1	Department of Conservation, Division of Oil, Gas, and Geothermal Resources Jason R. Marshall					
2	ACTING STATE OIL AND GAS SUPERVISOR 801 K Street, MS 24-03 (Legal Office) Sacramento, California 95814-3530					
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4	Telephone (916) 323-6733 Facsimile (916) 445-9916					
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8	STATE OF CALIFORNIA					
9	NATURAL RESOURCES AGENCY					
10	DEPARTMENT OF CONSERVATION					
11	DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES					
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14	ORDER TO PERFORM REMEDIAL WORK					
15	NO. 1159					
16						
17	Operator: Chevron USA, Inc.					
18	Well: 1Y-1405S (API No. 029-80898)					
19	Field: Cymric Oil Field, Kern County					
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21	I. <u>Introduction</u>					
22	Acting through the Acting State Oil and Gas Supervisor (Supervisor), and under the authority of					
23	the Public Resources Code (PRC) and California Code of Regulations, title 14 (Regulations), the					
24	California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Division) ma					
25	issue an order that directs the operator to take any actions that the Supervisor deems necessary to protect					
26	life, health, property, or natural resources. (PRC, §§ 3106, 3224, 3226.)					
27	At all times relevant to this Order, Chevron USA, Inc. (Operator) has been identified as the					
28	"operator," as defined in PRC section 3009, of the subject "well" (1Y-1405S [API: 029-80898]) as					

defined in PRC section 3008, subdivision (a), and is conducting "operations" as defined in Regulations section 1720, subdivision (f).

The Division has determined that Operator has had a continuous and interconnected series of surface expressions on its property that are not "low-energy seeps" where, based upon the Supervisor's information and belief, Operator has not yet done everything that is necessary to prevent future occurrences. (See Regulations, §§ 1720.1, 1724.11, and 1724.12.) As such, in this Order, the Supervisor is requiring Operator, among other things, to take all measures to stop flow from the established surface expressions near the subject well and prevent any new surface expressions. (See Section V, herein.)

II. Definitions

The following definitions apply to the terms used in this Order:

PRC section 3008, subdivision (a) defines "Well" to mean, among other things, "any oil or gas well or well for the discovery of oil or gas; any well on lands producing or reasonably presumed to contain oil or gas," and "any well drilled for the purpose of injecting fluids or gas for stimulating oil or gas recovery[.]"

PRC section 3009 defines "Operator" to mean "a person who, by virtue of ownership, or under the authority of a lease or any other agreement, has the right to drill, operate, maintain, or control a well or production facility."

PRC section 3010 defines production facility to mean "any equipment attendant to oil and gas production or injection operations[.]"

Regulations section 1720, subdivision (f), defines "Operations" to mean "any one or all of the activities of an operator covered by Division 3 of the Public Resources Code."

Regulations section 1720, subdivision (h), defines "Low-energy seep" as "a surface expression for which the operator has demonstrated all of the following to the Division:

- (1) The fluid coming to the surface is low-energy and low-temperature;
- (2) The fluid coming to the surface is not injected fluid; and
- (3) The fluid coming to the surface is contained and monitored in a manner that prevents damage to life, health, property, and natural resources."

III. Statutory and Related Authority

PRC section 3013 states that the oil and gas conservation laws (Division 3 of the PRC, commencing with section 3000) "shall be liberally construed to meet its purposes" and grants the Supervisor "all powers" that may be necessary to carry out those purposes.

PRC section 3106, subdivision (a), authorizes the Supervisor to "supervise the drilling, operation, maintenance, and abandonment of wells and the operation, maintenance, and removal or abandonment of tanks and facilities attendant to oil and gas production ... so as to prevent, as far as possible, damage to life, health, property, and natural resources[.]"

PRC section 3224, in part, authorizes the Supervisor "to order such tests or remedial work as in his judgment are necessary to prevent damage to life, health, property, and natural resources . . ."

PRC section 3226 states, among other things, that if, at the appropriate time, "the [required] work has not been commenced and continued to completion, the supervisor may appoint necessary agents to enter the premises and perform the work. An accurate account of the expenditures shall be kept. Any amount so expended shall constitute a lien against real or personal property of the operator pursuant to the provisions of Section 3423" and "[I]f the supervisor determines that an emergency exists, the supervisor may order or undertake the actions he or she deems necessary to protect life, health, property, or natural resources."

Regulations section 1714 states: "[T]emporary approval to commence . . . operations may be granted by the Supervisor or a representative of the Supervisor when such operations are necessary to avert a threat to life, health, property, or natural resources."

