chemical spills at its Livermore sites. This comment is overly broad and not material to the E&B CUP renewal.	
	Blowout rates of thermal EOR wells is four times higher than non-thermal recovery fields.	E&B does not operate thermal EOR wells at its Alameda County sites. Thus, this comment is overly broad and not material to the E&B CUP renewal.	
Ground/Drinking Water			
	The proposed project puts the area's water resources further at risk.	Broad and general supposition not supported by facts. Operations have not impacted groundwater in over 60 years of operation. This has been proven by substantial testing.	
	E&B has not disclosed all of the chemicals it intends to use in its operations, making the true extent of the risk to water unknown	Information on the few, very small amounts of chemicals used have been provided to Alameda County. All use is in compliance with all federal, state and local laws.	
	Water treatment technically feasible; E&B unwilling to	On one hand high levels of natural toxic contaminants in produced	

	invest in water treatment but instead using cheap disposal method.	<p>water are acknowledged, yet CBD wants to treat this water for public consumption.</p> <p>Produced water treatment to potable standard while technically feasible, would be at a production and distribution cost that is prohibitive for public consumption, especially given all other sources of supply now and in the foreseeable future.</p> <p>Note that produced water recycles back into the reservoir cleaner than when initially pumped up. In the unlikely event that this water is considered for public consumption in the distant future, it will be cleaner than before E&B processing.</p> <p>This recycling also assists in maintaining natural pressure in the reservoir.</p> <p>Broad and overreaching. E&B has had no produced water spills at the subject sites.</p>
	Spills and leaks regularly occur in CA. One survey found 575 spills of produced water from 2011 to 2014, with 18 percent affecting waterways.	<p>This deceptive, out-of-context comment fails to truthfully inform that it refers to a much larger, approximately 638 acres area. E&B's has only 9 wells in its Livermore Oil Field operation using less than 2 acres of above ground fenced area.</p> <p>There are a few legally abandoned oil producing wells which have been done so to DQGR standards, regulations and oversight prior to E&B's involvement in the operation.</p> <p>In the greater 638-acre area, many of the cited 57 wells are unrelated now or in the past, to oil production activities of any kind and are completely separated geologically from the Livermore Oil Field which has been proven with science. For example, they include groundwater monitoring wells at the Lawrence Livermore National Laboratory and some groundwater source wells. No evidence of hydrocarbons (oil) has been observed.</p> <p>CBD's 40 percent future failure claim has nothing to do with these 57 wells. CBD has taken one study in Pennsylvania which is not</p>
	At least 57 wells within close proximity to E&B operations, with "evidence for oil migration routes and minor and uneconomic accumulations in zones other than the Greenville Sands"; many are directionally drilled so more likely to experience mechanical integrity failures; an estimated 40 percent of these will fail over time.	

		based on any reasonably applicable California data to make misleading assertions.
	The federal Safe Drinking Water Act (SDWA) and federal regulations preserve future sources of drinking water by prohibiting contamination before they are drawn upon. Proposed CUP jeopardizes protections for the area's underground source of drinking water (USDW), and approval would violate SDWA.	Analysis by CA Division of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) and the State Water Resources Control Board concurred that the oil reservoir: 1) does not currently serve as a source of drinking water; and 2) is not reasonably expected to supply a public water system. Due to geologic conditions and hydraulic controls, the produced water is expected to remain contained within the proposed area and is not impacting the quality of other area water that is, or may reasonably have beneficial use.
	Allowing wastewater injection into the Livermore aquifer is inconsistent with statewide policy.	Our operation is completely consistent with statewide policy and regulations. Produced water injection is permitted by the Division of Conservation, Division of Oil, Gas and Geothermal Resources ("DOGGR") under the Underground Injection Control ("UIC") program. E&B maintains a UIC permit in good standing to recycle produced water to the oil reservoir. Recycling produced water is a common and accepted practice in California.
Air Pollution		
	Fugitive emissions often release high volumes of gas, including benzene, toluene, ethylbenzene, and xylene; volatile organic compounds (VOCs) such as methylene chloride; nitrogen oxides (NOx); particulate matter (including diesel exhaust); alkanes (methane, ethane, propane); formaldehyde; hydrogen sulfide; silica; acid mists; sulfuric oxide; and radon gas.	Broad and overreaching statement that is not applicable to E&B's operations. Minuscule amounts of natural gas in the oil is captured by vapor recovery infrastructure.
	CA South Coast Air Quality Management District ("SCAQMD") reporting have shown that at least 44 chemicals known to be air toxics have been used in various types of oil and gas operations in CA.	E&B maintains a permit in good standing for an emissions control device from the Bay Area Air Management Quality District.
	EPA identified 6 "criteria" air pollutants regulated under National Ambient Air Quality Standards (NAAQS). Concentrations of many—ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead are shown to increase where unconventional oil and gas	Broad and overreaching statement that is not applicable to E&B's operations.
		E&B's operations are basic and conventional. Operations consist of pumping mixture of oil and water to the

	recovery techniques are permitted.	surface from the underground oil reservoir, removing the oil and recycling the water that has no beneficial use back into the oil reservoir. No new or external water is used in this process.
	VOCs from car and truck engines, and drilling and completion stages of oil and gas production, make up about 3.5 percent of the gases emitted by oil or gas operations; a study of sites near oil and gas wells in five states (Colorado, Wyoming, Ohio, Pennsylvania, and Arkansas), found concentrations of 8 toxic volatile chemicals exceeding federal health and safety standards.	Broad and overreaching statement about other states that is not applicable to E&B's Livermore operations. E&B's operations are basic and conventional. Very little vehicle traffic occurs at the sites.
	Numerous other studies of unconventional oil and gas production in states outside of California confirm negative air impacts of oil and gas operations.	Broad and overreaching statement about other states that is not applicable to E&B's Livermore operations.
	U.S. shale gas boom is thought to be responsible for the global increase in Ethane levels since 2010.	E&B's operations are basic and conventional. E&B's operation has nothing to do with the "shale gas boom".
	Oil and gas industry is a major source of particulate matter from heavy equipment regularly used that burns diesel fuel, generating fine particulate matter.	E&B does not use heavy equipment in its regular, day-to-day operations. There is a once-per-week oil pick up by truck.
	When the state needs to be reducing carbon emissions, approving E&B's application would lead to increasing greenhouse gas emissions.	E&B is a regulated party in California's Cap and Trade program. Further, California-produced oil is used by a local Bay Area refinery. A shorter distance between producers and consumers means a reduction in transportation-related greenhouse gas emissions and impacts as compared to importing from foreign sources.
Seismicity		
	E&B's injection activities risk increasing seismic activity in the area.	Broad and general supposition not supported by facts. There has been no linkage of E&B's production methodology – or actual production in Livermore – to earthquakes.
	Mechanisms linking wastewater injection & earthquakes are understood: injection-induced increases in fluid pressure within aquifers and fault lubrication by injected fluids potentially destabilize well bores and cause preexisting faults to slip.	Injection induced seismicity has not been a concern in California.

	Extensively documented earthquakes in central and eastern United States have increased dramatically over the last decade; a magnitude 5.7 earthquake struck Oklahoma in 2011, in close proximity to active hydraulic fracturing wastewater wells.	Injection induced seismicity has not been a concern in California. E&B does not do hydraulic fracking at the subject sites. Cited are generic studies of oil and gas operations across the country; with different geological and environmental settings and operational methodologies. No data specific to Alameda County or E&B's operations in the County, only general studies or studies conducted in other areas, such as Oklahoma and Kern County. Injection induced seismicity has not been a concern in California.
	E&B does not discuss how injection could result in induced seismic activity despite threats seismicity poses to containment of injected waters and to public health.	
	An aquifer exemption should not be approved as long as risks remain unconsidered.	This is not relevant to the CUP renewal. The U.S. Environmental Protection Agency has jurisdiction for aquifer exemptions related to oil and gas operations.
Special Status Species		
	Approving CUP potential impacts habitats and species in and around proposed sites; area of proposed aquifer exemption overlaps with numerous federally managed species and habitats.	CUP renewal continues decades-long operation, related to which there is no evidence of detrimental impact on any listed species. The above-ground fenced area is less than 2 acres. The larger aquifer exemption area relates to the oil reservoir which is approximately 1,000 feet underground.
East County Area Plan (ECAP)/ Land Use		
	Structures may not be enlarged or altered and uses expanded or changed inconsistent with the ordinance, except as authorized by State law.	See expansion comments on page 1. Land use will remain the same. This is an existing facility undergoing an ordinary renewal process with no changes to previously approved conditions
	County shall impose conditions of approval on new Petroleum Resource Exploration and Extraction conditional use permits.	This application is for a CUP renewal, not a new project.
	Continued E&B operations would not be properly related to other land uses.	E&B's operation helps maintain area's open space nature. No permanent building(s) and E&B has active cattle grazing on site. E&B's operations were legal when ECAP became effective and

		operations are in full compliance with the ECAP.
General Comments		
	California cannot afford to invest in new fossil fuel development and infrastructure.	This is an existing facility undergoing an ordinary renewal process with no changes to previously approved conditions.
	Reducing the risks of climate change will require aggressive and sustained greenhouse gas emission reductions.	E&B is a regulated party in California's Cap and Trade program. E&B's California-produced oil is used by a local Bay Area refinery. A shorter distance between producers and consumers means a reduction in transportation-related greenhouse gas emissions and impacts as compared to importing from foreign sources.
	The aquifer exemption is evidence of E&B's expansion plans.	The aquifer exemption is a federally required update of productive boundaries of the existing Livermore Oil Field based on its static geological formation. The fully contained oil reservoir (the "aquifer") that was formed by nature, potentially over a million years ago, does not change size as a result of the aquifer exemption review process.



May 16, 2018

Alameda County Planning Department
East County Board of Zoning Adjustments
224 W. Winton Avenue, Rm 111
Hayward, CA 94544
damien.curry@acgov.org

*Re: E&B Natural Resources Conditional Use Permits PLN2017-00181 and
PLN2017-00110*

To the Honorable Members of the East County Board of Zoning Adjustments:

On behalf of the Center for Biological Diversity (the “Center”), its members, and the public, I urge the East County Board of Zoning Adjustments (“BZA”) to reject E&B Natural Resources’ (“E&B”) application for a conditional use permit (“CUP”) to continue and expand its dangerous oil production operations near Livermore. The BZA must do so to protect public health and safety and ensure that the county’s natural resources are preserved for the area residents to use today and in the future.

The Center has previously expressed its concerns with the proposed CUP in its February 20, 2018 comment letter, its oral comments made on February 22, 2018 at the BZA board meeting, and subsequent comments delivered to staff on March 28, 2018. Those comments and references are incorporated herein and reattached here for the Board’s convenience.¹

In particular, allowing E&B to continue and expand its operations would be detrimental to the interests of the community for the following reasons:

1. E&B plans to *expand* its operations, increasing the risk of harm

E&B’s plan to expand its operations is evident from its application to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (“DOGGR”) to exempt the Greenville Sands Member of the Cierbo Formation in the Livermore Oil Field from Safe Drinking Water Act protections in order to allow E&B to inject oil wastewater and other contaminated water into these aquifers. E&B’s insistence that it does not intend to expand is contradicted by its application to increase the injection area of its operations far beyond the current footprint.

In 2016, E&B submitted an application to nearly triple the area it can inject toxic-laden waste fluid, from 26 acres to 75.4 acres.² E&B itself states clearly that it is “proposing the Exemption Area be *expanded*.”³

¹ In addition, according to BZA staff, the purported deadline to submit written comments to the BZA is May 16, 2018. As of this submission date, no staff report has been publicly released. The Center reserves its right to file supplemental comments in response to the staff report if and when it becomes available.

² E&B Natural Resources, Aquifer Exemption Revision Application (2016)(“ Application 2016”), pp. 1, 3.

³ *Id.* at p. 6.

DOGGR also deems E&B's application an "Expansion of the Aquifer Exemption at the Livermore Oil Field."⁴

E&B also disclosed plans to expand its operations to incorporate previously unpermitted activities. Namely, it plans to conduct waterflooding, an enhanced oil recovery technique. Rather than merely dispose the toxic wastewater generated through oil production, E&B now intends to inject that waste fluid "into the same hydrocarbon-bearing sands from which it is produced."⁵ E&B's current permit is only for disposal. The company has publicly stated that it intends to "either modify or cancel the existing [state underground injection control permit] and replace it with a [permit] for secondary recovery water injection...."⁶ Elsewhere in its CUP application, E&B explains, "the applicant will either convert or replace the existing disposal UIC permit with one for secondary recovery water injection because the produced water is being produced from and returned to the same oil producing zone for pressure maintenance."⁷ Thus, expanding E&B's operations in the manner proposed by E&B will increase the harm to our air, water, and public health and safety. An expansion of E&B's operations would also *increase* the contribution to climate change at a time when the state has pledged to *decrease* its greenhouse gas emissions. Approval of E&B's expansion requires a full environmental impact report under the California Environmental Quality Act.⁸ The public has a right to learn about and comment upon the significant and foreseeable environmental impacts that may result from this project.

2. E&B's oil production puts Livermore's high-quality groundwater at risk.

DOGGR and the State Water Board confirmed that there is high quality groundwater where E&B plans to operate.⁹ These groundwater resources will be put at risk of contamination from petroleum and the chemicals used in oil production processes being moved around the subsurface. Alameda's agriculture and wineries depend on having clean, ample supplies of clean groundwater, especially when the next drought hits California. Sacrificing this water for the convenience of a single oil company would be short-sighted and conflict with the long-term interests of our communities and local economy.

First, the water table near the surface consists of high-quality groundwater that would be put at risk be E&B continuing and expanding operations. Neither E&B nor state regulators have shown that the toxic waste fluid injected via injection wells will stay in the intended zone. E&B has also failed to disclose what chemicals will be used in operations.

Second, the slightly deeper aquifer into which E&B plans to inject waste fluid directly *also* consists of high-quality water suitable for beneficial use. E&B's own report admits that the groundwater may be

4 DOGGR and State Water Resources Control Board, Statement of Basis for the Expansion of the Aquifer Exemption at the Livermore Oil Field; December 9, 2016 ("Statement of Basis 2016").

⁵ Application 2016, p. 2.

⁶ *Ibid.*

⁷ *Id.* at p. 8 (under "Project Description").

⁸ Pub. Resources Code, § 21000 et seq.

⁹ Statement of Basis 2016, p. 2.

treated to be used for beneficial purposes to effectively remove salts, suspended solids and hydrocarbons.¹⁰ It explains:

High Boron ranging from 160 mg/L to 200 mg/L and TDS concentrations in excess of 7000 mg/L would require an expensive facility (>\$1 million), high operating costs, and a water disposal well or the trucking of the waste brine effluent.¹¹

Clearly, treating the groundwater in the aquifer is feasible. However, it is equally clear that E&B has not made good faith inquiries to establish the infeasibility of treatment and reuse, or other means of disposing of the wastewater produced. When obtaining quotes from treatment equipment providers, E&B expressly stated that it was making inquiries to “quantify[] the infeasibility of implementing such a [treatment] system and do not intend to construct.”¹² In such circumstances, neither the BZA nor the public can reasonably be satisfied that the quotes provided reflect full, thorough, accurate and good faith investigation of options for water treatment.

Contrary to E&B’s assertions that the groundwater is beyond salvage, the cost estimates demonstrate that it is very possible, using current existing technology, to treat the water in the aquifer at issue so that it may be used for drinking water or another beneficial purpose. Indeed, there are two options readily available – construction of a small reclamation plant, or treatment of the water in a small evaporator to reduce the total dissolved solids (TDS) to zero, with additional treatment to remove remaining volatile organic compounds.¹³ Needless to say, as water treatment technologies improve and become cheaper over time, this aquifer would become an even more valuable resource for area businesses and residents.

The state’s recent actions on E&B’s application support the conclusion that the groundwater should be preserved. On April 2, 2018, DOGGR *rescinded* its prior conclusion that the aquifer could be exempted because “the total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/L and it is not reasonably expected to supply a public water system.” That is, DOGGR now presumably believes either: (1) the total dissolved solids content of the water is less than 3,000 mg/L in portions of the aquifer, (2) it cannot be demonstrated that the aquifer is not reasonably expected to supply a public water system, or both.

Oil and gas operations like E&B’s use harmful chemicals in all phases of development, including drilling, well maintenance, enhanced oil recovery, and well cleanout. E&B admits that it uses “small amounts of chemicals,” but has not disclosed a list of chemicals it will use nor the quantities of those chemicals. Oil contains harmful constituents, including benzene¹⁴, a carcinogenic chemical, that may migrate to cleaner portions of aquifers and degrade water quality. There are numerous potential pathways for these chemicals to migrate and contaminate groundwater. As the Center explained in its January 25, 2017 Comment Letter to DOGGR regarding the Livermore Aquifer Expansion Application (attached and

¹⁰ Application 2016, Appendix VII “Veolia Opus II” brochure (unpaginated).

¹¹ Application at p. 9.

¹² Application 2016, Appendix VII, p. 2.

¹³ Application 2016, Appendix VII, p. 1.

¹⁴ DOGGR, Benzene in Water Produced from Kern County Oil Fields Containing Fresh Water (1993)

incorporated herein), chemicals can move vertically or laterally via permeable strata, faults, dips and other formations when oil production is introduced.¹⁵

Moreover, existing, older, unused wells can create pathways for contamination.¹⁶ The Application indicates eight abandoned or idle production wells and 18 dry hole wells.¹⁷ These wells, especially those that were constructed decades ago under outdated technologies and standards, can act as a conduit for fluid migration.¹⁸ The CUP application fails to analyze the potential risk that unused wells will create new hydrologic pathways and connections to other groundwater sources. E&B's application for a CUP does not provide a risk analysis regarding these wells either.

Additionally, seismic activity is a concern because oil and gas activity can trigger earthquakes and naturally occurring earthquakes can damage wells and cause leaks. The risk of seismic activity is more than merely speculative. The Operator is relying on a *seismically active* fault zone (the Greenville Fault zone) to provide containment of wastewater injectate along the eastern boundary of the proposed exemption.

The Livermore Oil Field is located immediately west of the Greenville Fault zone and north of the Las Positas Fault. Both of these faults break the surface, which speaks to their likely status as seismically active. This is supported by a 1980 USGS report that discusses two earthquakes in 1980 of magnitudes 5.8 and 5.2, respectively, north of Livermore and within the Greenville Fault zone. The 5.8 magnitude quake injured 44 people and caused \$11.5 million worth of damage to property.¹⁹ This earthquake occurred during the years of peak injection at the Livermore field.²⁰ These earthquakes resulted in surface faulting not only in the Greenville Fault zone but the Las Positas Fault zone as well which indicates the active seismicity present in the Livermore region.²¹

Oil and gas activity, including fluid injection, can activate faults and trigger earthquakes.²² The mechanisms linking oil and gas activities and earthquakes are understood: injection-induced changes in

¹⁵ See Center for Biological Diversity, Public Comment Letter re: Livermore Aquifer Expansion Application (Jan. 25, 2017), pp. 21-25.

¹⁶ California Council of Science and Technology, Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulations, Vol. II (2015) ("CCST Report"), pp. 105, 107, 109, 122-123.

¹⁷ Application, Appendix IV.

¹⁸ See, e.g., Chafin, Daniel, Sources and Migration Pathways of Natural Gas in Near-Surface Groundwater Beneath Animas River Valley, Colorado and New Mexico (1994).

¹⁹ USGS Historic Earthquakes, North of Livermore Valley, California, 1980 01 24 19:00:09.5 UTC, Magnitude 5.8, Intensity VII.

²⁰ Based on data available at:

<https://secure.conservation.ca.gov/WellSearch/Summary/Field?fieldcode=404&fieldname=Livermore> (last visited 1/25/17).

²¹ USGS, Surface faulting near Livermore, California associated with the January 1980 earthquakes (1980), available at: https://pubs.usgs.gov/of/1980/0523/of80-523_text.pdf.

