

1 Department of Conservation, Division of Oil, Gas, and Geothermal Resources
2 STATE OIL AND GAS SUPERVISOR
3 801 K Street, MS 24-03 (Legal Office)
4 Sacramento, California 95814-3530
5 Telephone (916) 323-6733
6 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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16 **CONSENT ORDER 1126-C**
17 **(RE: REMEDIAL ORDER NO. 1126)**
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24 **Dated: September 5, 2018**

25 **Operator: Wild Goose Storage, LLC (W2360)**
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1 The State Oil and Gas Supervisor (Supervisor), Kenneth A. Harris Jr., acting through the
2 Division of Oil, Gas, and Geothermal Resources (Division) hereby delineates, and Wild Goose
3 Storage, LLC (Operator) hereby agrees to, the terms of this Consent Order which resolves
4 Remedial Order No. 1126 (dated July 24, 2018; Exhibit A, incorporated herein) and Operator's
5 related appeal (dated August 6, 2018; Exhibit B; incorporated herein).

6 **I. Operator's Required Actions**

7 Operator is required to:

8 1) Run a noise and temperature log prior to pulling tubing from "Wild Goose Gas Unit
9 2" 24 HZ (Well) by September 30, 2018. In the shallow section where damage may have
10 occurred (approximately 600 feet True Vertical Depth Subsea), Operator shall arrange for a
11 reduced logging speed (less than 100 feet per minute) for better characterization of the section.

12 2) Inspect the Well by running the following logs with no tubing in the Well by October
13 31, 2018, to assess mechanical integrity of the casing:

14 a. Multi-Arm Caliper Inspection, with a minimum of 32 arms; and

15 b. High-resolution Vertilog (or similar magnetic-flux tool).

16 3) Conduct pressure testing to assess the mechanical integrity of the casing. The testing
17 shall be digitally recorded and shall begin at least at 115 percent (%) of the maximum allowable
18 operating pressure (MAOP) (see additional notes below for new MAOP requirement.) A passing
19 pressure test is a pressure loss not exceeding 10% in the first 30 minutes and does not show
20 more than a 2% decline from the pressure after the first 30 minutes in the second 30 minutes.

21 4) Monitor wellhead pressure of the Well on a daily basis and provide the results to the
22 Division (via electronic mail to dogdist6@conservation.ca.gov) no later than Monday morning
23 for the previous week;

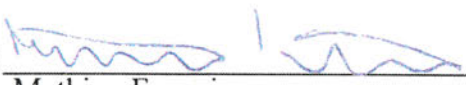
24 and/or:

25 5) In the event that well work will not commence within 30 days, Operator shall pull the
26 tubing and set a mechanical bridge plug above the liner hanger of the Well pending when initial
27 work will commence with proper permits.
28

1 NOTE: In addition, for well "Wild Goose Gas Unit 2" 24 HZ (Project No. 84000002)
2 only, Operator will now be required to test at 1898 pounds per square inch (psi) = 115% of new
3 1650 psi MAOP. The Division has agreed to lower the MAOP to 1650 psi with an addendum to
4 the Project Approval Letter (PAL) to be effected through a parallel process. The Division will
5 endeavor to update the existing PAL for Project No. 84000002 to reflect this change as soon as
6 the due process is completed.
7


8 Wild Goose Storage, LLC, by the signature of its authorized representative below, attests
9 that it has reviewed the terms set forth above, that it had an opportunity to discuss the terms with
10 its counsel, and that after such review and discussion agrees to all of the above terms, including
11 modification of the PAL for Project No. 84000002. In addition, Wild Goose Storage, LLC
12 agrees that its appeal of Remedial Order No. 1126 is resolved and understands that this Consent
13 Order is a final order that is not subject to an appeal through the Division's administrative
14 process.

15 **Wild Goose Storage, LLC**
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19 By: 
20 Mathieu Fournier
21 Vice President
22 Engineering & Operations

Dated: September 5, 2018

23 **Approved as to Form by:**

24
25 By: 
26 Jason A. Dubchak
27 Vice President - Legal & Regulatory
28 Counsel for Wild Goose Storage, LLC

Dated: September 5, 2018

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1 By agreeing to, and completing, the requirements herein, and executing where indicated,
2 Operator will obviate the need for Remedial Order No. 1126 and, therefore, the remedial
3 measures listed in Remedial Order No. 1126 are no longer required. As such, the Supervisor's
4 execution below indicates the Supervisor is withdrawing Order No. 1126.