Regulations section 1722, subdivision (a), requires Operator to conduct all operations "in accordance with good oilfield practice."

Regulations section 1724.11, subdivision (a), mandates that "[u]nderground injection projects shall not result in any surface expression."

Regulations section 1724.12, subdivision (b), states that "[n]otwithstanding any efforts undertaken by the operator to contain a surface expression or otherwise mitigate risks associated with a surface expression, the existence of a surface expression, other than a low-energy seep, is a violation of

the prohibition in Section 1724.11(a) against underground injection projects resulting in any surface expression.

Regulations section 1775 requires Operator to address oilfield wastes, harmful chemicals, unused equipment, scrap and other trash so as not to cause damage to life, health, property, freshwater aquifers or surface waters, other natural resources, or such that its operations become a public nuisance or a menace to public safety.

Regulations section 1777, among other things, requires Operator to "maintain production facilities in good condition and in a manner to prevent leakage or corrosion and to safeguard life, health, property, and natural resources."

IV. Alleged Acts/Omissions

On, at least, three recent occurrences (May 10, June 8, and June 23, 2019), and continuing to the date of this Order, Operator has allowed surface expressions in violation of, at least, **Regulations** section 1724.11, subdivision (a). This is because, among other things, the Division observed that the surface expressions included steam and high volumes of oil coming to the surface for periods exceeding two to three minutes, which are indications that the expressions were not low-energy seeps. Operator has not demonstrated otherwise. (See Exhibit A, incorporated herein; **Regulations section 1720**, subdivision (h).) The Supervisor, through his Inland District Deputy, obtained photographs and issued notices to Operator concerning those surface expression violations (see, collectively, Exhibit B, incorporated herein) to which Operator responded. Such responses included steam radius restrictions and a root cause analyses. However, Operator's initial responses appeared to have contained, but not prevented additional surface expressions.

V. Required Remedial Actions

For the reasons described above in this Order, the Supervisor hereby determines that remedial work is necessary to prevent damage to life, health, property, and natural resources. Therefore, pursuant to PRC sections 3013, 3106, 3224, and 3226, and Regulations sections 1714, 1722, subdivision (a), 1775, and 1777, among others, **the Supervisor hereby orders Operator to:**

1. Immediately take all measures to stop flow from surface expressions and prevent any new surface expressions near the subject well (1Y-1405S [API: 029-80898]);

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- 2. Within 10 days of this order, Operator's technical teams will meet with Division Inland District technical teams to provide data and interpretations related to understanding the subsurface of the area associated with its Cymric Oil Field surface expressions with the goal of establishing programs and protocols that will prevent future surface expressions; and
- 3. Submit all data as set forth under Regulations sections 1724.7 and 1724.7.1 so the Division can validate the initial root cause analysis Operator presented to the Division on June 20, 2019, and review the following Underground Injection Control Projects:
 - a. 19024123 (Cyclic Reef Ridge/Antelope Shale)
 - b. 19024021 (Cyclic Tulare)
 - c. 19024127 (Cyclic Tulare)

And, in addition to the above data, Operator must include the following for Operator's operations within the Cymric Oil Field covering the past 24 months:

- Strike and dip cross sections through various locations using geophysical logs, in consultation with Division Staff;
- Temperature surveys for all observation wells within 2,500 feet of the 1Y-1405S and Gauge Station 5 location, (need to have been taken within last 6 months);
- Daily production and injection rates for the operating wells;
- Daily vacuum/produced rates from Gauge Station 5, and new event near 1Y-1405S (API: 029-80898), as ticketed by Operator;
- INSAR data at covering the intervals collected (for the 24-month period), as mentioned in RCA meetings; and
- Tilt Meter data for the field covering the intervals collected (during the past 24 months), as mentioned in the RCA meetings.

VI. Operator's Appeal Rights

Operator may appeal this Order by filing a written notice of appeal with the Director of Conservation as described in PRC section 3350. Failing to file a notice of appeal within the timeframe prescribed in PRC section 3350, subdivision (a), waives Operator's right to challenge this Order and

makes the Order final. If Operator timely files a notice of appeal, Operator will be informed of the appeal hearing date, time, and place. After the close of the hearing, Operator will receive a written decision that affirms, sets aside, or modifies the Order.

If the work is not immediately commenced and continued to the satisfaction of the Division, the Supervisor may appoint necessary agents to enter the premises and perform the work consistent with PRC section 3226. Any amount the Supervisor expends will constitute a lien against Operator's real and/or personal property. (PRC, § 3226.)