²² California Council on Science and Technology Lawrence Berkeley National Laboratory Pacific Institute, Advanced Well Stimulation in California (2014) ("2014 CCST Report"), Executive Summary pp. 21-22, available at: <http://ccst.us/publications/2014/2014wstES.pdf>. Further study is needed as well. "[A]reas of the southern San Joaquin, Ventura, Santa Clarita and Santa Maria basins, where active water disposal wells are concentrated at present (Figure 5-10), have relatively high rates of seismicity in the 2-5 magnitude range.

fluid pressure within aquifers, fault lubrication by injected fluids, and extraction-induced pressure decreases and aquifer subsidence all have the potential to destabilize wellbores and cause preexisting faults to slip.²³ Aquifer subsidence is especially concerning because the Operator acknowledges that the Greenville aquifer is in a state of severe overdraft, which increases the risk of aquifer subsidence. This means that subsidence-induced fault slip or wellbore destabilization is a real possibility, with either potentially opening new pathways for wastewater fluid to flow.

A typical seismic activity resulting from oil and gas activity has been extensively documented in the central and eastern United States. There, earthquake count has increased dramatically over the last decade, with more than 300 earthquakes with $M \geq 3$ between 2010 and 2012, or an average of 100 events/year, compared with an average rate of 21 events/year for the period spanning 1967 to 2000²⁴. This surge of activity includes a magnitude 5.7 earthquake that struck Oklahoma in 2011, in close proximity to active hydraulic fracturing wastewater wells,²⁵ and a 5.8 magnitude quake on September 3, 2016 that proved to be the most powerful earthquake ever recorded in Oklahoma.

Induced events in California have received less attention due to the greater background seismicity in the West. However, oil extraction-related activities next to seismically active faults, such as those proposed in this application, make consideration of seismicity essential to the review of the CUP. A published 2016 study showed a link between wastewater injection in three injection wells in the Tejon Oil Field in Kern County and a September 2005 earthquake swarm of three $M \geq 4$ events.²⁶ Thus, even with the high background seismicity in California, it is possible to discern connections between seismicity and injection. It is therefore baffling that the Operator does not even deem such connections worth considering.

In the Livermore Oil Field, there is a confluence of factors that collectively pose great risk to wastewater containment: the presence of active faults, the seismic risks associated with fluid injection, and the seismic risks associated with potential land subsidence. The presence of only one of these risk factors would be enough justification to consider a CUP unwise. Active faults, even without external forcing, can slip and open new pathways for fluid flow—and some of those pathways could potentially connect to sources of drinking water. This risk combined with potential external forcing due to injection and/or

While undoubtedly most of these earthquakes are naturally-occurring, detailed study of the seismicity in relation to fluid injection will be needed to assess the likelihood that a proportion of the events in these areas are induced.”

2014 CCST Report, pp. 275-6. *See also* Hamilton, et al., Ground Rupture in the Baldwin Hills, 172 *Science* 3981 (1971), pp. 333-344.

23 Brodsky, Emily and Lisa J. Lajoie, Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field, 341 *Science* (2013); Davies, Richard et al., Induced Seismicity and Hydraulic Fracturing for the Recovery of Hydrocarbons, 45 *Marine and Petroleum Geology* 171 (2013).

24 Ellsworth, William, Injection-Induced Earthquakes, 341 *Science* (2013).

25 Keranen, Katie M. et al., Potentially Induced Earthquakes in Oklahoma, USA: Links between Wastewater Injection and the 2011 Mw 5.7 Earthquake Sequence, 41 *Geology* 699 (2013).

26 Goebel, T.H.W. et al., Wastewater Disposal and Earthquake Swarm Activity at the Southern End of the Central Valley, California, 43 *Geophysical Research Letters* 1092 (2016). *See also* USGS Map of the Rinconada and Reliz Fault Zones, Salinas River Valley, California (2009), available at https://pubs.usgs.gov/sim/3059/sim3059_map.pdf and the accompanying pamphlet, available at https://pubs.usgs.gov/sim/3059/sim3059_pamphlet.pdf, which reveal that 92 small earthquakes were caused by oil field activities in the San Ardo Oil Field.

subsidence makes the cumulative risk to groundwater profound. Such risk will be further exacerbated if water flooding is permitted, which will be the case if a secondary recovery permit sought by E&B is later granted.²⁷

In addition, naturally occurring seismic events may damage the well casings and cause leaks and accidents. E&B provides no assessment of whether its wells or the other wells in the vicinity are resistant to earthquakes. Without knowing whether the wells' mechanical integrity can withstand a seismic event, and if so, how large of a seismic event, the public will bear the risk of accidents caused by naturally occurring earthquakes.

In short, given that E&B relies on a seismically active fault to contain injected fluid while it engages in activity that is known to increase the risk of localized seismic events, the risks of fluid migration cannot be ignored.

3. E&B has a history of spills, accidents and violations of safety and environmental regulations

E&B Natural Resources has a long track record of spills and violations both in Alameda County and across the state. No fewer than 30 spills and leaks in the last 10 years have been reported by E&B.²⁸

a. 2015 Livermore Leak and Contamination

E&B has been cited in this very oil field for failing to conduct required testing on the safety of their injection wells. E&B has asserted that in April 2015 it discovered that a crude oil storage tank at its facility at 8647 Patterson Pass Rd, Livermore, in Alameda County was leaking,²⁹ leaching into the soil below the tank. E&B failed to immediately notify the state's Office of Emergency Services, as it was required by law to do.³⁰ In May, the company arranged for testing of soil affected by the leak, which revealed contamination with substances including lead, toluene and ethyl benzene.³¹ After an "investigative excavation," it was determined that the contamination was "beyond the capabilities of company personnel."³² At some point, E&B moved 10 yards of soil from the contaminated site to another of E&B's facilities in Livermore, to be used as part of a secondary containment soil berm.³³

²⁷ Application, at p. 1.

²⁸ A search of the California Office of Emergency Services Spill Report site at [https://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](https://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) returned almost 50 results for E&B Natural Resources. This does not count reports under variations on the name. For example, in 2016 two additional E&B spills were reported under variant spellings.

²⁹ Governor's Office of Emergency Services, Hazardous Materials Spill Report Control Number Cal OES - 15-4361 NRC ("Spill Report No. Cal OES - 15-4361 NRC"), *available at*: <https://w3.calema.ca.gov/operational/mal haz.nsf/f1841a103c102734882563e200760c4a/736acb9e8379b22c88257e9100774b31?OpenDocument&Highlight=0,E,B,Natural,Resources>, *last visited* September 18, 2015.

³⁰ Cal. Health & Saf. Code § 25510(a).

³¹ Letter from Juan Magana, Project Manager, Zalco Laboratories to Jennifer Brady, E&B Natural Resources Corp, (Jun. 3, 2015) ("Zalco 2015 Lab Report E&B").

³² Alameda County Health Care Services, Request for Voluntary Remedial Action Agreement (Aug. 5, 2015), p. 1.

³³ Alameda County Department of Environmental Health, Inspection Report for 8467 Patterson Pass Road (Jun. 11, 2015) ("ACDEH Report"), p. 4.

By the time Alameda County Environmental Health officers inspected the site in June, the spill extended more than 12 feet deep, and went beyond the boundaries of E&B's leased property.³⁴ The State Water Resources Control Board has identified that an aquifer used for drinking water supply may be affected by the spill.³⁵ On June 11, 2015, following a site visit by Alameda County Public Health officials, the County found that E&B Resources was in violation of section 25510(a) of the California Health and Safety Code because it failed to immediately notify the California Unified Program Agencies ("CUPA") and the California Office of Emergency Services Warning Service of a release of hazardous material.

Even after this notice of violation, E&B Resources would not contact the Office of Emergency Services for another seven weeks. It finally notified the Office of Emergency Services until July 29, 2015,³⁶ approximately four months after the spill was first discovered.³⁷

Disturbingly, the voluntary work plan E&B has prepared to address the spill includes a chemical analysis from soil collected in March 2015, which is inconsistent with E&B's report to the Office of Emergency Services that it only discovered the spill in April 2015.³⁸ This spill puts California's precious groundwater supplies at risk during an historic drought. The work plan shows that groundwater in the area where the spill occurred is extremely shallow – initial groundwater in saturated zone is anticipated to be less than 60 feet below grade, with the potential for even shallower zones.³⁹ The depth of the spill was at least 12 feet below ground surface. Residential wells are between 100 – 350 feet below ground surface, and municipal and irrigation wells are between 315-810 feet below ground surface.⁴⁰

Despite the extremely shallow groundwater in the area, E&B's work plan proposed only *one* initial water sample to test for contamination.⁴¹ The plan does not even attempt to identify water wells in the area, nor does it propose testing of those wells. The spill occurred less than half a mile from an aqueduct that transports water from the Delta to San Jose, and less than half a mile from Patterson Reservoir. We do not know what timeframe is expected for cleanup.

b. Other violations in the Livermore Oilfield

These were not the only violations of state law and regulations found at E&B Resources' Alameda County sites. In addition to the failure to report the produced water spill, Alameda County Public Health Inspectors found that E&B Resources had failed to determine if waste from seven of its tanks was hazardous before disposing of the waste as non-hazardous.⁴² Water analysis for the tank bottom sludge of one tank showed lead levels of 6.4 mg/L, which requires disposal as hazardous waste; and results for three other tanks showed differentiating hazard levels. All this waste was disposed of as non-hazardous.⁴³

³⁴ *Id.*, p. 3.

³⁵ State Water Resources Control Board GeoTracker, GIG Facility Soil Cleanup (T10000007269), http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000007269, last visited September 16, 2015.

³⁶ Spill Report No. Cal OES - 15-4361 NRC

³⁷ *Ibid.* (Per the Caller: "The release came from a facility storage tank. The release was discovered in April 2015, date and time unknown.")

³⁸ Robert A. Booher Consulting, Soil Excavation and Groundwater Investigation Work Plan (2015), Attachment B.

³⁹ *Id.* at p. 1.

⁴⁰ *Ibid.*

⁴¹ *Id.* at p. 4 ("A minimum of one boring will be drilled to groundwater where the former stock tank was located. If the soil sample collected ... is suspect of hydrocarbon impact ... then additional borings *may* be performed...")(emphasis added.)

⁴² ACDEH Report, p. 1.

⁴³ *Ibid.*

The failure to determine whether its waste was hazardous, and to maintain analysis results for three years, was contrary to Title 22 of the California Code of Regulations sections 66262.11 and 66262.40(c). E&B's failure to determine whether its waste was restricted from land disposal was contrary to Title 22 of the California Code of Regulations section 66268.7(a).⁴⁴

E&B also failed to include on its annotated site maps of the locations of its fire extinguishers at 8467 Patterson Pass Road⁴⁵ and its hazardous material storage, fire extinguishers, and spill kits at 8617 Patterson Pass Road,⁴⁶ contrary to California Health & Safety Code sections 25505(a)(2) and 25508(a)(1). Further, it failed to submit a Hazardous Materials Inventory Chemical Description page to the California Unified Program Agencies ("CUPA"), contrary to California Health & Safety Code section 25506 of the.⁴⁷ Finally, the hazardous waste generator EPA identification number for 8617 Patterson Pass Road was inactive, contrary to Title 22 of the California Code of Regulations section 66262.12.⁴⁸

Ultimately, officials found E&B illegally and improperly disposed of hazardous waste from its site. E&B was fined \$80,000⁴⁹ and the property owner estimated at least \$200,000 in damage.⁵⁰ Additionally, in 2014, E&B's facilities in Alameda County were fined a total of \$7,500 by the Bay Area Air Quality Management District in relation to its storage of organic liquids.⁵¹

c. Other E&B violations of note

In October 2014, E&B agreed to pay almost \$40,000 to settle charges brought by the Central Valley Water Board that E&B illegally dumped about 5,000 gallons of oilfield wastewater and crude oil into two unlined pits in the Poso Creek Oil Field.⁵²

In May 2013, the Los Angeles County ordered J. and H. Drilling Co., a sub-contractor working on an E&B site at Hermosa Beach,⁵³ to cease drilling without the required Public Health Permit.⁵⁴ An E&B spokesperson acknowledged that E&B was supposed to file the required permits.⁵⁵ According to the California Office of Emergency Services Hazardous Material Spill Notifications Database, since 2010, E&B has reported 11 other spills at its oil production facilities across California.⁵⁶

⁴⁴ *Id.* at p. 2.

⁴⁵ *Ibid.*

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ RPM Holdings letter to Department of Conservation (Jan. 24, 2017), p. 2

⁵⁰ *Ibid.*, Exhibit C – *People v. E&B Natural Resources Management Corp.* (Super. Ct. Alameda County, 2016, No. RG1684266, Stipulation for Entry of Final Judgment and Permanent Injunction.

⁵¹ Bay Area Air Quality Management District, Board of Directors Regular Meeting Agenda (Sept. 3, 2014), pp. 29, 33, available at http://www.baaqmd.gov/~media/files/board-of-directors/2014/brd_agenda_090314.pdf?la=en

⁵² Cox, John, Oxy Settles Charges it Illegally Dumped Waste, *The Bakersfield Californian*, (Oct. 7, 2014), available at http://www.bakersfield.com/news/oxy-settles-charges-it-illegally-dumped-waste/article_2769c68c-c492-571f-b659-8a0a534170db.html.

⁵³ East Bay Reader News, Hermosa Beach Residents Catch E&B Drilling Without County Permit (May 15, 2013), available at <http://www.easyreadernews.com/70181/hermosa-beach-residents-catch-eb-drilling-without-county-permit/>.

⁵⁴ Los Angeles County Public Health, Notice of Violation and Order (May 10, 2013), p. 1.

⁵⁵ *Ibid.*

⁵⁶ California Office of Emergency Services Hazardous Material Spill Notifications Database, [https://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](https://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) (last visited Sept. 16, 2015).

E&B has a worrying track record of oilfield wastewater disposal problems across the state. In May 2015, the Central Valley Regional Water Quality Control Board issued an order closing four of E&B's injection wells in the Central Valley because those wells were unlawfully injecting fluids into aquifers not designated as exempt under the federal Safe Drinking Water Act.⁵⁷ This followed the closure in March 2015 of two of E&B's injection wells⁵⁸ that were injecting oilfield waste water, containing oil and trace chemicals, into aquifers that may have been suitable for drinking or agricultural uses.⁵⁹

It is clear from E&B's long history of spills, leaks, and legal violations across California that the operator cannot be trusted to follow any restrictions or conditions issued concurrently with the exemption, and thus should not be approved for an exemption in the first place.

The BZA must prioritize the safety of East Alameda County's communities over the profits of this unreliable oil company.

4. Other potential environmental harm

Other environmental harms include adverse impacts to air quality, climate, and wildlife. The Center has previously described these impacts in the comment letters attached and incorporated herein. Briefly, they include:

- a. Air Pollution: Oil and gas operations will result in an array of toxic air contaminants that are harmful to human health.⁶⁰
- b. Climate: Scientists warn that if we hope to have a chance at avoiding catastrophic, irreversible climate change, a majority of fossil fuels must remain in the ground.⁶¹ The cumulative impacts of E&B's operations with other oil production around the state will have significant impacts on the environment.
- c. Wildlife: the proposed project is in or nearby habitat for several imperiled species that are at risk of harm from industrial activities. Species are sensitive to the light, noise, vibration, air, and water pollution resulting from oil and gas activities. Such impacts do not stay within the boundaries of the worksite but rather extend far beyond to disturb areas that species need to survive.⁶²

⁵⁷ Central Valley Regional Water Quality Control Board, Order Pursuant to California Water Code section 13267 (May 15, 2015).

⁵⁸ DOGGR, Calif. Division of Oil, Gas and Geothermal Resources Seeks End to Injection in Kern, Tulare County Wells (Mar. 3, 2015), *available at* <http://www.conservation.ca.gov/index/news/Documents/2015-03%20Division%20of%20Oil,%20Gas,%20and%20Geothermal%20Resources%20orders%20UIC%20wells%20shut%20in.pdf>.

⁵⁹ Baker, David, State Shuts 12 Oil Company Wells That Pumped Waste into Aquifers, San Francisco Gate (Mar. 3, 2015), *available at* <http://www.sfgate.com/business/article/State-shuts-12-oil-company-wells-that-pumped-6112846.php>.

⁶⁰ See Center for Biological Diversity Comment Letter re E&B CUP Application (Feb. 20, 2018), pp. 8-12.

⁶¹ See Center for Biological Diversity Comment Letter re Proposed Livermore Aquifer Exemption Application (Jan. 25, 2017), pp. 14-17.

⁶² *Id.* at pp. 26-29 (listing more than 30 special-status species that occur or potentially occur in the area.)

Conclusion

Given the above concerns, the Center and its members strongly urge the BZA to reject E&B's application for a CUP. The BZA has the opportunity to show strong leadership by prioritizing Alameda County's health, safety, and natural resources and moving us toward a cleaner, more sustainable future.

Respectfully submitted,

A handwritten signature in black ink, reading "Hollin Kretzmann", with a horizontal line extending from the end of the signature.

Hollin Kretzmann
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612

LIST OF REFERENCES

Alameda County Health Care Services, Request for Voluntary Remedial Action Agreement (Aug. 6, 2015)

Alameda County Department of Environmental Health, Inspection Report for 8467 Patterson Pass Road (Jun. 11, 2015)

Baker, David, State Shuts 12 Oil Company Wells That Pumped Waste into Aquifers, San Francisco Gate (Mar. 3, 2015), available at <http://www.sfgate.com/business/article/State-shuts-12-oil-company-wells-that-pumped-6112846.php>

Bay Area Air Quality Management District, Board of Directors Regular Meeting Agenda (Sept. 3, 2015), available at http://www.baaqmd.gov/~media/files/board-of-directors/2014/brd_agenda_090314.pdf?la=en

Booher Consulting, Soil Excavation and Groundwater Investigation Work Plan (2015)

Brodsky, Emily and Lisa J. Lajoie, Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field, 341 Science (2013)

California Council of Science and Technology, Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulation, Vol. II (2015)

California Council on Science and Technology Lawrence Berkeley National Laboratory Pacific Institute, Advanced Well Stimulation in California, “Executive Summary” (2014) (“2014 CCST Report”), available at: <http://ccst.us/publications/2014/2014wstES.pdf>

Center for Biological Diversity, Public Comment Letter re: Livermore Aquifer Exemption Application (Jan. 25, 2017)

Center for Biological Diversity, Public Comment Letter re: Letter re E&B CUP Application (Feb. 20, 2018)

Center for Biological Diversity, Public Comments Delivered During March 28, 2018 Planner’s Meeting re E&B Permit Renewal (Main Areas of Concern)

Chafin, Daniel, Sources and Migration Pathways of Natural Gas in Near-Surface Groundwater Beneath Animas River Valley, Colorado and New Mexico (1994)

Cox, John, Oxy Settles Charges it Illegally Dumped Waste, The Bakersfield Californian, (Oct. 7, 2014), available at http://www.bakersfield.com/news/oxy-settles-charges-it-illegally-dumped-waste/article_2769c68c-c492-571f-b659-8a0a534170db.html

Central Valley Regional Water Quality Control Board, Order Pursuant to California Water Code section 13267 (May 15, 2015)

Davies, Richard et al., Induced Seismicity and Hydraulic Fracturing for the Recovery of Hydrocarbons, 45 Marine and Petroleum Geology 171 (2013)

DOGGR and State Water Resources Control Board, Statement of Basis for the Expansion of the Aquifer Exemption at the Livermore Oil Field, December 9, 2016 ("Statement of Basis 2016")

DOGGR, Benzene in Water Produced from Kern County Oil Fields Containing Fresh Water (1993)

DOGGR, Calif. Division of Oil, Gas and Geothermal Resources Seeks End to Injection in Kern, Tulare County Wells (Mar. 3, 2015), available at <http://www.conservation.ca.gov/index/news/Documents/2015-03%20Division%20of%20Oil,%20Gas,%20and%20Geothermal%20Resources%20orders%20UIC%20wells%20shut%20in.pdf>

East Bay Reader News, Hermosa Beach Residents Catch E&B Drilling Without County Permit, (May 15, 2015), available at <http://www.easyreadernews.com/70181/hermosa-beach-residents-catch-eb-drilling-without-county-permit/>

Ellsworth, William, Injection-Induced Earthquakes, 341 Science (2013)

Goebel, T.H.W. et al., Wastewater Disposal and Earthquake Swarm Activity at the Southern End of the Central Valley, California, 43 Geophysical Research Letters 1092 (2016)

Governor's Office of Emergency Services, Hazardous Materials Spill Report Control Number Cal OES - 15-4361 NRC, <https://w3.calema.ca.gov/operational/mal haz.nsf/f1841a103c102734882563e200760c4a/736acb9e8379b22c88257e9100774b31?OpenDocument&Highlight=0,E,B,Natural,Resources>

Hamilton, et al., Ground Rupture in the Baldwin Hills, 172 Science 3981 (1971)

Keranen, Katie M. et al., Potentially Induced Earthquakes in Oklahoma, USA: Links between Wastewater Injection and the 2011 Mw 5.7 Earthquake Sequence, 41 Geology 699 (2013)

Letter from Juan Magana, Project Manager, Zalco Laboratories to Jennifer Brady, E&B Natural Resources Corp, (Jun. 3, 2015)("Zalco 2015 Lab Report E&B")

Los Angeles County Public Health, Notice of Violation and Order (May 10, 2013)

RPM Holdings letter to Department of Conservation (Jan. 24, 2017)

State Water Resources Control Board GeoTracker, GIG Facility Soil Cleanup (T10000007269), http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000007269

USGS Historic Earthquakes, North of Livermore Valley, California, 1980 01 24 19:00:09.5 UTC, Magnitude 5.8, Intensity VII.