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6 Dated: 9/15/2018

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10 Kenneth A. Harris Jr.
11 State Oil and Gas Supervisor

12 **II. Potential Actions to Enforce This Consent Order**

13 In addition to being subject to Supervisor-initiated work and tax liens under **PRC section**
14 **3226**, Operator's failure to comply with Section I (Operator's Required Actions) of this Consent
15 Order could subject Operator to further enforcement action. For example, the Supervisor could
16 deny approval of proposed well operations until compliance is achieved, or order the plugging
17 and abandonment of wells (**PRC, sections 3203, subd. (c), and 3237, subd. (a)(3)(C)**).

18 In addition, **PRC section 3236.5** authorizes the Supervisor to impose a civil penalty on a
19 person who violates any provision in Chapter 1 of Division 3 of the PRC or any regulation that
20 implements those statutes, and the Supervisor may in the future impose a civil penalty based on
21 the facts and omissions underlying this Consent Order.

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

1 Department of Conservation, Division of Oil, Gas, and Geothermal Resources
2 STATE OIL AND GAS SUPERVISOR
3 801 K Street, MS 24-03 (Legal Office)
4 Sacramento, California 95814-3530
5 Telephone (916) 323-6733
6 Facsimile (916) 445-9916

EXHIBIT A

7
8 **STATE OF CALIFORNIA**
9 **NATURAL RESOURCES AGENCY**
10 **DEPARTMENT OF CONSERVATION**
11 **DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES**

12
13 **REMEDIAL ORDER TO:**
14 **VERIFY AND MAINTAIN PRESSURE CONTROL**

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16
17 **NO. 1126**

18 **Dated: July 24, 2018**

19 **Operator: Wild Goose Storage LLC (W2360)**

20
21
22 **BY**

23 **Kenneth A. Harris Jr.**

24 **STATE OIL AND GAS SUPERVISOR**
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1 **I. Introduction**

2 The State Oil and Gas Supervisor (Supervisor), acting through the Division of Oil, Gas,
3 and Geothermal Resources (Division) and under the authority of Division 3 of the Public
4 Resources Code (PRC; **commencing with PRC section 3000**) and title 14 of the California
5 Code of Regulations (Regulations), may order tests and remedial work concerning oil and
6 natural gas field operations which, in his judgment, are necessary to prevent damage to life,
7 health, property, and natural resources (See **PRC sections 3106 and 3224**). The Supervisor is
8 to ensure that “no damage occurs to the environment by reason of injection and withdrawal of
9 gas” in underground gas storage facilities (**PRC section 3404.5**). To that end, the Supervisor
10 may request from the operator any data that are pertinent and necessary for the Division, and its
11 District Deputy, to properly evaluate underground injection projects (See, e.g., **Cal. Code Regs.,**
12 **tit. 14, sections 1724.6 and 1724.7, subd. (e)**). The operator must maintain those data and
13 make them available to Division personnel to show, among other things, that no damage to life,
14 health, property, or natural resources is occurring by reason of the project (**Cal. Code Regs., tit.**
15 **14, section 1724.10, subd. (h)**).

16 Based on the Division’s records, at all times relevant to this order, Wild Goose Storage
17 LLC (Operator) is the current natural gas storage operator (“Operator” as defined in **PRC**
18 **section 3009**) who has the Division’s approval to operate Wild Goose Gas Storage, Project No.
19 84000002. On June 8, 2018, the Division was notified of an incident referenced in California
20 Office of Emergency Services (Cal OES) report number 18-3746 where the Operator lost
21 control of well “Wild Goose Gas Unit 2” 24 HZ (the Well) resulting in an uncontrolled release
22 of natural gas, damage to the blowout preventer equipment being used for the workover, and
23 alleged injuries to personnel on site. Following initial remedial actions, the Operator placed the
24 Well in an interim “static” condition by filling with fluid and restoring the wellhead after
25 ceasing workover operations. This interim static condition must be maintained for continued
26 safety. As such, the Division hereby orders the Operator to verify and maintain pressure control
27 of the Well.