Court Order and Other Potential Actions to Enforce This Order

PRC section 3236 makes it a misdemeanor for any person who violates, fails, neglects, or refuses to comply with any of the provisions of the oil and gas conservation laws commencing at PRC section 3000. The misdemeanor is punishable by a fine of not less than one hundred dollars (\$100) nor more than one thousand dollars (\$1,000), or by imprisonment not exceeding six months, or by both the fine and imprisonment for each separate offense. PRC section 3359 makes it a misdemeanor to fail or neglect to comply with an order of the Supervisor. Each day's further failure, refusal, or neglect is a separate and distinct offense. (PRC, § 3359.)

Failure to comply with Section V (Required Remedial Actions) could result in additional enforcement orders and/or actions. For example, the Supervisor could deny approval of proposed well operations until compliance is achieved, order the plugging and abandonment of the associated well, and/or assess a civil penalty. (PRC, §§ 3203, subd. (c), 3236.5, 3237, subd. (a)(3)(C).)

7/12/19 DATED: Jason R. Marshall

Acting State Oil and Gas Supervisor

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EXHIBIT A

Map of 1Y-1405S Event

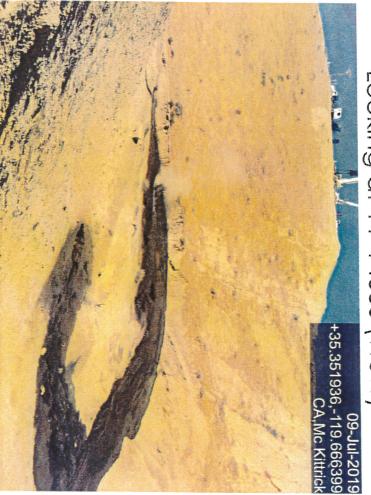




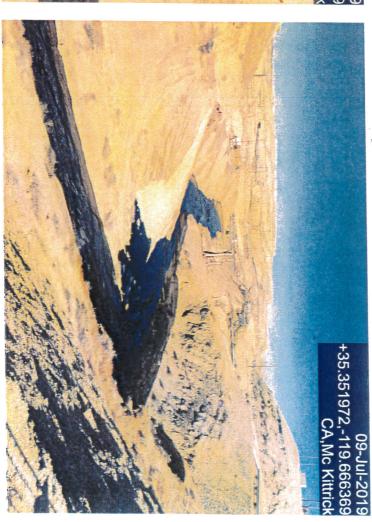
1Y-1405S



Looking at 1Y-1405S (WSW)



Looking WNW from same location



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EXHIBIT B

ADDENDUM to NOTICE OF VIOLATION 19-0016

July 1, 2019

V19-0016

Mr. Nadim Hosn Chevron USA Inc. 9525 Camino Media Bakersfield, CA 93311

FIELD: Cymric; LEASE: SEC. 1 T.30S R.21E

DATE OF SURFACE EXPRESSIONS: 06/08/2019 and 06/23/2019

INSPECTORS: Allan Koch / Angela Espinoza

Reference: Chevron Cymric 1Y Surface Expression 6-8-2019 and 6-23-2019

Dear Mr. Hosn:

On 6/8/2019, Chevron reported a surface expression at Cymric 1Y to both DOGGR and OES (OES #19-3668). On 6/23/2019, Chevron reported another surface expression event at Cymric 1Y approximately 100 feet south of the previous event. Upon review, the Division has concluded that these events do not meet all of the requirements of a "low-energy seep" and thus the occurrence of these surface expressions are in violation of the California Code of Regulation (CCR), Title 14, CCR 1724.11(a) which states "Underground injection projects shall not result in any surface expression".

The following actions should be performed to address the occurrence of the surface expression:

1. Per CCR 1724.11(d), immediately implement a minimum 600 feet steam restriction radius around the 6-8-2019 surface expression event (35.35185, -119.6667) as well as the 6-23-2019 surface expression event (35.35158, -119.6669)

Furthermore, per CCR 1724.11(d), if the surface expression(s) continue to flow for more than 10 days, then the Division has the authority to expand the radius around the surface expression within which injection shall cease. The Division will determine the expanded radius based on consideration of the flow rate of the surface expression, geologic factors, and operational parameters.

Additionally, based upon this surface expression, other recent surface events, and increased flow at Gauge Setting 5 over the past twelve months, the Division requires Chevron to reduce reservoir drive energy to remediate these occurrences and prevent future surface expressions.

Chevron USA Inc. July 1, 2019 Page 2 of 2

Failure to follow these requirements may result in an additional violation and/or enforcement action, including issuance of a civil penalty or a remedial work order pursuant to PRC Sections 3236.5 or 3224.