USGS, Surface faulting near Livermore, California associated with the January 1980 earthquakes (1980), available at: https://pubs.usgs.gov/of/1980/0523/of80-523_text.pdf

USGS Map of the Rinconada and Reliz Fault Zones, Salinas River Valley, California (2009), available at https://pubs.usgs.gov/sim/3059/sim3059_map.pdf

USGS Map of the Rinconada and Reliz Fault Zones, Salinas River Valley, California (2009)(Pamphlet), available at https://pubs.usgs.gov/sim/3059/sim3059_pamphlet.pdf

Curry, Damien, CDA

From: Omonigho Oiyemhonlan <OOiyemhonlan@biologicaldiversity.org>
Sent: Wednesday, May 16, 2018 3:22 PM
To: Curry, Damien, CDA
Cc: Hollin Kretzmann
Subject: Center for Biological Diversity Comment Letter re E&B Natural Resources Conditional Use Permits PLN2017-00181 and
Attachments: [1] 18 05 16 Letter to BZA re EB CUP (fnl).pdf

Dear Mr. Curry:

I am attaching a comment letter submitted on behalf of the Center for Biological Diversity regarding the East County Board of Zoning Adjustments' upcoming hearing on E&B Natural Resources' application for a conditional use permit. A hardcopy of the letter and references will arrive via Federal Express tomorrow.

Best regards,

Omonigho Oiyemhonlan
Paralegal, Climate Law Institute
[Center for Biological Diversity](http://www.CenterforBiologicalDiversity.org)
1212 Broadway, Suite 800
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May 16, 2018

Alameda County Planning Department
East County Board of Zoning Adjustments
224 W. Winton Avenue, Rm 111
Hayward, CA 94544
damien.curry@acgov.org

*Re: E&B Natural Resources Conditional Use Permits PLN2017-00181 and
PLN2017-00110*

To the Honorable Members of the East County Board of Zoning Adjustments:

On behalf of the Center for Biological Diversity (the “Center”), its members, and the public, I urge the East County Board of Zoning Adjustments (“BZA”) to reject E&B Natural Resources’ (“E&B”) application for a conditional use permit (“CUP”) to continue and expand its dangerous oil production operations near Livermore. The BZA must do so to protect public health and safety and ensure that the county’s natural resources are preserved for the area residents to use today and in the future.

The Center has previously expressed its concerns with the proposed CUP in its February 20, 2018 comment letter, its oral comments made on February 22, 2018 at the BZA board meeting, and subsequent comments delivered to staff on March 28, 2018. Those comments and references are incorporated herein and reattached here for the Board’s convenience.¹

In particular, allowing E&B to continue and expand its operations would be detrimental to the interests of the community for the following reasons:

1. E&B plans to *expand* its operations, increasing the risk of harm

E&B’s plan to expand its operations is evident from its application to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (“DOGGR”) to exempt the Greenville Sands Member of the Cierbo Formation in the Livermore Oil Field from Safe Drinking Water Act protections in order to allow E&B to inject oil wastewater and other contaminated water into these aquifers. E&B’s insistence that it does not intend to expand is contradicted by its application to increase the injection area of its operations far beyond the current footprint.

In 2016, E&B submitted an application to nearly triple the area it can inject toxic-laden waste fluid, from 26 acres to 75.4 acres.² E&B itself states clearly that it is “proposing the Exemption Area be *expanded*.”³

¹ In addition, according to BZA staff, the purported deadline to submit written comments to the BZA is May 16, 2018. As of this submission date, no staff report has been publicly released. The Center reserves its right to file supplemental comments in response to the staff report if and when it becomes available.

² E&B Natural Resources, Aquifer Exemption Revision Application (2016)(“ Application 2016”), pp. 1, 3.

³ Id. at p. 6.

DOGGR also deems E&B's application an "Expansion of the Aquifer Exemption at the Livermore Oil Field."⁴

E&B also disclosed plans to expand its operations to incorporate previously unpermitted activities. Namely, it plans to conduct waterflooding, an enhanced oil recovery technique. Rather than merely dispose the toxic wastewater generated through oil production, E&B now intends to inject that waste fluid "into the same hydrocarbon-bearing sands from which it is produced."⁵ E&B's current permit is only for disposal. The company has publicly stated that it intends to "either modify or cancel the existing [state underground injection control permit] and replace it with a [permit] for secondary recovery water injection...."⁶ Elsewhere in its CUP application, E&B explains, "the applicant will either convert or replace the existing disposal UIC permit with one for secondary recovery water injection because the produced water is being produced from and returned to the same oil producing zone for pressure maintenance."⁷ Thus, expanding E&B's operations in the manner proposed by E&B will increase the harm to our air, water, and public health and safety. An expansion of E&B's operations would also *increase* the contribution to climate change at a time when the state has pledged to *decrease* its greenhouse gas emissions. Approval of E&B's expansion requires a full environmental impact report under the California Environmental Quality Act.⁸ The public has a right to learn about and comment upon the significant and foreseeable environmental impacts that may result from this project.

2. E&B's oil production puts Livermore's high-quality groundwater at risk.

DOGGR and the State Water Board confirmed that there is high quality groundwater where E&B plans to operate.⁹ These groundwater resources will be put at risk of contamination from petroleum and the chemicals used in oil production processes being moved around the subsurface. Alameda's agriculture and wineries depend on having clean, ample supplies of clean groundwater, especially when the next drought hits California. Sacrificing this water for the convenience of a single oil company would be short-sighted and conflict with the long-term interests of our communities and local economy.

First, the water table near the surface consists of high-quality groundwater that would be put at risk by E&B continuing and expanding operations. Neither E&B nor state regulators have shown that the toxic waste fluid injected via injection wells will stay in the intended zone. E&B has also failed to disclose what chemicals will be used in operations.

Second, the slightly deeper aquifer into which E&B plans to inject waste fluid directly *also* consists of high-quality water suitable for beneficial use. E&B's own report admits that the groundwater may be

4 DOGGR and State Water Resources Control Board, Statement of Basis for the Expansion of the Aquifer Exemption at the Livermore Oil Field, December 9, 2016 ("Statement of Basis 2016").

⁵ Application 2016, p. 2.

⁶ *Ibid.*

⁷ *Id.* at p. 8 (under "Project Description").

⁸ Pub. Resources Code, § 21000 et seq.

⁹ Statement of Basis 2016, p. 2.

treated to be used for beneficial purposes to effectively remove salts, suspended solids and hydrocarbons.¹⁰ It explains:

High Boron ranging from 160 mg/L to 200 mg/L and TDS concentrations in excess of 7000 mg/L would require an expensive facility (>\$1 million), high operating costs, and a water disposal well or the trucking of the waste brine effluent.¹¹

Clearly, treating the groundwater in the aquifer is feasible. However, it is equally clear that E&B has not made good faith inquiries to establish the infeasibility of treatment and reuse, or other means of disposing of the wastewater produced. When obtaining quotes from treatment equipment providers, E&B expressly stated that it was making inquiries to “quantify[] the infeasibility of implementing such a [treatment] system and do not intend to construct.”¹² In such circumstances, neither the BZA nor the public can reasonably be satisfied that the quotes provided reflect full, thorough, accurate and good faith investigation of options for water treatment.

Contrary to E&B’s assertions that the groundwater is beyond salvage, the cost estimates demonstrate that it is very possible, using current existing technology, to treat the water in the aquifer at issue so that it may be used for drinking water or another beneficial purpose. Indeed, there are two options readily available – construction of a small reclamation plant, or treatment of the water in a small evaporator to reduce the total dissolved solids (TDS) to zero, with additional treatment to remove remaining volatile organic compounds.¹³ Needless to say, as water treatment technologies improve and become cheaper over time, this aquifer would become an even more valuable resource for area businesses and residents.

The state’s recent actions on E&B’s application support the conclusion that the groundwater should be preserved. On April 2, 2018, DOGGR *rescinded* its prior conclusion that the aquifer could be exempted because “the total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/L and it is not reasonably expected to supply a public water system.” That is, DOGGR now presumably believes either: (1) the total dissolved solids content of the water is less than 3,000 mg/L in portions of the aquifer, (2) it cannot be demonstrated that the aquifer is not reasonably expected to supply a public water system, or both.

Oil and gas operations like E&B’s use harmful chemicals in all phases of development, including drilling, well maintenance, enhanced oil recovery, and well cleanout. E&B admits that it uses “small amounts of chemicals,” but has not disclosed a list of chemicals it will use nor the quantities of those chemicals. Oil contains harmful constituents, including benzene¹⁴, a carcinogenic chemical, that may migrate to cleaner portions of aquifers and degrade water quality. There are numerous potential pathways for these chemicals to migrate and contaminate groundwater. As the Center explained in its January 25, 2017 Comment Letter to DOGGR regarding the Livermore Aquifer Expansion Application (attached and

¹⁰ Application 2016, Appendix VII “Veolia Opus II” brochure (unpaginated).

¹¹ Application at p. 9.

¹² Application 2016, Appendix VII, p. 2.

¹³ Application 2016, Appendix VII, p. 1.

¹⁴ DOGGR, Benzene in Water Produced from Kern County Oil Fields Containing Fresh Water (1993)

incorporated herein), chemicals can move vertically or laterally via permeable strata, faults, dips and other formations when oil production is introduced.¹⁵

Moreover, existing, older, unused wells can create pathways for contamination.¹⁶ The Application indicates eight abandoned or idle production wells and 18 dry hole wells.¹⁷ These wells, especially those that were constructed decades ago under outdated technologies and standards, can act as a conduit for fluid migration.¹⁸ The CUP application fails to analyze the potential risk that unused wells will create new hydrologic pathways and connections to other groundwater sources. E&B's application for a CUP does not provide a risk analysis regarding these wells either.

Additionally, seismic activity is a concern because oil and gas activity can trigger earthquakes and naturally occurring earthquakes can damage wells and cause leaks. The risk of seismic activity is more than merely speculative. The Operator is relying on a *seismically active* fault zone (the Greenville Fault zone) to provide containment of wastewater injectate along the eastern boundary of the proposed exemption.

The Livermore Oil Field is located immediately west of the Greenville Fault zone and north of the Las Positas Fault. Both of these faults break the surface, which speaks to their likely status as seismically active. This is supported by a 1980 USGS report that discusses two earthquakes in 1980 of magnitudes 5.8 and 5.2, respectively, north of Livermore and within the Greenville Fault zone. The 5.8 magnitude quake injured 44 people and caused \$11.5 million worth of damage to property.¹⁹ This earthquake occurred during the years of peak injection at the Livermore field.²⁰ These earthquakes resulted in surface faulting not only in the Greenville Fault zone but the Las Positas Fault zone as well which indicates the active seismicity present in the Livermore region.²¹

Oil and gas activity, including fluid injection, can activate faults and trigger earthquakes.²² The mechanisms linking oil and gas activities and earthquakes are understood: injection-induced changes in

¹⁵ See Center for Biological Diversity, Public Comment Letter re: Livermore Aquifer Expansion Application (Jan. 25, 2017), pp. 21-25.

¹⁶ California Council of Science and Technology, Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulation, Vol. II (2015) ("CCST Report"), pp. 105, 107, 109, 122-123.

¹⁷ Application, Appendix IV.

¹⁸ See, e.g., Chafin, Daniel, Sources and Migration Pathways of Natural Gas in Near-Surface Groundwater Beneath Animas River Valley, Colorado and New Mexico (1994).

¹⁹ USGS Historic Earthquakes, North of Livermore Valley, California, 1980 01 24 19:00:09.5 UTC, Magnitude 5.8, Intensity VII.

²⁰ Based on data available at:

<https://secure.conservation.ca.gov/WellSearch/Summary/Field?fieldcode=404&fieldname=Livermore> (last visited 1/25/17).

²¹ USGS, Surface faulting near Livermore, California associated with the January 1980 earthquakes (1980), available at: https://pubs.usgs.gov/of/1980/0523/of80-523_text.pdf

²² California Council on Science and Technology Lawrence Berkeley National Laboratory Pacific Institute, Advanced Well Stimulation in California (2014) ("2014 CCST Report"), Executive Summary pp. 21-22, available at: <http://ccst.us/publications/2014/2014wstES.pdf>. Further study is needed as well. "[A]reas of the southern San Joaquin, Ventura, Santa Clarita and Santa Maria basins, where active water disposal wells are concentrated at present (Figure 5-10), have relatively high rates of seismicity in the 2-5 magnitude range.

fluid pressure within aquifers, fault lubrication by injected fluids, and extraction-induced pressure decreases and aquifer subsidence all have the potential to destabilize wellbores and cause preexisting faults to slip.²³ Aquifer subsidence is especially concerning because the Operator acknowledges that the Greenville aquifer is in a state of severe overdraft, which increases the risk of aquifer subsidence. This means that subsidence-induced fault slip or wellbore destabilization is a real possibility, with either potentially opening new pathways for wastewater fluid to flow.

A typical seismic activity resulting from oil and gas activity has been extensively documented in the central and eastern United States. There, earthquake count has increased dramatically over the last decade, with more than 300 earthquakes with $M \geq 3$ between 2010 and 2012, or an average of 100 events/year, compared with an average rate of 21 events/year for the period spanning 1967 to 2000²⁴. This surge of activity includes a magnitude 5.7 earthquake that struck Oklahoma in 2011, in close proximity to active hydraulic fracturing wastewater wells,²⁵ and a 5.8 magnitude quake on September 3, 2016 that proved to be the most powerful earthquake ever recorded in Oklahoma.

Induced events in California have received less attention due to the greater background seismicity in the West. However, oil extraction-related activities next to seismically active faults, such as those proposed in this application, make consideration of seismicity essential to the review of the CUP. A published 2016 study showed a link between wastewater injection in three injection wells in the Tejon Oil Field in Kern County and a September 2005 earthquake swarm of three $M \geq 4$ events.²⁶ Thus, even with the high background seismicity in California, it is possible to discern connections between seismicity and injection. It is therefore baffling that the Operator does not even deem such connections worth considering.

In the Livermore Oil Field, there is a confluence of factors that collectively pose great risk to wastewater containment: the presence of active faults, the seismic risks associated with fluid injection, and the seismic risks associated with potential land subsidence. The presence of only one of these risk factors would be enough justification to consider a CUP unwise. Active faults, even without external forcing, can slip and open new pathways for fluid flow—and some of those pathways could potentially connect to sources of drinking water. This risk combined with potential external forcing due to injection and/or

While undoubtedly most of these earthquakes are naturally-occurring, detailed study of the seismicity in relation to fluid injection will be needed to assess the likelihood that a proportion of the events in these areas are induced.” 2014 CCST Report, pp. 275-6. *See also* Hamilton, et al., Ground Rupture in the Baldwin Hills, 172 *Science* 3981 (1971), pp. 333-344.

23 Brodsky, Emily and Lisa J. Lajoie, Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field, 341 *Science* (2013); Davies, Richard et al., Induced Seismicity and Hydraulic Fracturing for the Recovery of Hydrocarbons, 45 *Marine and Petroleum Geology* 171 (2013).

24 Ellsworth, William, Injection-Induced Earthquakes, 341 *Science* (2013).

25 Keranen, Katie M. et al., Potentially Induced Earthquakes in Oklahoma, USA: Links between Wastewater Injection and the 2011 Mw 5.7 Earthquake Sequence, 41 *Geology* 699 (2013).

26 Goebel, T.H.W. et al., Wastewater Disposal and Earthquake Swarm Activity at the Southern End of the Central Valley, California, 43 *Geophysical Research Letters* 1092 (2016). *See also* USGS Map of the Rinconada and Reliz Fault Zones, Salinas River Valley, California (2009), available at https://pubs.usgs.gov/sim/3059/sim3059_map.pdf and the accompanying pamphlet, available at https://pubs.usgs.gov/sim/3059/sim3059_pamphlet.pdf, which reveal that 92 small earthquakes were caused by oil field activities in the San Ardo Oil Field.

subsidence makes the cumulative risk to groundwater profound. Such risk will be further exacerbated if water flooding is permitted, which will be the case if a secondary recovery permit sought by E&B is later granted.²⁷

In addition, naturally occurring seismic events may damage the well casings and cause leaks and accidents. E&B provides no assessment of whether its wells or the other wells in the vicinity are resistant to earthquakes. Without knowing whether the wells' mechanical integrity can withstand a seismic event, and if so, how large of a seismic event, the public will bear the risk of accidents caused by naturally occurring earthquakes.

In short, given that E&B relies on a seismically active fault to contain injected fluid while it engages in activity that is known to increase the risk of localized seismic events, the risks of fluid migration cannot be ignored.

3. E&B has a history of spills, accidents and violations of safety and environmental regulations

E&B Natural Resources has a long track record of spills and violations both in Alameda County and across the state. No fewer than 30 spills and leaks in the last 10 years have been reported by E&B.²⁸

a. 2015 Livermore Leak and Contamination

E&B has been cited in this very oil field for failing to conduct required testing on the safety of their injection wells. E&B has asserted that in April 2015 it discovered that a crude oil storage tank at its facility at 8647 Patterson Pass Rd, Livermore, in Alameda County was leaking,²⁹ leaching into the soil below the tank. E&B failed to immediately notify the state's Office of Emergency Services, as it was required by law to do.³⁰ In May, the company arranged for testing of soil affected by the leak, which revealed contamination with substances including lead, toluene and ethyl benzene.³¹ After an "investigative excavation," it was determined that the contamination was "beyond the capabilities of company personnel."³² At some point, E&B moved 10 yards of soil from the contaminated site to another of E&B's facilities in Livermore, to be used as part of a secondary containment soil berm.³³

²⁷ Application, at p. 1.

²⁸ A search of the California Office of Emergency Services Spill Report site at [https://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](https://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) returned almost 50 results for E&B Natural Resources. This does not count reports under variations on the name. For example, in 2016 two additional E&B spills were reported under variant spellings.

²⁹ Governor's Office of Emergency Services, Hazardous Materials Spill Report Control Number Cal OES - 15-4361 NRC ("Spill Report No. Cal OES - 15-4361 NRC"), available at: <https://w3.calema.ca.gov/operational/mal haz.nsf/f1841a103c102734882563e200760c4a/736acb9e8379b22c88257e9100774b31?OpenDocument&Highlight=0,E,B,Natural,Resources>, last visited September 18, 2015.

³⁰ Cal. Health & Saf. Code § 25510(a).

³¹ Letter from Juan Magana, Project Manager, Zalco Laboratories to Jennifer Brady, E&B Natural Resources Corp. (Jun. 3, 2015) ("Zalco 2015 Lab Report E&B").

³² Alameda County Health Care Services, Request for Voluntary Remedial Action Agreement (Aug. 5, 2015), p. 1.

³³ Alameda County Department of Environmental Health, Inspection Report for 8467 Patterson Pass Road (Jun. 11, 2015) ("ACDEH Report"), p. 4.