28 ///

1 **IV. Operator's Required Actions**

2 Based on the above, and pursuant to PRC sections 3013, 3106, 3224, and 3226, the
3 Supervisor hereby orders Operator to verify and maintain pressure control of the Well
4 under Project No. 84000002. Specifically, Operator is required to:

- 5 1. Measure the fluid level in the tubing and casing of the Well on a daily basis,
6 refilling as necessary to ensure the Well is full each day.
- 7 2. Monitor wellhead pressure of the Well on a daily basis.
- 8 3. Estimate reservoir pressure at the level of perforations based on activity of
9 the facility each day.
- 10 4. Digitally record daily fluid levels, amount and density of fluid required to fill
11 the Well, and maximum daily wellhead and estimated reservoir pressures.
- 12 5. Provide these data on a weekly basis to the Division.

13 All of actions specified above must be implemented immediately. Additional safety measures
14 may be required depending on daily fluid level and pressure readings.

15 **V. Operator's Appeal Rights**

16 Operator may appeal this Order by filing a timely, written, notice of appeal with the
17 Director as described in Article 6 (Appeals and Review) of Division 3 of the PRC, commencing
18 with PRC section 3350. (PRC, section 3225, subd. (d).) A written notice of appeal may be
19 mailed to the following address:

20 Department of Conservation
21 Director's Office of Appeals
22 801 K Street, MS 24-03 (Legal Office, Chief Counsel)
23 Sacramento, California 95814-3530
24

25 If Operator does not submit a timely, written, notice of appeal, Operator waives the right
26 to challenge this Order and this Order will become a final order. At such time, pursuant to PRC
27 section 3226, the Division may contract for the performance of all work required in this Order
28 within 30 days of the Order. Any costs incurred by the Supervisor to obtain compliance with

1 this Order will constitute a lien against Operator's real or personal property per **PRC section**
2 **3423**.

3 If Operator submits a timely, written notice of appeal, it, and interested parties, will
4 receive notice of the appeal hearing date, time, and place. Following the hearing, Operator will
5 receive a written decision that affirms, sets aside, or modifies the appealed order.

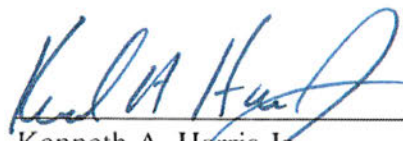
6 **VI. Other Potential Actions to Enforce This Order**

7 Failing to comply with Section IV (Operator's Required Actions) of this Order could
8 subject Operator to further enforcement action. For example, the Supervisor could deny
9 approval of proposed well operations until compliance is achieved, or order the plugging and
10 abandonment of wells (**PRC, sections 3203, subd. (c), and 3237, subd. (a)(3)(C)**).

11 In addition, **PRC section 3236.5** authorizes the Supervisor to impose a civil penalty on a
12 person who violates any provision in Chapter 1 of Division 3 of the PRC or any regulation that
13 implements those statutes, and the Supervisor may in the future impose a civil penalty based on
14 the facts and omissions underlying this emergency order.

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

22
23 DATED: **July 24, 2018**

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25 
26 Kenneth A. Harris Jr.
27 State Oil and Gas Supervisor

28 See attached PROOF OF SERVICE for distribution list

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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 24, 2018, I served the following document(s):


**REMEDIAL ORDER TO: VERIFY AND MAINTAIN PRESSURE CONTROL, ORDER NO. 1126
WILD GOOSE STORAGE LLC (W2360)**

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. Pat Baynard, Agent	Operator
Wild Goose Storage LLC	Wild Goose Storage LLC
P.O. Box 8	P.O. Box 8
Gridley, CA 95948	Gridley, CA 95948
Cert. mail: 7014 2120 0000 5989 3669	Cert. mail: 7014 2120 0000 5989 3676

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 July 24, 2018, at Sacramento, CA.