If you have any questions, please call the Senior Oil and Gas Engineer Matt Stikes at (661) 326-6034.

Sincerely,

Matt Stikes

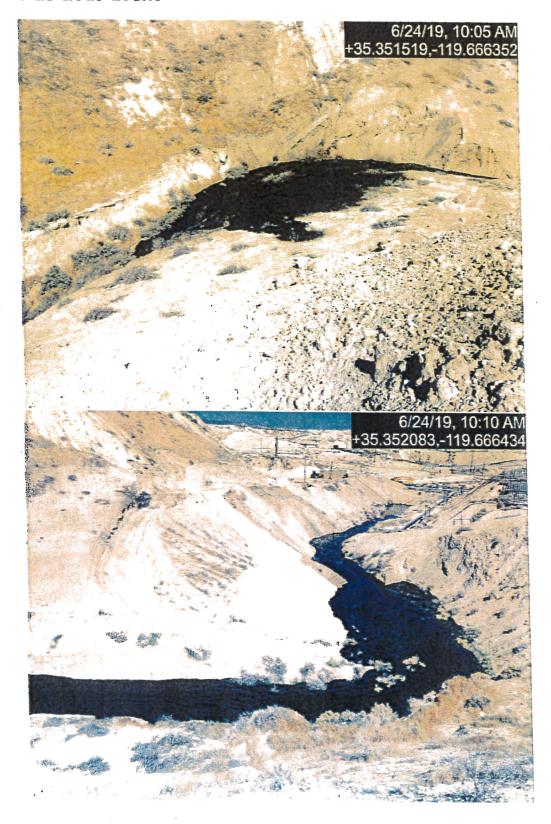
Senior Oil and Gas Engineer for

Matt Site

Cameron D. Campbell

District Deputy, Inland District

6-23-2019 Event



NOTICE OF VIOLATION

June 13, 2019

V19-0016

Mr. Nadim Hosn Chevron USA Inc. 9525 Camino Media Bakersfield, CA 93311

FIELD: Cymric; LEASE: SEC. 1 T.30S R.21E DATE OF SURFACE EXPRESSION: 06/08/2019

INSPECTOR: Allan Koch

Reference: Chevron Cymric 1Y Surface Expression 6-8-2019

Dear Mr. Hosn:

On 6/8/2019, Chevron reported a surface expression at Cymric 1Y to both DOGGR and OES (OES #19-3668). Upon review, the Division has concluded that it does not meet all of the requirements of a "low-energy seep" and thus the occurrence of this surface expression is in violation of the California Code of Regulation, Title 14, CCR 1724.11(a) which states "Underground injection projects shall not result in any surface expression".

The following actions should be performed to address the occurrence of the surface expression:

- Meet with the Division within 30 days of the date of this letter to present a root cause analysis of the surface expression, diagnostic testing performed, and corrective actions taken to prevent future surface expressions.
- 2. Prepare a Surface Expression Monitoring & Prevention Plan for review and approval by the Division by December 13, 2019. At a minimum, per CCR 1724.11(b)(1), the plan shall include the following:
 - (A) A subsurface injection-production mass balancing surveillance system utilizing a continuous tilt meter array or other ground monitoring system approved by the Division; or implementation of a real-time pressure/flow monitoring system that will give adequate warning to prevent surface expressions.
 - (B) A map of the project area with all surface expressions, including cracks, fissures, and sink holes related to underground injection, and containment measures prominently marked. A current map of these features shall be provided to the Division and shall be updated as these features are discovered, installed, or changed.
 - (C) Protocols for restriction of access to areas where there are surface expressions or surface expression containment measures.
 - (D) Training, including safety measures and identification of possible hazards, for field personnel working in areas where there are surface expressions or where surface expressions may occur.

Failure to follow these requirements may result in an additional violation and/or enforcement action, including issuance of a civil penalty or a remedial work order pursuant to PRC Sections 3236.5 or 3224.

Chevron USA Inc. June 13, 2019 Page 2 of 2

If you have any questions, please call the Associate Oil and Gas Engineer, Allan Koch at (661) 334-3658.