By the time Alameda County Environmental Health officers inspected the site in June, the spill extended more than 12 feet deep, and went beyond the boundaries of E&B's leased property.³⁴ The State Water Resources Control Board has identified that an aquifer used for drinking water supply may be affected by the spill.³⁵ On June 11, 2015, following a site visit by Alameda County Public Health officials, the County found that E&B Resources was in violation of section 25510(a) of the California Health and Safety Code because it failed to immediately notify the California Unified Program Agencies ("CUPA") and the California Office of Emergency Services Warning Service of a release of hazardous material.

Even after this notice of violation, E&B Resources would not contact the Office of Emergency Services for another seven weeks. It finally notified the Office of Emergency Services until July 29, 2015,³⁶ approximately four months after the spill was first discovered.³⁷

Disturbingly, the voluntary work plan E&B has prepared to address the spill includes a chemical analysis from soil collected in March 2015, which is inconsistent with E&B's report to the Office of Emergency Services that it only discovered the spill in April 2015.³⁸ This spill puts California's precious groundwater supplies at risk during an historic drought. The work plan shows that groundwater in the area where the spill occurred is extremely shallow – initial groundwater in saturated zone is anticipated to be less than 60 feet below grade, with the potential for even shallower zones.³⁹ The depth of the spill was at least 12 feet below ground surface. Residential wells are between 100 – 350 feet below ground surface, and municipal and irrigation wells are between 315-810 feet below ground surface.⁴⁰

Despite the extremely shallow groundwater in the area, E&B's work plan proposed only *one* initial water sample to test for contamination.⁴¹ The plan does not even attempt to identify water wells in the area, nor does it propose testing of those wells. The spill occurred less than half a mile from an aqueduct that transports water from the Delta to San Jose, and less than half a mile from Patterson Reservoir. We do not know what timeframe is expected for cleanup.

b. Other violations in the Livermore Oilfield

These were not the only violations of state law and regulations found at E&B Resources' Alameda County sites. In addition to the failure to report the produced water spill, Alameda County Public Health Inspectors found that E&B Resources had failed to determine if waste from seven of its tanks was hazardous before disposing of the waste as non-hazardous.⁴² Water analysis for the tank bottom sludge of one tank showed lead levels of 6.4 mg/L, which requires disposal as hazardous waste; and results for three other tanks showed differentiating hazard levels. All this waste was disposed of as non-hazardous.⁴³

³⁴ *Id.*, p. 3.

³⁵ State Water Resources Control Board GeoTracker, GIG Facility Soil Cleanup (T10000007269), http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000007269, last visited September 16, 2015.

³⁶ Spill Report No. Cal OES - 15-4361 NRC

³⁷ *Ibid.* (Per the Caller: "The release came from a facility storage tank. The release was discovered in April 2015, date and time unknown.")

³⁸ Robert A. Booher Consulting, Soil Excavation and Groundwater Investigation Work Plan (2015), Attachment B.

³⁹ *Id.* at p. 1.

⁴⁰ *Ibid.*

⁴¹ *Id.* at p. 4 ("A minimum of one boring will be drilled to groundwater where the former stock tank was located. If the soil sample collected ... is suspect of hydrocarbon impact ... then additional borings *may* be performed...")(emphasis added.)

⁴² ACDEH Report, p. 1.

⁴³ *Ibid.*

The failure to determine whether its waste was hazardous, and to maintain analysis results for three years, was contrary to Title 22 of the California Code of Regulations sections 66262.11 and 66262.40(c). E&B's failure to determine whether its waste was restricted from land disposal was contrary to Title 22 of the California Code of Regulations section 66268.7(a).⁴⁴

E&B also failed to include on its annotated site maps of the locations of its fire extinguishers at 8467 Patterson Pass Road⁴⁵ and its hazardous material storage, fire extinguishers, and spill kits at 8617 Patterson Pass Road,⁴⁶ contrary to California Health & Safety Code sections 25505(a)(2) and 25508(a)(1). Further, it failed to submit a Hazardous Materials Inventory Chemical Description page to the California Unified Program Agencies ("CUPA"), contrary to California Health & Safety Code section 25506 of the.⁴⁷ Finally, the hazardous waste generator EPA identification number for 8617 Patterson Pass Road was inactive, contrary to Title 22 of the California Code of Regulations section 66262.12.⁴⁸

Ultimately, officials found E&B illegally and improperly disposed of hazardous waste from its site. E&B was fined \$80,000⁴⁹ and the property owner estimated at least \$200,000 in damage.⁵⁰ Additionally, in 2014, E&B's facilities in Alameda County were fined a total of \$7,500 by the Bay Area Air Quality Management District in relation to its storage of organic liquids.⁵¹

c. Other E&B violations of note

In October 2014, E&B agreed to pay almost \$40,000 to settle charges brought by the Central Valley Water Board that E&B illegally dumped about 5,000 gallons of oilfield wastewater and crude oil into two unlined pits in the Poso Creek Oil Field.⁵²

In May 2013, the Los Angeles County ordered J. and H. Drilling Co., a sub-contractor working on an E&B site at Hermosa Beach,⁵³ to cease drilling without the required Public Health Permit.⁵⁴ An E&B spokesperson acknowledged that E&B was supposed to file the required permits.⁵⁵ According to the California Office of Emergency Services Hazardous Material Spill Notifications Database, since 2010, E&B has reported 11 other spills at its oil production facilities across California.⁵⁶

⁴⁴ *Id.* at p. 2.

⁴⁵ *Ibid.*

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ RPM Holdings letter to Department of Conservation (Jan. 24, 2017), p. 2

⁵⁰ *Ibid.*, Exhibit C – *People v. E&B Natural Resources Management Corp.* (Super. Ct. Alameda County, 2016, No. RG1684266, Stipulation for Entry of Final Judgment and Permanent Injunction.

⁵¹ Bay Area Air Quality Management District, Board of Directors Regular Meeting Agenda (Sept. 3, 2014), pp. 29, 33, available at http://www.baaqmd.gov/~media/files/board-of-directors/2014/brd_agenda_090314.pdf?la=en

⁵² Cox, John, Oxy Settles Charges it Illegally Dumped Waste, *The Bakersfield Californian*, (Oct. 7, 2014), available at http://www.bakersfield.com/news/oxy-settles-charges-it-illegally-dumped-waste/article_2769c68c-c492-571f-b659-8a0a534170db.html.

⁵³ East Bay Reader News, Hermosa Beach Residents Catch E&B Drilling Without County Permit (May 15, 2013), available at <http://www.easyreadernews.com/70181/hermosa-beach-residents-catch-eb-drilling-without-county-permit/>.

⁵⁴ Los Angeles County Public Health, Notice of Violation and Order (May 10, 2013), p. 1.

⁵⁵ *Ibid.*

⁵⁶ California Office of Emergency Services Hazardous Material Spill Notifications Database, [https://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](https://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) (last visited Sept. 16, 2015).

E&B has a worrying track record of oilfield wastewater disposal problems across the state. In May 2015, the Central Valley Regional Water Quality Control Board issued an order closing four of E&B's injection wells in the Central Valley because those wells were unlawfully injecting fluids into aquifers not designated as exempt under the federal Safe Drinking Water Act.⁵⁷ This followed the closure in March 2015 of two of E&B's injection wells⁵⁸ that were injecting oilfield waste water, containing oil and trace chemicals, into aquifers that may have been suitable for drinking or agricultural uses.⁵⁹

It is clear from E&B's long history of spills, leaks, and legal violations across California that the operator cannot be trusted to follow any restrictions or conditions issued concurrently with the exemption, and thus should not be approved for an exemption in the first place.

The BZA must prioritize the safety of East Alameda County's communities over the profits of this unreliable oil company.

4. Other potential environmental harm

Other environmental harms include adverse impacts to air quality, climate, and wildlife. The Center has previously described these impacts in the comment letters attached and incorporated herein. Briefly, they include:

- a. Air Pollution: Oil and gas operations will result in an array of toxic air contaminants that are harmful to human health.⁶⁰
- b. Climate: Scientists warn that if we hope to have a chance at avoiding catastrophic, irreversible climate change, a majority of fossil fuels must remain in the ground.⁶¹ The cumulative impacts of E&B's operations with other oil production around the state will have significant impacts on the environment.
- c. Wildlife: the proposed project is in or nearby habitat for several imperiled species that are at risk of harm from industrial activities. Species are sensitive to the light, noise, vibration, air, and water pollution resulting from oil and gas activities. Such impacts do not stay within the boundaries of the worksite but rather extend far beyond to disturb areas that species need to survive.⁶²

⁵⁷ Central Valley Regional Water Quality Control Board, Order Pursuant to California Water Code section 13267 (May 15, 2015).

⁵⁸ DOGGR, Calif. Division of Oil, Gas and Geothermal Resources Seeks End to Injection in Kern, Tulare County Wells (Mar. 3, 2015), available at <http://www.conservation.ca.gov/index/news/Documents/2015-03%20Division%20of%20Oil,%20Gas,%20and%20Geothermal%20Resources%20orders%20UIC%20wells%20shut%20in.pdf>.

⁵⁹ Baker, David, State Shuts 12 Oil Company Wells That Pumped Waste into Aquifers, San Francisco Gate (Mar. 3, 2015), available at <http://www.sfgate.com/business/article/State-shuts-12-oil-company-wells-that-pumped-6112846.php>.

⁶⁰ See Center for Biological Diversity Comment Letter re E&B CUP Application (Feb. 20, 2018), pp. 8-12.

⁶¹ See Center for Biological Diversity Comment Letter re Proposed Livermore Aquifer Exemption Application (Jan. 25, 2017), pp. 14-17.

⁶² *Id.* at pp. 26-29 (listing more than 30 special-status species that occur or potentially occur in the area.)

Conclusion

Given the above concerns, the Center and its members strongly urge the BZA to reject E&B's application for a CUP. The BZA has the opportunity to show strong leadership by prioritizing Alameda County's health, safety, and natural resources and moving us toward a cleaner, more sustainable future.

Respectfully submitted,

A handwritten signature in black ink, reading "Hollin Kretzmann". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Hollin Kretzmann
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612

LIST OF REFERENCES

Alameda County Health Care Services, Request for Voluntary Remedial Action Agreement (Aug. 6, 2015)

Alameda County Department of Environmental Health, Inspection Report for 8467 Patterson Pass Road (Jun. 11, 2015)

Baker, David, State Shuts 12 Oil Company Wells That Pumped Waste into Aquifers, San Francisco Gate (Mar. 3, 2015), available at <http://www.sfgate.com/business/article/State-shuts-12-oil-company-wells-that-pumped-6112846.php>

Bay Area Air Quality Management District, Board of Directors Regular Meeting Agenda (Sept. 3, 2015), available at http://www.baaqmd.gov/~media/files/board-of-directors/2014/brd_agenda_090314.pdf?la=en

Booher Consulting, Soil Excavation and Groundwater Investigation Work Plan (2015)

Brodsky, Emily and Lisa J. Lajoie, Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field, 341 Science (2013)

California Council of Science and Technology, Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulation, Vol. II (2015)

California Council on Science and Technology Lawrence Berkeley National Laboratory Pacific Institute, Advanced Well Stimulation in California, “Executive Summary” (2014) (“2014 CCST Report”), available at: <http://ccst.us/publications/2014/2014wstES.pdf>

Center for Biological Diversity, Public Comment Letter re: Livermore Aquifer Exemption Application (Jan. 25, 2017)

Center for Biological Diversity, Public Comment Letter re: Letter re E&B CUP Application (Feb. 20, 2018)

Center for Biological Diversity, Public Comments Delivered During March 28, 2018 Planner’s Meeting re E&B Permit Renewal (Main Areas of Concern)

Chafin, Daniel, Sources and Migration Pathways of Natural Gas in Near-Surface Groundwater Beneath Animas River Valley, Colorado and New Mexico (1994)

Cox, John, Oxy Settles Charges it Illegally Dumped Waste, The Bakersfield Californian, (Oct. 7, 2014), available at http://www.bakersfield.com/news/oxy-settles-charges-it-illegally-dumped-waste/article_2769c68c-c492-571f-b659-8a0a534170db.html

Central Valley Regional Water Quality Control Board, Order Pursuant to California Water Code section 13267 (May 15, 2015)

Davies, Richard et al., Induced Seismicity and Hydraulic Fracturing for the Recovery of Hydrocarbons, 45 Marine and Petroleum Geology 171 (2013)

DOGGR and State Water Resources Control Board, Statement of Basis for the Expansion of the Aquifer Exemption at the Livermore Oil Field, December 9, 2016 ("Statement of Basis 2016")

DOGGR, Benzene in Water Produced from Kern County Oil Fields Containing Fresh Water (1993)

DOGGR, Calif. Division of Oil, Gas and Geothermal Resources Seeks End to Injection in Kern, Tulare County Wells (Mar. 3, 2015), available at <http://www.conservation.ca.gov/index/news/Documents/2015-03%20Division%20of%20Oil,%20Gas,%20and%20Geothermal%20Resources%20orders%20UIC%20wells%20shut%20in.pdf>

East Bay Reader News, Hermosa Beach Residents Catch E&B Drilling Without County Permit, (May 15, 2015), available at <http://www.easyreadernews.com/70181/hermosa-beach-residents-catch-cb-drilling-without-county-permit/>

Ellsworth, William, Injection-Induced Earthquakes, 341 Science (2013)

Goebel, T.H.W. et al., Wastewater Disposal and Earthquake Swarm Activity at the Southern End of the Central Valley, California, 43 Geophysical Research Letters 1092 (2016)

Governor's Office of Emergency Services, Hazardous Materials Spill Report Control Number Cal OES - 15-4361 NRC, <https://w3.calema.ca.gov/operational/mal haz.nsf/f1841a103c102734882563e200760c4a/736acb9e8379b22c88257e9100774b31?OpenDocument&Highlight=0,E,B,Natural,Resources>

Hamilton, et al., Ground Rupture in the Baldwin Hills, 172 Science 3981 (1971)

Keranen, Katie M. et al., Potentially Induced Earthquakes in Oklahoma, USA: Links between Wastewater Injection and the 2011 Mw 5.7 Earthquake Sequence, 41 Geology 699 (2013)

Letter from Juan Magana, Project Manager, Zalco Laboratories to Jennifer Brady, E&B Natural Resources Corp, (Jun. 3, 2015)("Zalco 2015 Lab Report E&B")

Los Angeles County Public Health, Notice of Violation and Order (May 10, 2013)

RPM Holdings letter to Department of Conservation (Jan. 24, 2017)

State Water Resources Control Board GeoTracker, GIG Facility Soil Cleanup (T10000007269), http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000007269

USGS Historic Earthquakes, North of Livermore Valley, California, 1980 01 24 19:00:09.5 UTC, Magnitude 5.8, Intensity VII.

USGS, Surface faulting near Livermore, California associated with the January 1980 earthquakes (1980), available at: https://pubs.usgs.gov/of/1980/0523/of80-523_text.pdf

USGS Map of the Rinconada and Reliz Fault Zones, Salinas River Valley, California (2009), available at https://pubs.usgs.gov/sim/3059/sim3059_map.pdf

USGS Map of the Rinconada and Reliz Fault Zones, Salinas River Valley, California (2009)(Pamphlet), available at https://pubs.usgs.gov/sim/3059/sim3059_pamphlet.pdf

Curry, Damien, CDA

From: Deborah McQueen <DeborahMcQueen@OperaSmarts.com>
Sent: Wednesday, May 16, 2018 11:56 AM
To: Curry, Damien, CDA
Subject: Request to deny CUP to EB @ May 24th meeting.

Dear Damien,

I'm writing to urge the Board of Zoning Adjustments to reject E&B's permit application for their Livermore Oil Field operations. Denying this permit is critical for ensuring a healthy and safe future for all residents and for protecting the public against the serious risks of oil and gas operations.

- E&B's has a long track record of spills and accidents. Numerous agencies have cited E&B for violations of environmental and safety regulations. With a reckless track record like this, E&B should not be allowed to continue its oil operations.
- California's greenhouse gas reduction goals will require *less* fossil fuel production, not more. Locking us in to another 10 years of oil production is counter to our state's efforts to reduce greenhouse gas emissions and pushes us closer to catastrophic climate change. Alameda County can and should lead the way toward a safer sustainable future.
- E&B's oil operations put our groundwater at risk. The Water Board confirmed that there is high quality groundwater in the area. Drilling past this groundwater brings the risk of leaks and water contamination from the harmful chemicals used in oil and gas operations. With the chance of future droughts, we must protect our local groundwater.

Thank you for your consideration,

Deborah McQueen

Livermore

Curry, Damien, CDA

From: Donna Cabanne <donna.cabanne@gmail.com>
Sent: Tuesday, May 15, 2018 9:56 AM
To: Curry, Damien, CDA; Bernard / Donna Cabanne; Donna Cabanne
Subject: letter for Zoning Board packet May 24th hearing ---E and B Natural Resources

Hi Damien,

Please include the following letter in the packet for Board Members 5/24

Dear East Alameda County Zoning Adjustments Board Members:

The 10 year Conditional Use Permits E and B is requesting should be denied for the following reasons:

First, E and B has not complied with county and state laws and has received numerous fines and notices of violations:

Charges were filed against E and B by Alameda County District Attorney Nancy O'Malley and Kern County District Attorney Lisa Green that resulted in a stipulated judgement in January 2017. E and B was ordered to pay \$85,000 dollars including payments to the following parties:

\$30,000 dollars to Alameda County District Attorney's Office as civil penalties;

\$30,000 to Kern County District Attorney's Office as civil penalties:

\$4,036 to Alameda County Department of Environmental Health;

\$1,250 to Kern County Environmental Health Division for costs;

\$ 9,714 to Alameda County Fish and Game;

and \$10,000 to Kern County Environmental Health Division for hazardous waste personnel training.

In addition, at public hearings, a neighboring property owner in Livermore stated that E and B was ordered to pay \$200,000 dollars to clean up his property.

Is this a company that should receive renewed CUPs?

E and B Natural Resources have not been safe operators.

Alameda County Department of Environmental Health issued the following Notices of Violation to E and B:

1) June 2015—a significant Class 1 violation was noted. E and B failed to report a release of petroleum from an above ground storage tank;this release impacted soil to the depth of 12 feet as was a violation of Health and Safety Code HSC6.955 25510a.

2) In April 2015 E and B said sludge removed from eight production tanks was non-hazardous and incorrectly disposed of these wastes in Potrero Hills Landfill. However, it was determined that Wash tank #8 was hazardous and exceeded the California hazardous waste level. E and B was in violation of Health and Safety Code HSC,6.525189.5 (a) failure of a generator to dispose of hazardous waste at an authorized location.

These facts are a matter of public record and can be viewed at the Alameda County Department of Environmental Health.

E and B has stated they simply want to continue current operations. This is not true. E and B has asked for an aquifer exemption area to be expanded from 26 acres to 70 acres; triple the size of their current operations.

The CUP to drill in Livemore was first given to another operator in the 1960's. E and B has been "grandfathered" the right to drill from a previous owner. This loophole has allowed E and B to continue and expand operations without the environmental review other companies must adhere to for public safety.

The health and safety of our community is at risk. We need your help. Water is a precious commodity; nevertheless, E and B is planning to re-inject their drilling wastes into our aquifers as a cheap and convenient disposal method. Why should we allow our aquifers to be put at risk for the profits of a few?

Even if some water in the aquifer is non-potable, there are still many beneficial uses for this water. Why should we agree to further pollute our groundwater??

According to the latest scientific findings, we live in the 6th dirtiest air basin in the US for air particulates and the 13th dirtiest air basin in the US for ozone pollution. We need to move away from fossil fuels and meet our energy needs with more renewable sources such as wind and solar.

Deny these conditional use permits to protect our families and our future.

Sincerely,

Donna Cabanne
Tri-Valley Group Executive Committee
Sierra Club

Curry, Damien, CDA

From: BERNARD CABANNE <bcabanne@comcast.net>
Sent: Monday, May 14, 2018 5:18 PM
To: Curry, Damien, CDA; donna.cabanne@gmail.com
Subject: Fwd: FILE REQUEST
Attachments: 8467 NOV 4-6-12.pdf; 8617 NOV 4-6-12.pdf; NOV 8467 PATTERSON PASS RD CUPA_2015_9 24.pdf; NOV 8617 PATTERSON PASS RD CUPA_2015_9 25.pdf; E&B - Final Judgment - signed - RG16842668.pdf; Signed Final Order dated 10-22-15 & Invoice.PDF

Hi Damien,

Please print out the attached documents showing fines and notices of violation E and B has received from Alameda County Environmental Health as well as the final stipulated judgment against E and B Natural Resources. Please include these six documents in packet for Board Members for May 24th hearing.

Thank you in advance

Donna Cabanne

----- Forwarded message -----

From: Cummings, Yvonne, Env. Health <Yvonne.Cummings@acgov.org>
Date: Wed, Apr 4, 2018 at 11:19 AM

Hi Donna,

The attached documents above are the NOV letters you requested.

Yvonne

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director



April 6, 2012

Certified Mailer Number: 70063450000005031622

Mr. Greg Youngblood
E & B Natural Resource GIG
34740 Merced Ave.
Bakersfield, CA 93306

DEPARTMENT OF ENVIRONMENTAL HEALTH
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-8577
(510) 567-6700
FAX (510) 337-9335

NOTICE OF VIOLATION

Failure to Submit Hazardous Materials Business Plan (HMBP) Forms

Re: E&B Natural Resource GIG, 8467 Patterson Pass Rd., Livermore CA

Dear Mr. Youngblood:

This letter is to inform you that your annual HMBP forms for your business are past due. It is the responsibility of the business owner to ensure that the HMBP forms are completed and received by Alameda County Department of Environmental Health (ACDEH) within a year from the last submittal as required by Article 1, Chapter 6.95, Division 20 of California Health and Safety Code.

Please submit a HMBP or the Annual Update Certification form by April 30, 2012.

Additional copies of the HMBP forms and instructions are available online at our website:
<http://www.acgov.org/aceh>.

Per California Health and Safety Code 6.95, Section 25514.5, failure to submit your HMBP by the date shown on this notice may subject you to administrative civil penalties up to \$2000/day or \$5000/day for knowingly violating the law for each day your HMBP is delinquent.

ACDEH staff is available to assist you in completing your HMBP. Please contact My Le Huynh at (510) 567-6762 or Barney Chan at (510) 567-6765.

Please contact me at (510) 567-6780 or Barney Chan at (510) 567-6765 if you have any questions.

Sincerely,

Susan Hugo
Supervising Hazardous Materials Specialist

Cc: file

U.S. Postal Service	
CERTIFIED MAIL RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at www.usps.com	
OFFICIAL USE	
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Certified Fee	
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Postmark Here	
Mr. Greg Youngblood E&B Natural Resource NISSEN 34740 Merced Ave. Bakersfield, CA 93306	
City, State, ZIP+4	

2291 E050 0000 054E 7006

SENDER - COMPLETE THIS SECTION

- Complete Items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired.
- Print your name and address on this card so that we can return the card to you or attach this card to the back of the mail piece or on the front if space permits.

1. Article Addressed to:

**Mr. Greg Youngblood
E&B Natural Resource NISSEN
34740 Merced Ave.
Bakersfield, CA 93306**

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

[Signature]

☐ Agent

☐ Addressee

B. Received by (Printed Name)

Greg Youngblood

C. Date of Delivery

D. Is delivery address different from Item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

*93308
ZIP CODE*

ype

nd Mail

☐ Express Mail

ered

☐ Return Receipt for Merchandise

d Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2. Article Number

(Transfer from service label)

7006 3450 0000 0503 1622

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1/940

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Programs
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 17, 2015

Ms. Jennifer Brady
E & B Natural Resources
3000 James Road
Bakersfield, CA 93308

NOTICE OF VIOLATION

Re: E & B Natural Resources- G.I.G., 8467 Patterson Pass Rd., Livermore, CA 94550

Dear Ms. Brady:

On June 11, 2015 Alameda County Department of Environmental Health (ACDEH) performed a routine Hazardous Materials Business Plan (HMBP) inspection of the referenced site. At that time a significant Class 1 violation was discovered. The facility had failed to report a release of petroleum from an aboveground storage tank. The release had impacted soil to an apparent depth of 12 feet as verified by analytical results from soil samples. Subsequently, the release was reported to the Office of Emergency Services (OES) on July 29, 2015.

Based upon this information E & B Natural Resources-G.I.G. was in violation of Health and Safety Code, HSC, 6.95 25510(a), failure of a business to provide immediate, verbal report of a release of threatened release of a hazardous material to the CUPA and the California Office of Emergency Services (OES) Warning Center. However, because you have since reported this release to OES, no further action is required. You are reminded that because of the nature of the violation formal enforcement is required which you will be notified in the future.

If you have any questions, please contact Kevin Hom at (510) 567-6774 or me at (510) 567-6765.

Sincerely,

A handwritten signature in black ink, appearing to read "Barney Chan".

Barney Chan,
Sr. Hazardous Materials Specialist

Cc. ^{Director H} S. Hugo, Chief, ACDEH
K. Hom, HMS, ACDEH
B. Chan, Enforcement Coordinator, ACDEH
A. Sandbach, Alameda County DA Office
files



FILED
ALAMEDA COUNTY

JAN 03 2017

CLERK OF THE SUPERIOR COURT
By Nancy A. Rose
NANCY ROSE, Deputy

RECEIVED
JAN 06 2017
DISTRICT ATTORNEY
ALAMEDA COUNTY
CEPD

NANCY E. O'MALLEY, District Attorney
County of Alameda
ALYCE SANDBACH, Bar. No. 141894
Deputy District Attorney
Consumer and Environmental Protection Division
7677 Oakport Street, Suite 650
Oakland, California 94621
Telephone: (510) 383-8600

LISA S. GREEN, District Attorney
County of Kern
JOHN T. MITCHELL, State Bar No. 99967
Deputy District Attorney
1215 Truxtun Avenue
Bakersfield, California 93301
Telephone: (661) 868-2340

Attorneys for Plaintiff

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF ALAMEDA

THE PEOPLE OF THE STATE OF CALIFORNIA,
Plaintiff,

Case No.: Rk16842668

vs.

FINAL JUDGMENT AND PERMANENT
INJUNCTION
[~~PRELIMINARY~~ STIPULATED]

E&B NATURAL RESOURCES MANAGEMENT
CORPORATION, a California Corporation

Defendant.

Plaintiff, THE PEOPLE OF THE STATE OF CALIFORNIA, represented by
NANCY O'MALLEY, District Attorney of the County of Alameda, by and through Deputy District
Attorney Alyce Sandbach, and LISA S. GREEN, District Attorney of the County of Kern,
represented by and through Deputy District Attorney John T. Mitchell, and defendant E & B
NATURAL RESOURCES MANAGEMENT CORPORATION (hereinafter "Defendant"),
appearing through its attorneys Michael N. Mills and Stoel Rives, LLP, having stipulated to entry of
this Stipulated Final Judgment without the presentation of evidence and without trial or adjudication

1 of any of the issues of fact or law herein, all parties having waived the right to appeal, and good
2 cause appearing,

3 IT IS HEREBY ORDERED, ADJUDGED AND DECREED THAT:

- 4 1. The Court has jurisdiction of the parties hereto and the subject matter hereof.
- 5 2. This Stipulated Final Judgment entered into by the parties has been reviewed by the
6 Court, and the Court finds that it has been entered into in good faith and is in all
7 respects just, reasonable, equitable and adequate.
- 8 3 Defendant, its employees, agents and representatives, and all persons who are acting
9 in concert or in participation with any of them who have actual or constructive
10 knowledge of this Stipulated Final Judgment are hereby permanently enjoined and
11 restrained from violating California Health and Safety Code, Chapter 6.5 and all
12 regulations enacted pursuant thereto and California Health and Safety Code; Chapter
13 6 95 and all regulations enacted pursuant thereto; California Public Resources Code,
14 Division 3 and all regulations enacted pursuant thereto; California Fish and Game
15 Code, section 5650; California Water Code section 13350; and local storm water
16 ordinances, including Pleasanton Ordinances set forth in Pleasanton Municipal Code,
17 Chapter 9.14.
- 18 4. Before the filing of this Stipulation, defendant shall pay a total settlement amount of
19 eighty-five thousand dollars as set forth below, pursuant to Business and Professions
20 Code section 17200 *et seq.* All payments shall be delivered to the Office of the
21 District Attorney of Alameda County, Consumer and Environmental Protection
22 Division, located at 7677 Oakport Street, Suite 650, Oakland, California, 94621. to
23 the attention of DDA Alyce Sandbach, and shall be as follows:
- 24
- 25 a. Defendant shall pay \$30,000 to "Alameda County District
26 Attorney's Office" as civil penalties;
- 27 b. Defendant shall pay \$30,000 to "Kern County District Attorney's
28 Office" as civil penalties;

1
2 c. Defendant shall pay \$4,036 to "Alameda County Department of
Environmental Health" as costs;

3 d. Defendant shall pay \$1,250 to "Kern County Environmental Health
4 Division" as costs;

5 e. Defendant shall pay \$9,714 to the Alameda County Fish and Game
Commission as Supplemental Environmental Funding; and

6 f. Defendant shall pay \$10,000 to "Kern County Environmental
7 Health Division" as Supplemental Environmental Funding to be used
8 for training of Kern County CUPA Hazardous Materials personnel.

9 5. Jurisdiction is retained for the purpose of enabling any party to this Stipulated Final
10 Judgment and Permanent Injunction to apply to the Court at any time for such further orders
11 and directions as may be necessary and appropriate for the construction or carrying out of
12 this Stipulated Final Judgment and Permanent Injunction, for the modification or
13 termination of any of its injunctive provisions, for the enforcement of any of its provisions,
14 or for punishment of any violations of its provisions.

15 6. This Stipulated Final Judgment shall take effect immediately upon entry thereof,
16 without further notice to Defendant.

17 7. The clerk is ordered to enter this Stipulated Final Judgment and Permanent
18 Injunction forthwith.

19
20 DATED: 12-30-16


JUDGE OF THE SUPERIOR COURT
Sandra K. Bean

CLERK'S CERTIFICATE OF MAILING

Action No. RG16 842668

**Case Name: The People of the State of California Vs. E & B Natural Resources
Management Corporation**

**I certify that the following is true and correct: I am the clerk of the above-named
Court and not a party to this cause. I served Stipulation and Order Re Entry of
Judgment by sealing and placing them for collection, stamping or metering with
prepaid postage, and mailing on the date stated below, in the United States mail at
Alameda County, California, following standard court practices to the addresses
listed below to both parties addressed below.**

Dated: January 3, 2017

CHAD FINKE

Executive Officer/Clerk of the Superior Court

By Nancy A. Rose

✓ **Alyce Sandbach, Esq.
Consumer & Environmental Protection Division
7677 Oakport St., Ste. 650
Oakland, CA. 94621**

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

ALEX BRISCOE, Agency Director



April 6, 2012

Certified Mailer Number: 70063450000005031639

Mr. Greg Youngblood
E&B Natural Resource NISSEN
34740 Merced Ave.
Bakersfield, CA 93306

DEPARTMENT OF ENVIRONMENTAL HEALTH
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

NOTICE OF VIOLATION

Failure to Submit Hazardous Materials Business Plan (HMBP) Forms

Re: E&B Natural Resource NISSEN, 8617 Patterson Pass Rd., Livermore CA

Dear Mr. Youngblood:

This letter is to inform you that your annual HMBP forms for your business are past due. It is the responsibility of the business owner to ensure that the HMBP forms are completed and received by Alameda County Department of Environmental Health (ACDEH) within a year from the last submittal as required by Article 1, Chapter 6.95, Division 20 of California Health and Safety Code.

Please submit a HMBP or the Annual Update Certification form by April 30, 2012.

Additional copies of the HMBP forms and instructions are available online at our website:
<http://www.acgov.org/aceh>.

Per California Health and Safety Code 6.95, Section 25514.5, failure to submit your HMBP by the date shown on this notice may subject you to administrative civil penalties up to \$2000/day or \$5000/day for knowingly violating the law for each day your HMBP is delinquent.

ACDEH staff is available to assist you in completing your HMBP. Please contact My Le Huynh at (510) 567-6762 or Barney Chan at (510) 567-6765.

Please contact me at (510) 567-6780 or Barney Chan at (510) 567-6765 if you have any questions.

Sincerely,

Susan Hugo
Supervising Hazardous Materials Specialist

Cc: file

U.S. Postal Service	
CERTIFIED MAIL TM RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at www.usps.com	
OFFICIAL USE	
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Registered Delivery Fee	
Postmark Here	
Mr. Greg Youngblood E&B Natural Resource GIG 34740 Merced Ave. Bakersfield, CA 93306	

7006 3450 0000 054E 9002

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director



September 17, 2015

Ms. Jennifer Brady
E & B Natural Resources
3000 James Road
Bakersfield, CA 93308

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Programs
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

NOTICE OF VIOLATION

Re: E & B Natural Resources- Nissen Tank Farm, 8617 Patterson Pass Rd., Livermore,
CA 94550

Dear Ms. Brady:

On April 30, 2015 you informed an ACDEH inspector that a total of eight (8) oil production facility tanks had been removed from Schenone/Nissen (8617 Patterson Pass Rd., Livermore) and GIG (8467 Patterson Pass Rd., Livermore) leases. Using the Oil Exploration and Production Wastes Initiative guidance document, E & B Natural Resources determined that the sludge from the tank were non-hazardous it was disposed as non-hazardous waste to Potrero Hills Landfill in Suisun City, CA. However, the STLC results of the tank bottom sludge for the Nissen Wash Tank #8 was 6.4 mg/l, exceeding the California hazardous waste level. Thus this soil sample was not exempted by the Exploration and Production exemption and should have been disposed of as hazardous waste.

1. Based upon this information E & B Natural Resources-G.I.G. was in violation of Health and Safety Code, HSC, 6 .5 25189.5(a), failure of the generator to dispose of hazardous waste at an authorized location.

Corrective Action: Within 20 days of this letter, E & B Natural Resources shall provide our office evidence of notification to Potrero Hills Landfill that the soil they received representing this soil sample was hazardous for lead.

You are reminded that because of the nature of the violation formal enforcement is required which you will be notified in the future.

If you have any questions, please contact Kevin Horn at (510) 567-6774 or me at (510) 567-6765.

Sincerely,

Barney Chan,
Sr. Hazardous Materials Specialist

Cc ^{BC for SH}
S. Hugo, Chief, ACDEH
K. Horn, HMS, ACDEH
B. Chan, Enforcement Coordinator, ACDEH
A. Sandbach, Alameda County DA Office
files

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

ALEX BRISCOE, Agency Director



Date: October 22, 2015

Certified Mailer # 7011 3500 0003 1935 0118

ENVIRONMENTAL HEALTH DEPARTMENT
Certified Unified Program Agency (CUPA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9336

FINAL ORDER

ADMINISTRATIVE ENFORCEMENT ORDER 15-16-02
VIOLATION OF CHAPTERS 6.95 OF THE CALIFORNIA HEALTH AND SAFETY
CODE (CH&SC)

Owner/Operator

Ms. Jennifer Brady
E & B Natural Resources
3000 James Road
Bakersfield, CA 93308

Facility

E & B Natural Resources, GIG
8467 Patterson Pass Rd.
Livermore, CA 94551

Violation

Health and Safety Code, HSC 6.95 25510(a)

**Administrative
Penalty**

\$ 10,912

Narrative

On June 11, 2015 an ACDEH inspector performed a compliance Hazardous Materials Business Plan (HMBP) inspection of this facility. At that time, a violation was observed which has subsequently been corrected. The facility had failed to report a release of petroleum from an aboveground storage tank. The release had impacted soil to an apparent depth of 12 feet as verified by analytical results from soil samples. Subsequently, the release was reported to the Office of Emergency Services (OES) on July 29, 2015.

Explanation

Based upon the significant violations at this site, ACDEH has determined that the violations constitute a major violation and a civil penalty is warranted. E & B Natural Resources has violated Health and Safety Code, HSC, 6.95 25510(a).

Amount Due

Based upon the foregoing violations, pursuant to H&SC Chapter 6.11, Section 25404.1.1, ACDEH imposes an administrative penalty on Respondent in the amount of **\$10,912.**

Payment

Payment is due within 20 days from the effective date of this Order and is payable by cashier's check, credit card or money order.

The owner/operator's payment shall be sent to Susan Hugo, payable to: Alameda County Department of Environmental Health. Payment shall be mailed or delivered to 1131 Harbor Bay Parkway, Alameda, CA 94502-6577.

Issued On / By

Dated: October 22, 2015

Alameda County Department of Environmental Health (ACDEH)



Ronald Browder
Acting Director, Environmental Health

ALAMEDA COUNTY**ENVIRONMENTAL HEALTH**

P.O. BOX N, ALAMEDA, CA 94501-0108

PHONE: (510) 567-6858

Visit our website www.acgov.org/aceh**Invoice**

Account No.

AR0348653

Invoice No.

IN0195526

Print Date

10/13/15

RE :

INVOICE AMOUNT DUE BY**11/12/2015****\$ 10,912.00**

TO : 4300
E&B NATURAL RESOURCES GIG
Attn: CASE FILE: 15-16-02
3000 JAMES ROAD
BAKERSFIELD, CA 93308

ALAMEDA COUNTY ENVIRONMENTAL HEALTH
P.O. BOX N
ALAMEDA, CA 94501-0108



☐ If any changes, check box and complete the appropriate portion on the reverse side.

FOR PROPER PAYMENT POSTING, PLEASE RETURN TOP PORTION WITH YOUR PAYMENT

Account No: AR0348653 Invoice No: IN0195526

Attn: CASE FILE: 15-16-02

Invoice Date	Program/Element	Description	Amount
10/13/15	4300	HMBP - GENERAL	\$ 10,912.00
INVOICE BALANCE DUE:			\$ 10,912.00

FOR CREDIT CARD PAYMENT, GO TO www.acgov.org/aceh/billing/ AND USE and Facility Name: E&B NATURAL RESOURCES GIG. There is a consumer fee base on the total amount due.

NOTICE: ANNUAL PERMIT FEES ARE NON-REFUNDABLE AND ARE NON-TRANSFERRABLE TO NEW OWNERS OR NEW LOCATIONS. THERE WILL BE NO PRORATIONS OF ANNUAL PERMIT FEES.

YOUR EXISTING PERMIT TO OPERATE WILL EXPIRE TWO MONTHS FROM THE DATE OF THIS INVOICE. YOU WILL BE ISSUED AN ANNUAL PERMIT AFTER YOUR FEES ARE PAID IN FULL.

YOUR TOTAL ACCOUNT AGING INFORMATION:

1-30 Days	31-60 Days	61-90 Days	91-120 Days	Over 121 Days	Account Balance Total Due
\$ 10,912.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 10,912.00

FOR MORE INFORMATION, PLEASE SEE THE BACK OF THIS INVOICE.

NOTE: To insure an available fund balance, a 14 calendar day-hold will be placed on all checks prior to issuing a permit.

ALAMEDA COUNTY ENVIRONMENTAL HEALTH -- P.O. BOX N, ALAMEDA, CA 94501-0108 -- PHONE (510) 567-6858 -- FAX (510) 337-1139

If any changes, please check and complete the appropriate portion of the following and check box on the front page:

- ☐ Change of ownership When? _____
☐ Out of business When? _____
☐ Relocation When? _____
☐ Change mailing address. Please provide your new address below:

Address: _____
Street Address City State Zip Code

Phone #: _____ Email address: _____

Completed By: _____
Name Signature Date

If paying by credit card, please go to this website: www.acgov.org/aceh/billing

QUESTIONS CONCERNING THIS INVOICE:

If you have any questions concerning this invoice, please call the Billing staff at (510) 567-6858 within 15 days from the date of invoice. Our office hours are from 8:30am to 4:30pm, Monday to Friday.

To avoid penalties of up to 50%, your payment must be received no later than 30 days after the invoice date. The penalty of 25% will be assessed after 30 days, and another 25% will be assessed after 60 days.

If you have any questions regarding your businesses, please contact the following appropriate telephone number:

Telephone No.	Fee Categories/Programs
(510) 567-6700	Food/Beverage Establishments, Pools, Spas, Food Vehicles, Temporary Events, Water Systems, Sewage Systems.
(510) 567-6702	Hazardous Waste Generators, Hazardous Material Business Plans, Underground Storage Tanks (UST), CUPA Fees.
(510) 567-6790	Medical Waste Generators, Solid Waste, Tattoo Registration.

EXPLANATION OF FREQUENT QUESTIONED FEES:

Hazardous Waste Generator: Any person, as defined in Hazardous Waste Law Section 25100 et seq., of the California Health and Safety Code, who treats, stores, handles, or disposes of hazardous waste or whose act or process generates or potentially generates hazardous waste (as defined in Title 22 of the California Code of Regulations) or whose act first causes a hazardous waste to become subject to regulation. Fees are assessed annually and are based on the number of employees who handle hazardous waste.

Underground Storage Tanks (UST): Fees support inspection of underground tanks for compliance with State laws, and are assessed annually. State surcharges are also assessed annually. Fee amounts are based on the number of underground tanks.

Hazardous Materials Business Plan: Fees are based on the inventory of hazardous materials (including waste). Fees are assessed on businesses which handle or store materials in quantities greater than or equal to 55 gallons, 500 pounds, or 200 cubic feet. Fee amounts are determined by Alameda County Ordinance.

Certified Unified Program Agency (CUPA) Fees: County CUPA Oversight fee supports administration of reporting requirements to State agencies. State CUPA Oversight Surcharge is the State fee. The Unified Program is designed to consolidate, coordinate, and make consistent the administrative requirements, permits, inspection activities, enforcement activities, and fees of existing State and local programs.

Medical Waste Generators: Pursuant to the State law (Medical Waste Management Act in 1991), any business that generates medical waste is required to register, pay applicable fees, and be permitted with the local enforcement agency.

For more information, please visit our website at <http://www.acgov.org/aceh>

Alameda County Department of Environmental Health --P.O. Box N, Alameda, CA 94501-0108 -- Phone (510) 567-6858 -- Fax (510) 337-1139

Curry, Damien, CDA

From: jacky poulsen <jackypoulsen9325@gmail.com>
Sent: Monday, May 14, 2018 4:55 PM
To: Curry, Damien, CDA
Subject: Letter to BZA regarding E&B's CUP renewals
Attachments: DoC_E&B injection_updated.pdf; (Marshall) RPM Holdings_Department of Conservation Letter_Final_1.24.17.pdf

Damien,
Please share the following letter with the BZA. Thank you!

We are residents of Livermore, near the site of E&B's oil drilling operations. We strongly urge you to DENY their request to renew their Conditional Use Permits! There are many reasons for this recommendation, but to mention just a few:

1. Amy Roth, E&B's Public Affairs Director, argued in a letter to the Independent News that 'An abundance of misunderstandings and mischaracterizations have been promoted' about their renewals and that 'Opponents have characterized these as an expansion of our operations.' Yes, it's true that renewing their CUPs does not technically include an expansion of their operation. However, E&B has been very misleading. They have also applied for an Aquifer Exemption, specifically to significantly expand their operations in Livermore (multiplying it threefold!). That Aquifer Exemption has already been approved by DOGGR (California Department of Conservation and Division of Oil, Gas, and Geothermal Resources) and is on its way to being approved by the federal EPA. Unfortunately Alameda County has no voice in this Aquifer Exemption request. The only way to prevent this expansion is to deny the CUPs and stop their production in Livermore altogether!
2. There are lots of scientists arguing both sides of the issues about this oil operation. I argue that there is way too much that is not known about the safety of what is being done here, and therefore enabling E&B to not only continue their operations, but to triple the size, is not in the community's best interest. Note, for example, the following timing: E&B's peak wastewater injection period was in the late 1970s. And in January 1980 we had the first ever major earthquake along the Greenville Fault. Coincidence? Maybe. Maybe not. No one truly knows! But isn't that enough to know it's not a good idea to continue and expand this operation?
3. Then there is the water quality issue. Livermore has a lot of agriculture and is heavily dependent on a clean water supply. Renewing these CUPs can result in permanently polluting the aquifer water beyond anything usable for agricultural purposes.
4. Please read two letters attached from Dr. Jean Moran, professor and Chair of Department of Earth and Environmental Sciences at California State University East Bay. Dr. Moran specializes in Hydrogeology and has done 20 years of state-funded research on aquifer contamination vulnerability. Let's not ignore the findings and concerns of an impartial and highly respected scientist on this subject.
5. Attached also is a letter written by Phillip Marshall about violations by E&B on his and neighboring properties on Patterson Pass Road. The letter speaks for itself about E&B's disregard for safety regulations.

Who benefits from this oil operation? E&B Natural Resources, in Kern County. There is virtually no benefit to the residents of Livermore or Alameda County, yet we are the ones taking on 100% of the risks associated with

this business. Why would we want to expose ourselves to the risk of water contamination, other contaminants, and earthquakes?

A lot has been studied and learned in the years since E&B's initial CUP was approved. Please - let's learn from this new knowledge, and stop this potentially dangerous operation immediately.

Thank you!

Jacky and Peter Poulsen

Home 925-455-0542

Cell 925-980-5754

jackypoulsen9325@gmail.com



January 24, 2017

[Via E-Mail]

Department of Conservation
801 K Street, MS 18-05
Sacramento, CA 95814
ATTN: Aquifer Exemption

RE: Public Comment on the Livermore Oil Field Aquifer Exemption

To Whom It May Concern:

My name is Phillip Marshall and I am the authorized representative for RPM Holdings LP, the land owner at 8433 Patterson Pass Rd. in Livermore, the location of one of E&B Natural Resources (E&B) sites. I have had extensive dealings with E&B over the past 8+ years that they have been the operators of the leasehold interests in the Livermore oil field.

I would like to share with the Department my concerns regarding the current operations on my property and the neighboring properties. E&B continues to operate with a wanton disregard for the regulations that apply to them and their operations, as well as for the safety and conservation of the land they operate on and the neighboring properties. My firm has been on the receiving end of their practices, and I want to go on record to state that I do not believe E&B is following the regulations that apply to them right now, and that given the chance to expand their operations, they will not follow those regulations.

A few examples of the experiences we have had with E&B follow to illustrate:

- **February 2015 – Injection Well Replacement**
 - On February 21 2015, one or more of the partners in RPM Holdings witnessed the replacement of certain portions of what we were told was the injection well on our neighboring properties.
 - The reason for our interest was because heavily contaminated water was flowing onto our property from the neighboring property.
 - We took pictures (attached as exhibit A to this Letter) of the way E&B's employees or contractors were doing this work due to the horrible safety and containment practices that were being employed.
 - Oily pipes were being pulled directly from the ground and placed on the surface land with no secondary containment whatsoever. They did not try to maintain a clean work site.
 - Our concern was mainly due to the fact that our property lies immediately downstream from the property in question, and we do not want oily water entering our property and contaminating our site or the waterway that flows through our property.
- **December 2014 – Oily Water Discharge from Neighboring Site:**
 - On December 18, 2014 there was an apparent discharge of oil contaminated water from the property immediately to the East of my property. This discharge was witnessed by employees and relatives of mine that were on-site this day. They noticed that a rental

Adler tank was opened and oily water flowed from that property onto my newly planted olive orchard and into the public right away down Patterson Pass Road, ultimately flowing onto Greenville Road and into the City of Livermore storm drain system (Photos attached as Exhibit B to this letter).

- April 2015 – Oil Stained Contaminated Soil
 - In the spring of 2015, E&B removed tanks from their facility on my property that were no longer in use. In the process of doing so, oil contaminated soil was discovered under the tanks and surrounding areas.
 - I witnessed this and brought it to E&B's attention, as their original intent was to cover up the contaminated soil with fresh rock. When E&B refused to properly address this issue, I notified the Alameda County Department of Environmental Health, CAL EPA and ultimately the Alameda County District Attorney.
 - These agencies determined that E&B had violated multiple laws and regulations, including improper reporting and illegal disposal of hazardous materials, among many others.
 - The result of the investigations by the Alameda County Agencies, in concert with the Kern County District Attorney, resulted in a Complaint being filed by the District Attorneys and a Stipulated Judgement being entered into by E&B that resulted in fines in excess of \$80,000 (Copy provided as Exhibit C). This is in addition to an estimated \$200,000 in costs to remediate the contamination on my property.
 - Over a year and a half later, E&B is still in the process of cleaning up my site and we continually struggle to get them to communicate their plans and intentions for work on our property with us.

In conclusion, I am not necessarily opposed to the use of injection wells, as the science behind them seems to be straightforward. I am, however, opposed to their use by E&B, as their track record as it relates to following the rules and regulations that apply to their activity is less than stellar. These three incidents are indicative of the way E&B conducts themselves, and I fear that if the Department expands the Exemption in this location, E&B's activity will pose a greater threat to the welfare and safety of the neighbors, as well as the potential contamination of a vital public resource.

I also urge the Department of Oil Gas and Geothermic Resources (DOGGR), copied on this correspondence, to further evaluate the current and recent operations at the Livermore oil field sites to ensure full and complete compliance with all applicable regulations. I am aware of what may be many violations of regulations on my and neighboring properties by E&B, and to date I have not seen or heard from DOGGR once.

Sincerely,

RPM Holdings LP

By: RPM Management LLC



Phillip W. Marshall
Manager

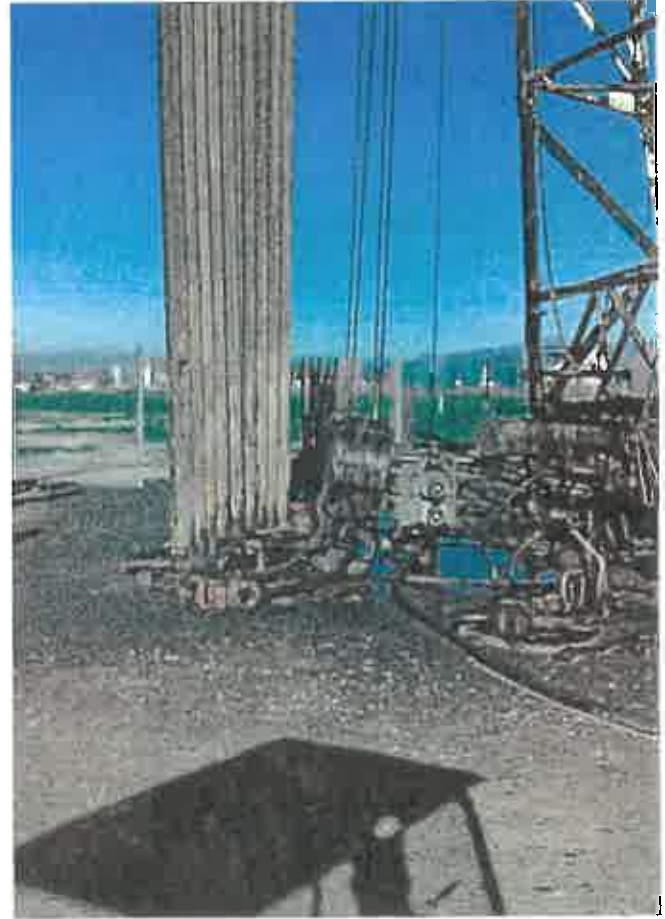
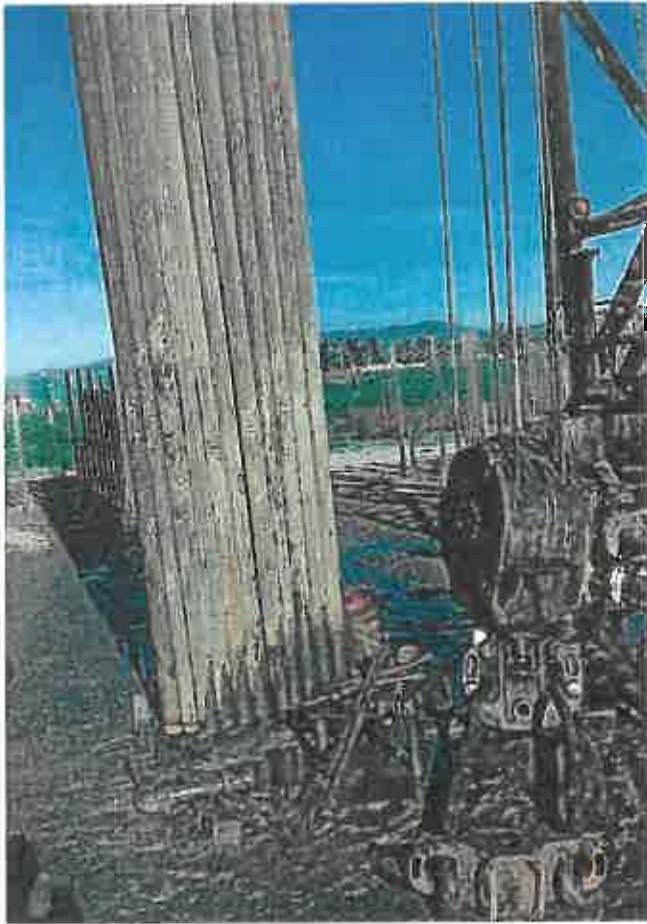
Enclosures:

Exhibit A **Photos of Injection Well Drilling on Neighboring Property**
Exhibit B **Photos of Water Discharge from Adler Tank on Neighboring Property**
Exhibit C **Copy of Complaint and Judgement**

CC:

Phil Marshall	RPM Holdings LP
Dr. Coleman Gross	Maximillian East LLC
DOGGR	
Shawn Wilson	Office of Supervisor Haggerty
Supervisor Haggerty	Alameda County
Dilan Roe	Alameda County Environmental Health
File	

Exhibit A - Well Photos Taken February 21, 2015 on Adjacent Property



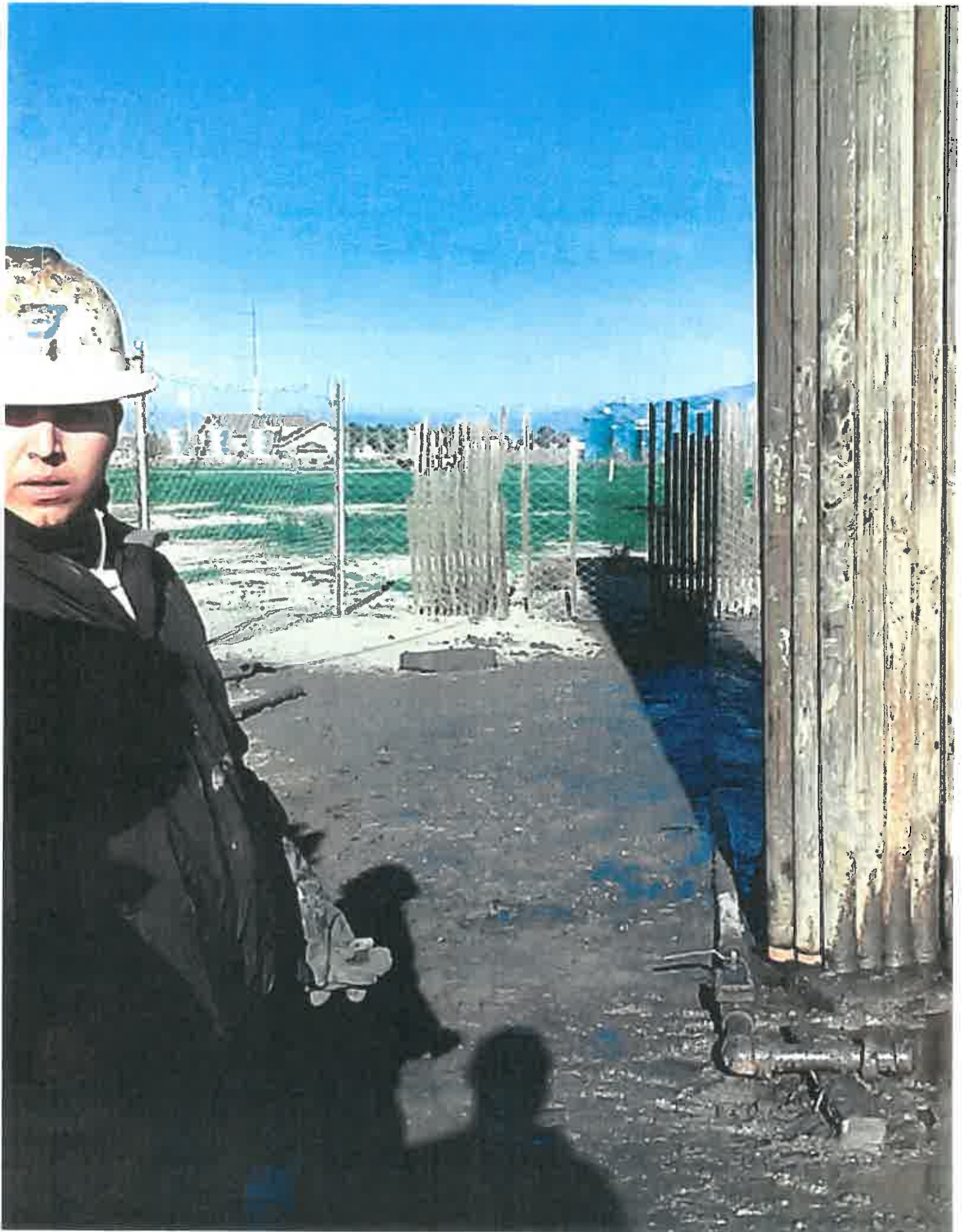




Exhibit B - Running Water from Adler Tank Release - December 18, 2014





NANCY E. O'MALLEY, District Attorney
County of Alameda
ALYCE SANDBACH, State Bar No. 141894
Deputy District Attorney
7677 Oakport Street, Suite 650
Oakland, California 94621
Telephone: (510) 383-8600

LISA S. GREEN, District Attorney
County of Kern
JOHN T. MITCHELL, State Bar No. 99967
Deputy District Attorney
1215 Truxtun Avenue
Bakersfield, California 93301
Telephone: (661) 868-2340

Attorneys for Plaintiff

ENDORSED
FILED
ALAMEDA COUNTY
DEC 1 8 2016
CLERK OF THE SUPERIOR COURT
Anita Dhir

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF ALAMEDA

THE PEOPLE OF THE STATE OF CALIFORNIA,
Plaintiff,

vs.

E&B NATURAL RESOURCES MANAGEMENT
CORPORATION, a California Corporation

Defendant.

Case No.:

R6716842668

COMPLAINT FOR PERMANENT
INJUNCTION, CIVIL PENALTIES AND
OTHER RELIEF

Plaintiff, THE PEOPLE OF THE STATE OF CALIFORNIA, represented by NANCY E. O'MALLEY, District Attorney of the County of Alameda, and LISA S. GREEN, District Attorney of the County of Kern, bring this action to protect the public and environment from releases of hazardous chemicals and to protect the public from unlawful and unfair business practices, and based on information and belief, allege the following:

STATEMENT OF THE CASE

1. Defendant E&B NATURAL RESOURCES MANAGEMENT CORPORATION, at all times mentioned herein, transacted business within the Counties of Alameda and Kern. Defendant

1 is an oil and gas production company headquartered in Bakersfield. Defendant owns and operates,
2 and at all times mentioned herein, owned and operated oil-production and related facilities in the
3 City of Livermore in Alameda County and at numerous sites in Kern County.

4 2. Defendant's Livermore operations are located on separate parcels in close proximity, at
5 8617 Patterson Pass Road (where defendant operates under leases commonly referred to as the
6 Nissen and Schenone leases) and 8467 Patterson Pass Road (under a lease commonly referred to as
7 the Greenville Investment Group (GIG) lease). These operations include: oil production wells,
8 wash tanks where the extracted fluids are separated into oil and water; stock tanks where oil is
9 stored until trucks transport it off-site; and an injection well where the produced water is
10 disposed/injected underground.

11 3. Defendant's operations are regulated by numerous government agencies. The Alameda
12 County Department of Environmental Health (ACDEH) and the Kern County Environmental Health
13 Division (KCEHD) are certified by Cal-EPA to inspect Defendant's facilities, in Alameda and Kern
14 Counties respectively, for compliance with California laws relating to the proper characterization,
15 management and disposal of hazardous waste (see Health and Safety Code, Chapter 6.5 and
16 California Code of Regulations, Title 22) and with California laws requiring hazardous materials
17 business plans (HMBP's) for businesses that store threshold amounts of hazardous material (see
18 Health and Safety Code, Chapter 6.95 and California Code of Regulations, Title 14).

19 4. The California Department of Oil, Gas, and Geothermal Resources (DOGGR) inspects oil
20 production facilities for compliance with laws relating to the drilling, operation, and maintenance of
21 oil and natural gas wells and related tanks (see Public Resources Code, Division 3, and California
22 Code of Regulations, Title 14).

23
24
25 **ACTS OF DEFENDANT**

26 5. Defendant's conduct includes, but is not limited to, the following acts within five years prior
27 to the initiation of this action, and potentially continuing to date:
28

Hazardous Waste Control Act violations

6. Federal and State law place the onus on generators of hazardous waste to determine whether the waste they generate is "hazardous." The law also requires generators to properly transport hazardous waste via transporters registered with the Department of Toxic Substances Control (DTSC). Generators must ensure their hazardous waste is disposed of at a facility authorized to accept the waste. Finally, generators of hazardous waste must document such proper transportation and disposal "from cradle to grave" in a record called a "Uniform Hazardous Waste Manifest" that generators must submit to DTSC. California law governing hazardous waste is found in California Health and Safety Code Chapter 6.5 and California's Code of Regulations, Title 22.

7. In early 2015, Defendant generated hazardous waste at one of its Livermore facilities when it removed sludge from a wash tank that Defendant was taking out of service, a tank called "Nissen Wash Tank 8," which had a 16,800-gallon capacity. A sample of the sludge was taken and analyzed for Soluble Threshold Limit Concentration (STLC) values of lead, and the analysis reflected 6.4 milligrams of lead per liter, which exceeded the STLC value of 5 milligrams per Liter: the sample was hazardous.

8. On or about April of 2015, Defendant caused the illegal transportation of the tank bottom sludge from Nissen Wash Tank 8 to Kern County via an unregistered transporter in violation of Health and Safety Code sections 25163 and 25189(b).

9. Defendant thereafter mixed the sludge with non-hazardous soil and used the mixture as berm material at one of its Kern facilities, which was not a facility permitted by the State to accept hazardous waste; this amounted to illegal disposal in violation of Health and Safety Code section 25189(d).

10. Defendant did not document the transportation or disposal of the Nissen Wash Tank 8 waste in a Uniform Hazardous Waste Manifest, which amounted to violation of California Health and Safety Code sections 25160(b)(1) and 25189(b).

1 11. In 2015, Defendant decommissioned numerous aboveground tanks in Livermore in which
2 defendant had held oil (including a tank that had leaked called GIG Stock Tank No. 2) and oily
3 water. Prior to disposal of the tank bottom sludge from these tanks, Defendant negligently failed to
4 make hazardous waste determinations with respect to the sludge in accordance with the standards
5 set forth in California Code of Regulations, Title 22, section 66262.11. This conduct amounted to
6 violation of Health and Safety Code section 25189(b) and California Code of Regulations, Title 22,
7 section 66262.11.

8
9
10 **Hazardous Materials Violations**

11 12. Every business that stores a liquid hazardous material equal or above a threshold quantity of
12 55 gallons must implement a "Hazardous Materials Business Plan" (HMBP, or "business plan") and
13 must submit the plan to the local enforcement agency and update chemical inventories yearly.
14 California laws imposing these requirements is found in California Health and Safety Code Chapter
15 6.95, and California's Code of Regulations, Title 19. In 2015, Defendant failed to maintain an
16 accurate inventory with respect to its Nissen facility by failing to include required information in its
17 hazardous materials business plan in violation of Health and Safety Code section 25506.

18
19 **FIRST CAUSE OF ACTION**

20 *(Hazardous Waste Control Act Violations, Health and Safety, §25189)*

21 13. Plaintiff realleges and incorporates herein by reference paragraphs 1-14, inclusive, as set
22 forth at length herein.

23 14. Within five years prior to the filing of this Complaint, Defendant engaged in conduct which
24 was in violation of Health and Safety Code section 25189 in that:

25 A. Defendant caused the illegal transportation of tank bottom sludge to Kern
26 County via an unregistered transporter in violation of Health and Safety Code
sections 25163 and 25189(b).

27 B. Defendant disposed of hazardous waste at a facility not permitted by the
28 State to accept hazardous waste in violation of Health and Safety Code
section 25189(d) and California Code of Regulations, Title 22, section
66268.7.

1 C. Defendant failed to document the transportation or disposal of hazardous
2 waste in a Uniform Hazardous Waste Manifest in violation of California
3 Health and Safety Code sections 25160(b)(1) and 25189(b).
4 D. Defendant failed to characterize waste as hazardous or non-hazardous in
5 violation of California Code of Regulations, Title 22, section 66262.11.

6 **SECOND CAUSE OF ACTION**

7 *(Unlawful Business Practices, Business and Professions Code §17200)*

8 15. Plaintiff realleges and incorporates herein by reference paragraphs 1-16, inclusive, as set
9 forth at length herein.

10 16. Within four years prior to the filing of this complaint, defendant engaged in conduct which
11 was in violation of Business and Professions Code section 17200 in that:

12 A. Defendant caused the illegal transportation of tank bottom sludge to Kern
13 County via an unregistered transporter in violation of Health and Safety Code
14 sections 25163 and 25189(b).

15 B. Defendant disposed of hazardous waste at a facility not permitted by the
16 State to accept hazardous waste in violation of Health and Safety Code
17 section 25189(d) and California Code of Regulations, Title 22, section
18 66268.7.

19 C. Defendant failed to document the transportation or disposal of hazardous
20 waste in a Uniform Hazardous Waste Manifest in violation of California
21 Health and Safety Code sections 25160(b)(1) and 25189(b).

22 D. Defendant failed to characterize waste as hazardous or non-hazardous in
23 violation of California Code of Regulations, Title 22, section 66262.11.

24 E. Defendant failed to comply with business plan requirements, in violation
25 of California Health and Safety Code, Chapter 6.95 and regulations issued
26 pursuant thereto.

27 **PRAYER FOR RELIEF**

28 WHEREFORE, plaintiff prays for judgment as follows:

1. That pursuant to Business and Professions Code sections 17203 and the court's
inherent equity powers, defendant's, and defendant's employees, agents, salespeople,
representatives, successors, assigns and all other persons, corporations or other
entities acting under, by, through or on behalf of defendant, or acting in concert or
participation with or for defendant with actual or constructive notice of this
injunction, be permanently restrained and enjoined from in engaging in or

1 performing, directly or indirectly, any of the acts any defendant is above alleged to
2 have performed.

- 3 2. For civil penalties, according to proof;
- 4 3. For costs to plaintiff of inspection, investigation, and enforcement and suit herein,
5 including expert fees and reasonable attorney's fees and costs; and
- 6 4. That plaintiff have such other and further relief as the nature of the case may require
7 and that the court deems appropriate to fully and successfully dissipate the effects of
8 unlawful and unfair acts complained of herein.

9
10 DATED: Dec 14, 2016

11 NANCY E. O'MALLEY,
12 District Attorney
13 County of Alameda

14 By: 

Alyce Sandbach
Deputy District Attorney

16 LISA S. GREEN,
17 District Attorney
18 County of Kern

19 By: 

John Mitchell
Deputy District Attorney

1 NANCY E. O'MALLEY,
2 District Attorney, County of Alameda
3 Alyce Sandbach, State Bar. No. 141894
4 Deputy District Attorney
5 Consumer and Environmental Protection Division
6 7677 Oakport Street, Suite 650
7 Oakland, California 94621
8 Telephone: (510) 383-8600

Exempt from fees pursuant to
Government Code § 6103

ENDORSED
FILED
ALAMEDA COUNTY

DEC 16 2016

CLERK OF THE SUPERIOR COURT

Anita Dhir

9 LISA S. GREEN, District Attorney
10 County of Kern
11 JOHN T. MITCHELL, State Bar No. 99967
12 Deputy District Attorney
13 1215 Truxtun Avenue
14 Bakersfield, California 93301
15 Telephone: (661) 868-2340

16 *Attorneys for Plaintiff*

17
18 IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

19 FOR THE COUNTY OF ALAMEDA

20 THE PEOPLE OF THE STATE OF CALIFORNIA,
21 Plaintiff,

Case No.: R616842668

22 vs.

STIPULATION FOR
ENTRY OF FINAL JUDGMENT AND
PERMANENT INJUNCTION

23 E & B NATURAL RESOURCES MANAGEMENT
24 CORPORATION., a California Corporation,

25 Defendant.

26 Plaintiff, THE PEOPLE OF THE STATE OF CALIFORNIA, represented by NANCY
27 O'MALLEY, District Attorney of the County of Alameda and Deputy District Attorney Alyce
28 Sandbach, and by LISA S. GREEN, District Attorney for the County of Kern, through Deputy
District Attorney John T. Mitchell, and defendant E&B NATURAL RESOURCES
MANAGEMENT CORPORATION (hereinafter "defendant"), appearing through its attorneys

1 MICHAEL N. MILLS and STOEL RIVES, LLP hereby enter into this Stipulation for Entry of Final
2 Judgment (hereinafter "Stipulation") as follows:

- 3 1. Defendant waives service of a summons and complaint in this action.
- 4 2. The proposed Stipulated Final Judgment, a copy of which is attached hereto as Exhibit 1,
5 is incorporated herein by reference.
- 6 3. The signing of this Stipulation does not constitute an admission of liability or of any
7 issue of fact or law. Judgment is entered without the presentation of evidence and
8 without trial or adjudication of any of the issues of fact or law herein.
- 9 4. Defendant represents and warrants that defendant is a proper party to the Stipulated Final
10 Judgment.
- 11 5. Plaintiff may submit the Stipulated Final Judgment to any judge of the Superior Court of
12 the State of California for approval and signature, based upon this Stipulation, on any *ex*
13 *parte* basis, without notice to or any appearance by defendant.
- 14 6. Defendant waives any right to appeal, to attempt to set aside or vacate, or otherwise to
15 attack, directly or collaterally, the Stipulated Final Judgment entered pursuant to this
16 Stipulation or any provision contained herein.
- 17 7. This Stipulation may be executed in counterparts and on multiple signature pages. A
18 copy of any signature, whether transmitted by mail, e-mail or facsimile, shall be as valid
19 and binding as an original signature.
20

21
22 **SO STIPULATED:**

23
24 **For the People:**

25 DATED: 12/15/2016

NANCY O'MALLEY,
District Attorney, County of Alameda

26
27 BY:

ALYCE SANDBACH
Deputy District Attorney

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DATED: 12-14-16

LISA S. GREEN,
District Attorney, County of Kern

BY:

JOHN T. MITCHELL
Deputy District Attorney

For the Defendant:

DATED: _____

GARY RICHARDSON, Vice-President,
Defendant, E & B Natural Resources Management
Corporation

DATED: _____

MICHAEL N. MILLS,
STOEL RIVES LLP,
Attorneys for defendant, E & B Natural Resources
Management Corporation

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DATED: _____

LISA S. GREEN,
District Attorney, County of Kern

BY: _____
JOHN T. MITCHELL
Deputy District Attorney

For the Defendant:

DATED: 12/14/2016


GARY RICHARDSON, Vice-President,
Defendant, E & B Natural Resources Management
Corporation

DATED: _____

MICHAEL N. MILLS,
STOEL RIVES LLP,
Attorneys for defendant, E & B Natural Resources
Management Corporation

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DATED: _____

LISA S. GREEN,
District Attorney, County of Kern


BY: _____
JOHN T. MITCHELL
Deputy District Attorney

For the Defendant:

DATED: _____

GARY RICHARDSON, Vice-President,
Defendant, E & B Natural Resources Management
Corporation

DATED: 12-14-14



MICHAEL N. MILLS,
STOEL RIVES LLP,
Attorneys for defendant, E & B Natural Resources
Management Corporation

EXHIBIT ONE

NANCY E. O'MALLEY, District Attorney
County of Alameda
ALYCE SANDBACH, Bar. No. 141894
Deputy District Attorney
Consumer and Environmental Protection Division
7677 Oakport Street, Suite 650
Oakland, California 94621
Telephone: (510) 383-8600

LISA S. GREEN, District Attorney
County of Kern
JOHN T. MITCHELL, State Bar No. 99967
Deputy District Attorney
1215 Truxtun Avenue
Bakersfield, California 93301
Telephone: (661) 868-2340

Attorneys for Plaintiff

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF ALAMEDA

THE PEOPLE OF THE STATE OF CALIFORNIA,
Plaintiff,

vs.

E&B NATURAL RESOURCES MANAGEMENT
CORPORATION, a California Corporation

Defendant.

Case No.:

FINAL JUDGMENT AND PERMANENT
INJUNCTION
[PROPOSED/STIPULATED]

Plaintiff, THE PEOPLE OF THE STATE OF CALIFORNIA, represented by
NANCY O'MALLEY, District Attorney of the County of Alameda, by and through Deputy District
Attorney Alyce Sandbach, and LISA S. GREEN, District Attorney of the County of Kern,
represented by and through Deputy District Attorney John T. Mitchell, and defendant E & B
NATURAL RESOURCES MANAGEMENT CORPORATION (hereinafter "Defendant"),
appearing through its attorneys Michael N. Mills and Stoel Rives, LLP, having stipulated to entry of
this Stipulated Final Judgment without the presentation of evidence and without trial or adjudication

1 of any of the issues of fact or law herein, all parties having waived the right to appeal, and good
2 cause appearing,

3 IT IS HEREBY ORDERED, ADJUDGED AND DECREED THAT:

- 4 1. The Court has jurisdiction of the parties hereto and the subject matter hereof.
- 5 2. This Stipulated Final Judgment entered into by the parties has been reviewed by the
6 Court, and the Court finds that it has been entered into in good faith and is in all
7 respects just, reasonable, equitable and adequate.
- 8 3. Defendant, its employees, agents and representatives, and all persons who are acting
9 in concert or in participation with any of them who have actual or constructive
10 knowledge of this Stipulated Final Judgment are hereby permanently enjoined and
11 restrained from violating California Health and Safety Code, Chapter 6.5 and all
12 regulations enacted pursuant thereto and California Health and Safety Code; Chapter
13 6.95 and all regulations enacted pursuant thereto; California Public Resources Code,
14 Division 3 and all regulations enacted pursuant thereto; California Fish and Game
15 Code, section 5650; California Water Code section 13350; and local storm water
16 ordinances, including Pleasanton Ordinances set forth in Pleasanton Municipal Code,
17 Chapter 9.14.
- 18 4. Before the filing of this Stipulation, defendant shall pay a total settlement amount of
19 eighty-five thousand dollars as set forth below, pursuant to Business and Professions
20 Code section 17200 *et seq.* All payments shall be delivered to the Office of the
21 District Attorney of Alameda County, Consumer and Environmental Protection
22 Division, located at 7677 Oakport Street, Suite 650, Oakland, California, 94621, to
23 the attention of DDA Alyce Sandbach, and shall be as follows:
- 24 a. Defendant shall pay \$30,000 to "Alameda County District
25 Attorney's Office" as civil penalties;
- 26 b. Defendant shall pay \$30,000 to "Kern County District Attorney's
27 Office" as civil penalties;
- 28

1
2 c. Defendant shall pay \$4,036 to "Alameda County Department of
Environmental Health" as costs;

3 d. Defendant shall pay \$1,250 to "Kern County Environmental Health
4 Division" as costs;

5 e. Defendant shall pay \$9,714 to the Alameda County Fish and Game
Commission as Supplemental Environmental Funding; and

6 f. Defendant shall pay \$10,000 to "Kern County Environmental
7 Health Division" as Supplemental Environmental Funding to be used
for training of Kern County CUPA Hazardous Materials personnel.
8

9 5. Jurisdiction is retained for the purpose of enabling any party to this Stipulated Final
10 Judgment and Permanent Injunction to apply to the Court at any time for such further orders
11 and directions as may be necessary and appropriate for the construction or carrying out of
12 this Stipulated Final Judgment and Permanent Injunction, for the modification or
13 termination of any of its injunctive provisions, for the enforcement of any of its provisions,
14 or for punishment of any violations of its provisions.

15 6. This Stipulated Final Judgment shall take effect immediately upon entry thereof,
16 without further notice to Defendant.

17 7. The clerk is ordered to enter this Stipulated Final Judgment and Permanent
18 Injunction forthwith.
19

20
21 DATED: _____

JUDGE OF THE SUPERIOR COURT



**CALIFORNIA STATE
UNIVERSITY**
EAST BAY

Department of Earth & Environmental Sciences

January 15, 2017

Department of Conservation
801 K Street, MS 18-05
Sacramento, CA 95814
ATTN: Aquifer Exemption

I am writing regarding E&B Natural Resource's request for an exemption to inject produced water into the Greenville Sands Member of the Ciebro Formation near Livermore, CA. I am a professor in the Department of Earth of Environmental Sciences at California State University with a specialization in hydrogeology. Over the past twenty years, I have conducted state-funded research on aquifer contamination vulnerability using geochemical and isotopic tracers of groundwater flow and transport. My PhD research focused on vertical migration of Gulf Coast oilfield brines. I live in Livermore, not far from the Patterson Rd field where the exemption would apply. In my opinion, the E&B exemption application should be denied because of 1) the value of the groundwater potentially affected by the injection, and 2) the risk of induced seismicity. Ideally no injection would take place in this area where little is known about aquifer connectivity, water quality at various depths, or potential for increased production, but allowing an expansion is imprudent, in my opinion.

The TriValley, with water resources overseen by Zone 7 Water Agency, is in a relatively precarious position with respect to its water supply. Over the past two decades, it has become increasingly reliant (now 80% of its supply) on imported, 'state project' water, and in 2014 received a zero allocation, along with all other state project contractors. Local groundwater, managed through conjunctive use, is critically important in long term supply planning, even as PCE and nitrate affect large portions of the main aquifer. Wellhead demineralization is a potentially viable future resource (it already provides a portion of the supply in nearby Fremont, CA), and would be cheaper and less energy intensive than indirect potable reuse of wastewater or desalinization of seawater. The groundwater into which the E&B water would be injected is relatively low in TDS and viable for wellhead demineralization, especially for the untreated agricultural water supplied to growers by Zone 7. (Per usual industry practice, E&B does not make water quality data publically available, so the extent of hydrocarbon contamination in native groundwater is unknown to land owners and scientists alike.) While the groundwater may be put to beneficial use in the future, the addition of 30 barrels/day into the fossil fuel supply does more harm than good, except to E&B's profits.

As I know you are aware, widespread contamination of shallower aquifers due to either hydraulic fracturing or injection has not been documented. What is clear is that compromised well casing and

California State University, East Bay
25800 Carlos Bee Blvd. Hayward, CA 94542-3088
Ph: 510/885-3486 Fax: 510/885-2526
Rm: North Science 329 (SC N329)



**CALIFORNIA STATE
UNIVERSITY**
EAST BAY

Department of Earth & Environmental Sciences

man-made vertical conduits have resulted in inadvertent contamination of drinking water aquifers. The E&B wells are relatively old and surrounding groundwater is not monitored in a deliberate way, as recommended in the SWRCB-funded SB4 report.

Just in the last two years, it became clear that injection of produced waters and waste water can cause earthquakes; this was discovered through statistical analysis of the spatial relationship between produced water injection and seismic events in Oklahoma. So little is known about the mechanism by which injection causes earthquakes, in large part because energy companies do make temporal and three dimensional spatial data available to researchers. Until more is learned about **how** injection induces seismic events, it seems highly imprudent to allow injection in proximity to a major splay of the San Andreas fault system, the Greenville Fault. Even at disposal wells where fluid is injected without added pressure at the wellhead, the fluid pressure within the formation increases and can induce earthquakes.

For the reasons outlined above, I urge you to reject E&B's exemption request.