Rachael Tadlock



Wild Goose Storage, LLC
A Rockpoint Gas Storage Company
PO Box 8, 2780 West Liberty Road
Gridley, California 95948
T 530.846.7351
rockpointgs.com

August 6, 2018

EXHIBIT B

Mr. Kenneth A. Harris Jr., State Oil and Gas Supervisor
Department of Conservation, Division of Oil, Gas, and Geothermal Resources
801 K Street, MS 24-03 (Legal Office)
Sacramento, California 95814-3530

**Re: Notice of Appeal to Remedial Order to: Verify and Maintain Pressure Control, No. 1126
Wild Goose Storage, LLC (W2360), dated July 24, 2018**

Dear Mr. Harris,

On Monday July 30, 2018, Wild Goose Storage, LLC (WGS) received by certified mail the Remedial Order referenced in the subject line.

Challenge of Remedial Order No. 1126:

After a careful review, WGS concluded that the Order should be appealed based on the fact that it is not justified in the circumstances and it is not technically sound or feasible. For these reasons which will be explained in detail below, WGS is filing the present Notice of Appeal to Remedial Order No. 1126.

1) The Order is not Justified in the Circumstances.

a. Review of events:

Background and purpose of the well workover under Permit No. 7000647:

The purpose of the workover conducted on well "Wild Goose Gas Unit 2" 24 HZ (the "Well") in June 2018 was to install tubing and packer and conduct inspection and testing to get a head start in anticipation of the new rules which will require such modifications on all gas storage wells in the State. The Well is a modern gas storage well constructed in 2002, with casing designed to contain 3 times the current pressure (the casing wall thickness would have to be reduced by more than 66% before being concerned by its ability to contain current pressure), cemented to surface, with no history of integrity issues which has consistently passed integrity testing every year. It is also pertinent to note that WGS has been pro-active and that 24% of the wells within the WGS storage reservoir have had their casing inspected within the last two years and that results of these inspections show no corrosion issues within this storage field.

Review of the June 8, 2018 incident reported to Cal OES and the Division:

During the workover operations, an incident occurred on June 8, 2018. Control of the well pressure was lost for a few seconds before the blowout preventers ("BOP") were closed to regain control of the well. During that time, tubing was pushed out of the well towards surface before the blowout preventers closed on the tubing and stopped movement. During these few seconds a very small amount of gas was lost; we estimate that approximately 5 Mcf of gas escaped the well during this incident. After control of the well was regained, workover operations were put on hold, the situation was assessed, and proper notifications were made to WGS management and regulatory authorities. In a preliminary investigation of the incident, it was determined that the immediate cause was the failure of the Sub-Surface Safety Valve ("SSSV") packer to equalize pressure upon being unseated, thus acting as a "loose cork" and being pushed towards surface by the pressure differential. WGS would like to correct a statement in Order No. 1126 which alleges that there would have been "damage to the blowout preventer equipment being used for the workover." Although WGS did change elements of the BOP before resuming workover operations following the incident out of an abundance of caution, there was no indication of functional damage to the BOP and it did perform as intended before, during and after the incident.

Less than 48 hours after the incident, following the preliminary investigation and discussions with Division representatives, it was decided to cut the workover operations short and re-assemble the well back in its original condition, except for the SSSV which would not be reset in the well, and suspend operations on this Well. To re-assemble the Well, a circulation kill was completed, the BOP elements were replaced as a precaution, the SSSV assembly was pulled out of the well and removed, and new tubing joints were run in the Well so that tubing could be set back in near its original depth, without the SSSV. The wellhead was then re-assembled, and the services were de-mobilized. In this current state the Well has the same configuration as most gas storage wells in California and workover operations can resume safely, without possibility of complications caused by the presence of a SSSV, when the Division will allow.

As requested by the Division in a separate request, a more detailed Root-Cause-Analysis ("RCA") and a go-forward work plan to prevent future occurrence of such incidents are in preparation and will be submitted to the Division by August 11, 2018.

b. Potential for damage to the well:

During the sequence of events summarized above, WGS does not see potential for damage to the integrity of the well. The SSSV packer was set at 536 feet of depth within the vertical portion of the Well and moved towards surface along with the

tubing assembly after being unseated as per the manufacturer's procedure. There was no possible lateral movement or impact to the casing or other pressure containing element. Furthermore, as mentioned previously, the Well is a modern gas storage well constructed in 2002, with casing designed to contain 3 times the current pressure, cemented to surface, with no history of integrity issues which has consistently passed integrity testing every year and results of recent inspections show no corrosion issues within this storage field.