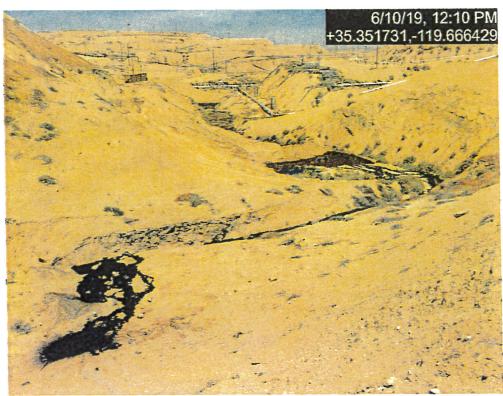
Sincerely, Campbell

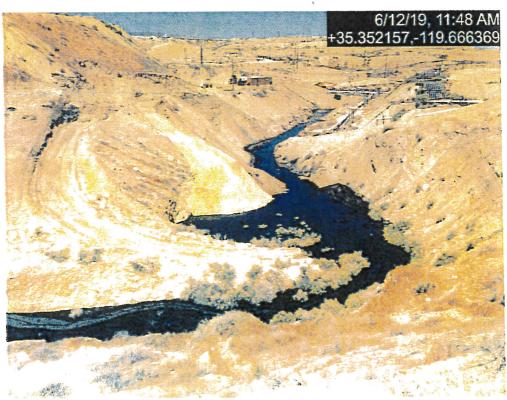
Cameron D. Campbell

District Deputy, Inland District

CERTIFIED MAIL #: 7018 0360 0000 1418 3185

6-8-2019 Event





NOTICE OF VIOLATION

May 20, 2019

V19-0008

Mr. Nadim Hosn Chevron USA Inc. 9525 Camino Media Bakersfield, CA 93311

FIELD: Cymric; LEASE: SEC. 1 T.30S R.21E DATE OF SURFACE EXPRESSION: 05/10/2019

INSPECTOR: Allan Koch

Reference: Chevron Cymric 1Y Gauge Setting 17 Surface Expression 5-10-2019

Dear Mr. Hosn:

On 05/10/2019, Chevron reported a new high energy surface expression at Cymric 1Y near Gauge Setting 17 to both DOGGR and OES (OES #19-3040). The occurrence of this surface expression is in violation of the California Code of Regulation, Title 14, CCR 1724.11(a) which states "Underground injection projects shall not result in any surface expression".

The following actions should be performed to address the occurrence of the surface expression:

- Meet with the Division within 30 days of the date of this letter to present a root cause analysis of the surface expression, diagnostic testing performed, and corrective actions taken to prevent future surface expressions.
- Prepare a Surface Expression Monitoring & Prevention Plan for review and approval by the Division by November 20, 2019. The Plan should be an area review that includes the Cymric 1Y continuous Gauge Setting 5 surface expression. At a minimum, per CCR 1724.11(b)(1), the plan shall include the following:
 - (A) A subsurface injection-production mass balancing surveillance system utilizing a continuous tilt meter array or other ground monitoring system approved by the Division; or implementation of a real-time pressure/flow monitoring system that will give adequate warning to prevent surface expressions.
 - (B) A map of the project area with all surface expressions, including cracks, fissures, and sink holes related to underground injection, and containment measures prominently marked. A current map of these features shall be provided to the Division and shall be updated as these features are discovered, installed, or changed.
 - (C) Protocols for restriction of access to areas where there are surface expressions or surface expression containment measures.
 - (D) Training, including safety measures and identification of possible hazards, for field personnel working in areas where there are surface expressions or where surface expressions may occur.

Failure to follow these requirements may result in an additional violation and/or enforcement action, including issuance of a civil penalty or a remedial work order pursuant to PRC Sections 3236.5 or 3224.

Chevron USA Inc. May 20, 2019 Page 2 of 2

If you have any questions, please call the Associate Oil and Gas Engineer, Allan Koch at (661) 334-3658.

Sincerely,

Cameron D. Campbell

District Deputy, Inland District

CERTIFIED MAIL #: 7018 0360 0000 1418 3178

5-10-2019 Event



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PROOF OF SERVICE BY CERTIFIED U.S. MAIL

I declare that I am employed in the County of Sacramento, California. I am over the age of 18 and not a party to the within captioned cause. My business address is 801 K Street, MS 18-05, Sacramento, California 95814. On July 12, 2019, I served the following document(s):

ORDER TO PERFORM REMEDIAL WORK, ORDER NUMBER 1159

by enclosing them in an envelope and placing the envelope for collection and mailing by certified U.S. mail on the date and at the below listed address(es) following our ordinary business practices. I am readily familiar with this business's practice for collecting and processing correspondence for mailing. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service in a sealed envelope with postage fully prepaid.

I served the documents on the person or persons below, as follows:

Mr. Nadim Hosn	
Chevron USA Inc.	
9525 Camino Media	
Bakersfield, CA 93311	
Certified Mail Receipt Number:	
7006 0810 0005 0961 5868	
,	

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on <u>July 12, 2019</u>, at Sacramento, CA.

Rachael A. Tadlock