Sincerely,

Jean E. Moran
Professor and Chair, Department of Earth and Environmental Sciences
California State University East Bay
Hayward, CA 94542

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25800 Carlos Bee Blvd. Hayward, CA 94542-3088
Ph: 510/885-3486 Fax: 510/885-2526
Rm: North Science 329 (SC N329)



CALIFORNIA STATE
UNIVERSITY
EAST BAY

Department of Earth & Environmental Sciences

Addendum April 16, 2018

Re: Revised Statement of Basis for Livermore aquifer exemption

In reviewing the revised Statement of Basis, it appears that E&B is attempting to respond to comments and concerns that have been raised in the public comments. For example, by going from 146.4 (c) to (b)(1), they consider the likelihood that the area will serve as future source of drinking water. The revision states, "In addition, pursuant to 40 CFR 146.4(b)(1), the Proposal Area cannot now and will not in the future serve as a source of drinking water because it is hydrocarbon producing or contains hydrocarbons that are expected to be commercially producible".

As noted in my previous letter, the likely beneficial use of the groundwater where the injection will take place is for agriculture (e.g., irrigation of orchards) and not for drinking water.

Similarly, the revision states, "...the data supporting this aquifer exemption proposal clearly demonstrate that the proposed exempt aquifer does not currently serve as a source of drinking water and is not reasonably expected to supply a public water system due to the presence of hydrocarbons and the availability of sustainable, higher quality groundwater within shallower, more easily accessible geologic zones." ... "A search for water supply wells was conducted to at least one-quarter mile beyond the area proposed for an aquifer exemption for the Livermore Oil Field."

One-quarter mile is a ridiculously small distance, considering that flow paths to discharge points are likely thousands of meters. In addition, this statement does not make sense, hydrologically: "The area of review included areas of potential surface recharge to determine if private water wells were hydraulically connected with the aquifer proposed for exemption." How does including areas of potential surface recharge relate to whether private wells are hydraulically connected with the aquifer proposed for exemption? The hydraulic connection would be below the surface, within the intervening unconsolidated formations. Are they saying that nearby surface recharge might be the start of flow paths to both private wells and hydrocarbon production wells?

The revised statement also asserts that the exempt area is hydrologically isolated from its surroundings, both laterally and vertically. It states, "The proposal also meets the requirements of PRC 3131, as the area contains geologic features and hydraulic controls that impede potential migration of injected fluids outside the portion of the aquifer that would be exempted and the injection of fluids will not affect the quality of water that is, or may reasonably be, used for any beneficial use."

The figures showing fault boundaries as impermeable barriers and the text stating that impermeable formations lie above and below the produced zones are misleading. Although the silty

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UNIVERSITY**
EAST BAY

Department of Earth & Environmental Sciences

formations may have lower hydraulic conductivity than the producing formations, they are not impermeable, and the faults are not complete barriers to flow. All of the formations discussed are water-bearing and none are thick, extensive, continuous clay layers that could be considered true confining units. Also, the vertical gradient is important in assessing the possibility of contamination of shallow aquifers by injected fluid, but no information related to the vertical gradient (only the horizontal) is shown. Pressure heads are shown only within the proposed boundary and not outside of it so one cannot even tell the direction of the gradient across the faults. Furthermore, 500 feet separation between the aquifer currently used for beneficial uses, and the exempt aquifer, is actually rather small compared to the separation in most situations where injection or hydraulic fracturing is taking place in California (though similarly small separations are documented in Kern County).

In Kern County, water containing hydrocarbons is used for irrigation, as described in the report in the following report:

https://www.waterboards.ca.gov/rwqcb5/water_issues/oil_fields/food_safety/data/studies/cawelo_irrstudy.pdf;

And, although similar arguments are made regarding separation of produced zones and drinking water zones, drinking water wells in Kern County have had detections of gasoline hydrocarbons. These are reported in the GAMA Fact Sheet on the groundwater basin in Kern County, <https://pubs.usgs.gov/fs/2011/3150/>, which states, "Other VOCs include organic synthesis reagents and gasoline hydrocarbons. Other VOCs were not present at high concentrations but were present in moderate concentrations in about 2% of the primary aquifers. The VOC found at moderate concentrations was benzene, which is a gasoline hydrocarbon."

For the reasons stated above, I continue to urge rejection of the exemption request.

Sincerely,
Jean E. Moran

California State University, East Bay
25800 Carlos Bee Blvd. Hayward, CA 94542-3088
Ph: 510/885-3486 Fax: 510/885-2526
Rm: North Science 329 (SC N329)

Curry, Damien, CDA

From: Carol Counts <crcounts@sbcglobal.net>
Sent: Thursday, April 19, 2018 4:26 PM
To: Curry, Damien, CDA
Subject: April 26 hearing

Hello Damien,

As Jacky Poulsen pointed out in her recent letter to the Editor at the Independent re. oil extraction, there are a lot of unknowns concerning an expansion of E&B's operations with an Aquifer Exemption. If the scientists can't agree that this expansion will have a positive impact, why would the average citizen believe this is a good plan?

Since we are unable to attend the April 26 EBZA hearing in Pleasanton, we wanted to pass our comments to you as the final decision maker in this issue. We are hopeful that many other citizens are expressing their concerns as well.

Many thanks in advance for your assistance in this matter.

Best regards,

Carol and David Counts
580 Rhea Way
Livermore, CA 94550
925/371-6485

Curry, Damien, CDA

From: TEAL MCCONN <mcconn teal@comcast.net>
Sent: Tuesday, May 15, 2018 11:52 PM
To: Curry, Damien, CDA
Subject: Protect the Livermore Aquifer

I'm writing to urge the Board of Zoning Adjustments to reject E&B's permit application for their Livermore Oil Field operations.

Denying this permit is critical for ensuring a healthy and safe future for all residents and for protecting the public against the serious risks of oil and gas operations.

·E&B's has a long track record of spills and accidents. Numerous agencies have cited E&B for violations of environmental and safety regulations. With a reckless track record like this, E&B should not be allowed to continue its oil operations.

·California's greenhouse gas reduction goals will require *less* fossil fuel production, not more. Locking us in to another 10 years of oil production is counter to our state's efforts to reduce greenhouse gas emissions and pushes us closer to catastrophic climate change. Alameda County can and should lead the way toward a safer sustainable future.

·E&B's oil operations put our groundwater at risk. The Water Board confirmed that there is high quality groundwater in the area. Drilling past this groundwater brings the risk of leaks and water contamination from the harmful chemicals used in oil and gas operations. With the chance of future droughts, we must protect our local groundwater.

Thank you,

Teal McConn

Livermore, CA

Curry, Damien, CDA

From: Mark Palajac <markpalajac@gmail.com>
Sent: Wednesday, May 16, 2018 11:44 AM
To: Curry, Damien, CDA
Subject: CUP for E&B to continue/expand drilling and reinfection

Stop Livermore Oil Drilling – Talking Points for Letters to Zoning Board

Mr, Damien Curry,

I'm writing to urge the Board of Zoning Adjustments to reject E&B's permit application for their Livermore Oil Field operations. Denying this permit is critical for ensuring a healthy and safe future for all residents and for protecting the public against the serious risks of oil and gas operations.

- I believe E&B's have demonstrated with their violations that they are not good neighbors and do not made adequate effort to conform with the law or safe practices.
- I believe that their oil extraction and injection of waste product is inconsistent with the agrarian and viticulture that has been the emphasis of the economic investment in Livermore valley.
- E&B's oil operations put our groundwater at risk. The Water Board confirmed that there is high quality groundwater in the area. Drilling past this groundwater brings the risk of leaks and water contamination from the harmful chemicals used in oil and gas operations. With the chance of future droughts, we must protect our local groundwater.

Thank you for consideration of my concerns.

Mark Palajac

Experimental Aircraft Association Chapter 663, Board Member & Treasurer

Livermore Housing Authority, Commissioner

Friends of the Vineyards (FOV), Board Member

Curry, Damien, CDA

From: Patricia Clark <clarkpn@hotmail.com>
Sent: Thursday, May 17, 2018 7:53 AM
To: Curry, Damien, CDA
Subject: Patterson Pass Rd

Hello,

I am a resident and home owner in North Livermore and I am very concern about the implications with the drilling on Patterson Pass Rd. E&E is not providing any benefits to residents of Livermore and we are taking all the risk. Please stop this operation! I have two young kids and would not like to see any issues with our water quality and/or any new earthquakes generated by this operation.

I would appreciate your cooperation with this matter. Feel free to contact me at 925 667-7331 with any questions or concerns.

Thank you,

Patricia Clark
5812 Edelweiss Way
Livermore, CA 94551

Curry, Damien, CDA

From: Richard Andrews <celtic41@yahoo.com>
Sent: Thursday, May 17, 2018 9:07 AM
To: Curry, Damien, CDA
Subject: Oil drilling extension

Dear sir.

I am a long time resident of Livermore, and well aware of what the geological condition is along the faults that this action will impact. I cannot express my opposition strong enough to this irresponsible plan. That this meeting is NOT being held in Livermore, nor at a time when residents are readily available, tells legions as to the speciousness of this effort. It makes no sense whatsoever, except a company's profit structure, to allow this to happen.

Note that the 1980 earthquake in Livermore was in a location where this water injection process had been done. It may have taken awhile, but in geological time it was overnight. So clearly the water injection was at least culpable in its cause. Note that the faults were considered inactive until they injected.

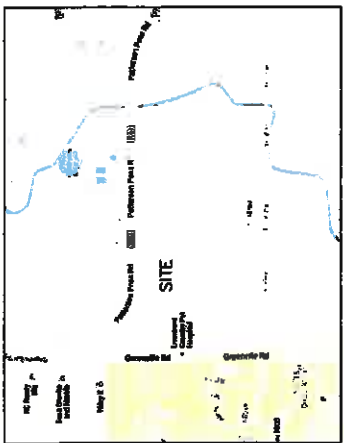
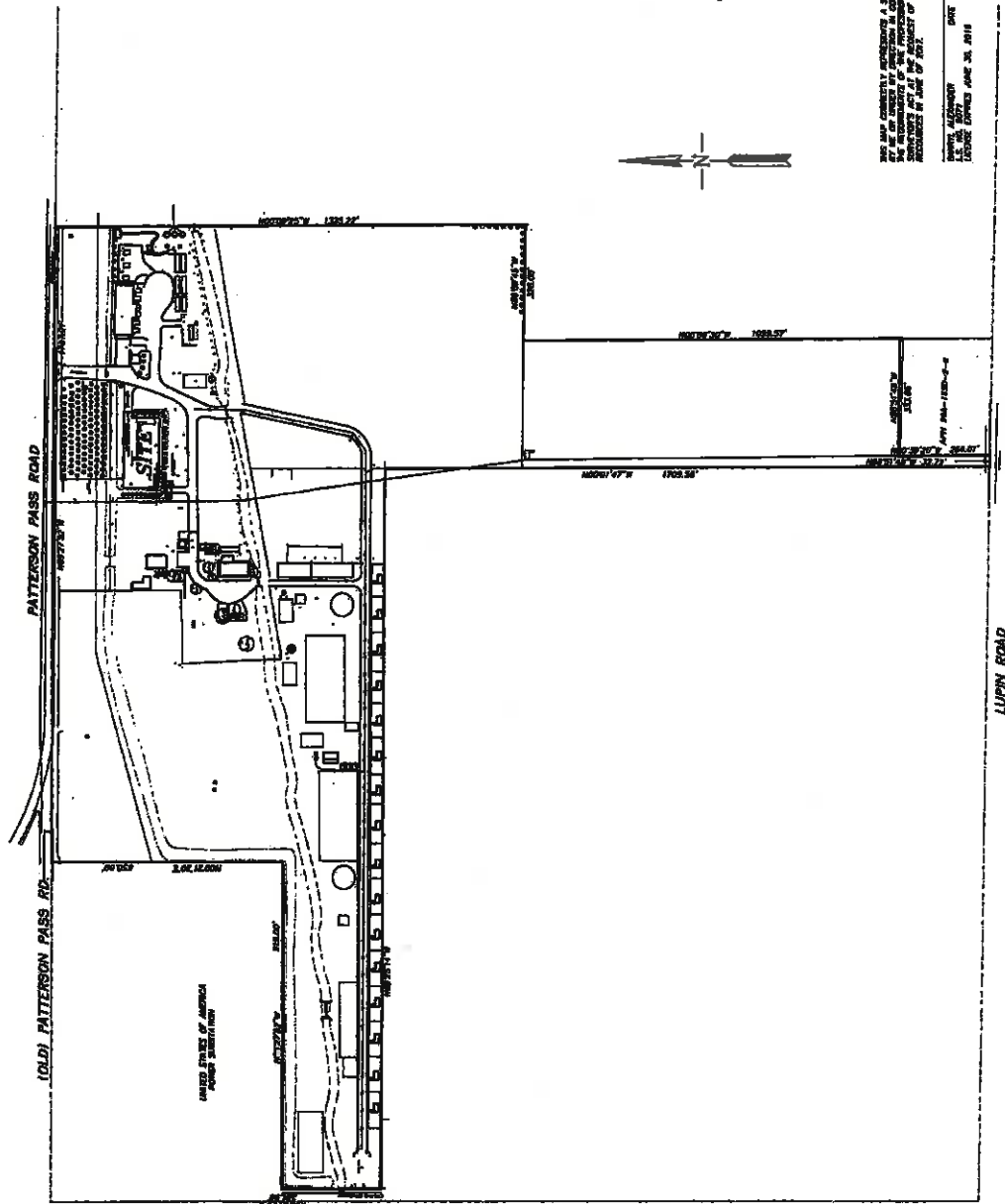
This is an irresponsible request, based on corporate greed, and not just another simple "addon" to a project. Again that you are holding this meeting miles away from the effected area indicates knowledge of what the locals feel.

Regards, Richard Andrews
5296 Diane Lane, Livermore

An unexamined life is not worth living. Socrates

GREENWILE ROAD (COUNTY ROAD NO. 2018)

SCALE OF 1" = 100' - 0"



STATE OF CALIFORNIA
COUNTY OF ALAMEDA
CITY OF ALAMEDA
PLANNING DEPARTMENT
11-10-2017

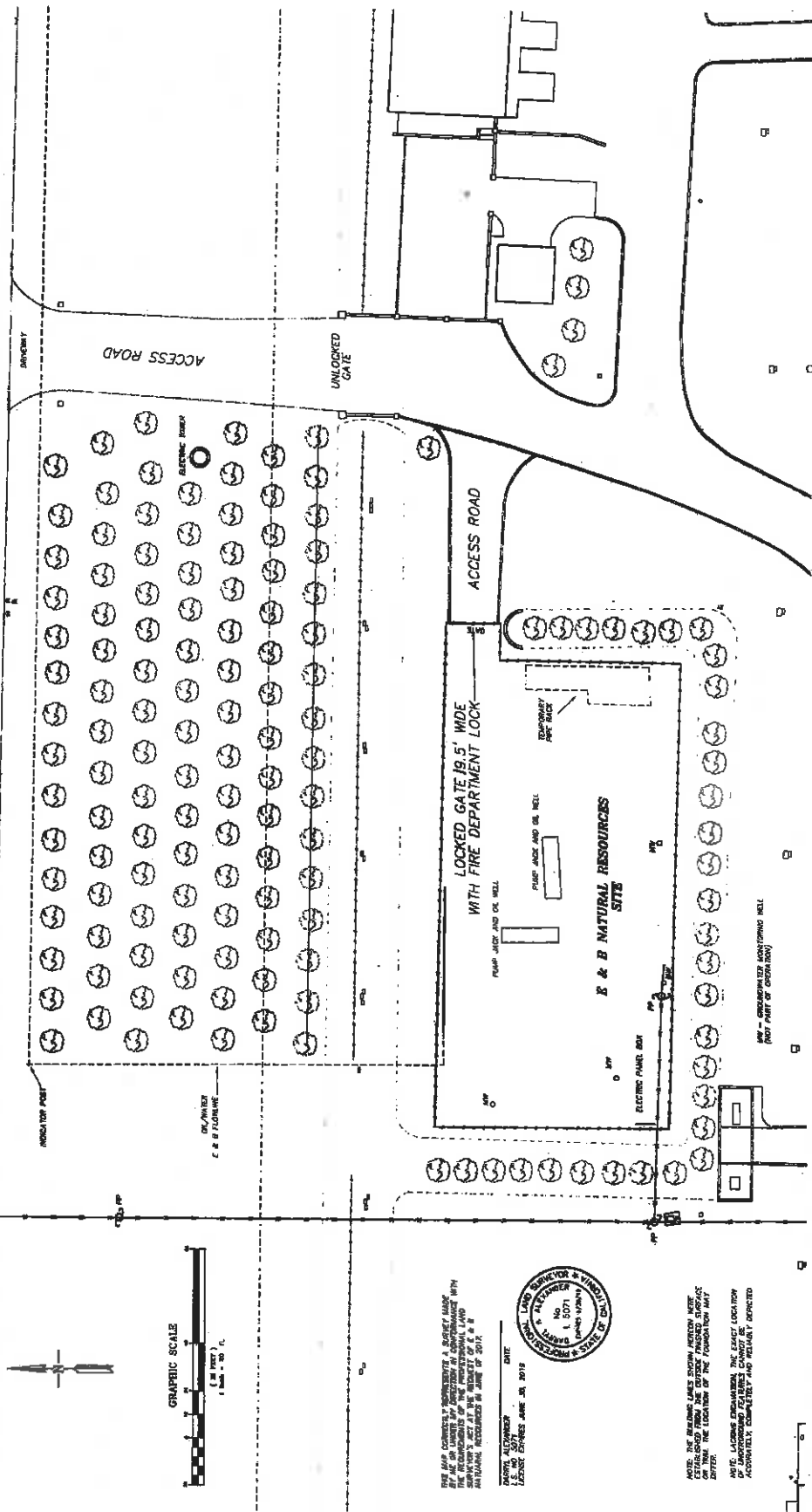


THE CITY OF ALAMEDA HAS REVIEWED THE SITE PLAN AND FOUND IT TO BE IN ACCORDANCE WITH THE CITY OF ALAMEDA ORDINANCES AND RESOLUTIONS IN EFFECT AS OF THE DATE OF REVIEW.

PROJECT NAME		SHEET NO.	
E & B NATURAL RESOURCES		1	
APN 99A-1650-001-05		1	
PROJECT LOCATION		PROJECT NO.	
147 OLD MERRILL AVE. SUITE 1A, PLEASANTON, CALIFORNIA (956)		11-10-2017	
PROJECT OWNER		DATE	
ALEXANDER & ASSOCIATES, INC.		JUNE 30, 2018	
PROJECT ENGINEER		DATE	
ALEXANDER & ASSOCIATES, INC.		JUNE 30, 2018	
PROJECT PLANNER		DATE	
ALEXANDER & ASSOCIATES, INC.		JUNE 30, 2018	
PROJECT CHECKER		DATE	
ALEXANDER & ASSOCIATES, INC.		JUNE 30, 2018	
PROJECT APPROVER		DATE	
ALEXANDER & ASSOCIATES, INC.		JUNE 30, 2018	

SITE PLAN
9487 PATTERSON PASS ROAD
ALAMEDA COUNTY, CALIFORNIA

PATTERSON PASS ROAD



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NOTE: THE BOUNDARY LINES SHOWN HEREON HAVE
 BEEN DETERMINED BY SURVEY AND ARE NOT TO BE
 CONSIDERED AS A GUARANTEE OF THE ACCURACY OF
 THE INFORMATION CONTAINED HEREON.

NOTE: LOCATIONS OF MONITORING PATTERNS CANNOT BE
 ACCURATELY DETERMINED AND SHOULD BE
 DETERMINED BY FIELD SURVEY.

E & B NATURAL RESOURCES APN 09A-1660-001-06		ALEXANDER & ASSOCIATES, INC. 147 OLD ERIKAH AVE. SUITE 100, FLEMINGTON, CALIFORNIA (925) 488-2250		SITE PLAN 8467 PATTERSON PASS ROAD ALAMEDA COUNTY, CALIFORNIA		SHEET NO. 2	
DATE	1/1/00	DATE	1/1/00	DATE	1/1/00	DATE	1/1/00
BY	AL	BY	AL	BY	AL	BY	AL
CHECKED BY	AL	CHECKED BY	AL	CHECKED BY	AL	CHECKED BY	AL
APPROVED BY	AL	APPROVED BY	AL	APPROVED BY	AL	APPROVED BY	AL
TOTAL 15 SHEETS		TOTAL 15 SHEETS		TOTAL 15 SHEETS		TOTAL 15 SHEETS	