In addition, integrity monitoring done after the incident occurred, such as testing of the annular space between surface casing and production casing for the presence of gas, have shown negative results and no reason for concern.

WGS, as a responsible operator with an excellent record for safety and compliance, does not have outstanding concerns for the integrity of the Well.

2) The Order is not Technically Sound or Feasible.

The Order requires WGS to verify and maintain pressure control of the Well. Specifically, WGS is required to:

1. measure the fluid level in the tubing and casing of the Well on a daily basis, refilling as necessary to ensure the Well is full each day;
2. monitor wellhead pressure of the Well on a daily basis;
3. estimate reservoir pressure at the level of perforations based on activity of the facility each day;
4. digitally record daily fluid levels, amount and density of fluid required to fill the Well, and maximum daily wellhead and estimated reservoir pressures; and
5. provide these data on a weekly basis to the Division.

WGS would like to re-assure the Division that the Well was properly re-assembled before suspending workover operations and pressure control of the Well is currently maintained by production casing cemented to surface and the wellhead assembly, thus meeting the intent of the Order.

As for the specific requirements No. 1. and 4. to measure fluid levels and refilling as necessary to ensure the Well is full each day, these requirements are judged to be non-justified and not technically sound or feasible.

The storage reservoir at Wild Goose has excellent permeability and this will cause kill fluid to quickly fall down the wellbore and into the reservoir, unless it is prevented to do so by an effective bridging agent to greatly augment the viscosity of the kill fluid and slow down absorption of the kill fluid by the storage reservoir. Bridging agents used

during workovers are designed to maintain their bridging properties for a few hours only before they break down; this is purposeful so as to leave the reservoir porosity unharmed.

WGS estimates that the requirement of the Order to keep the Well full of fluid for an indefinite period could require hundreds of barrels of specialized brine per day and would lead to a continuous, daily traffic of tanker trucks carrying brine to the well for an unspecified duration (several months?). This would lead to a monumental waste of resources, considerable nuisance to property owners along the route and augmented risk of traffic accident on the roads with the daily tanker truck traffic. Furthermore, this could damage the long term use or usefulness of the storage well itself.

Regarding the specific requirements No. 2. and 3. of the Order, the wellhead pressures of the Well and all other storage wells are monitored continuously by the SCADA system and can be provided to the Division as requested.

3) Counter-proposal.

For the reasons described above, WGS is positive that there are no reasons to be concerned with the integrity of the Well and that no further actions are necessary until WGS is ready to come back to the well in 2019 to resume the tubing and packer installation workover.

Hence, WGS respectfully requests that Remedial Order No. 1126 be set aside by the Division and that WGS and the Division work together to plan for resuming the tubing and packer installation workover in the spring of 2019.

If the Division still has outstanding concerns which were not appeased by the present appeal, then WGS would propose to modify the Order by removing the requirement to keep the Well full of fluid and replace with the following:

1. discuss the Division's outstanding concerns and be given the opportunity to address them. WGS is available to meet with the Division either in-person or by teleconference;
2. if, following the discussion, the Division would remain concerned with the integrity of the Well, then WGS would be prepared to inspect the Well with a temperature-noise log and/or a through-tubing casing inspection log within one month of being instructed to do so, to verify that there are no concerns to the integrity of the Well; and
3. if, following the above, results from the logs would show reason for concern, then WGS would be prepared to perform a workover on the Well, with proper authorization from the Division, to pull tubing, inspect casing and either set a plug at the bottom or continue with its original tubing and packer installation.

WGS, as a responsible operator with an excellent record of safety and compliance, hopes that the Division will agree with the reasoning above and grant WGS appeal to set aside or modify the Order.

I personally remain available at your convenience to the Division to discuss these matters and address any outstanding concerns either in-person or by teleconference.

Sincerely,



Mathieu Fournier
Vice President, Engineering & Operations
Wild Goose Storage, LLC
Direct phone line: 403-513-8657

Attachments

Cc:

Pat Baynard, WGS (pat.baynard@rockpointgs.com)
Gary Theberge, WGS (gary.theberge@rockpointgs.com)
Simon Dupere, WGS (simon.dupere@rockpointgs.com)

Well No. 24 HZ Sub-Surface Safety Valve assembly removed from the well in June 2018:

