

Investigation Summary Report

2015-016: Whitecap Resources Inc.

Licence W0456680

April 25, 2017

Investigation number:	2015-016
Regulated party:	Whitecap Resources Inc., BA code A5BE
Field centre of origin:	Red Deer
Incident location (nearest town):	01-20-035-22W4M, about 6 km NE of Elnora
Contravention date:	June 24, 2015
FIS incident number:	20151692
Authorization numbers and relevant legislation, regulations, and rules:	W0456680 <i>Environmental Protection and Enhancement Act, Public Lands Act, Oil and Gas Conservation Rules</i>

Alberta Energy Regulator

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Summary of Facts

Company Overview

Whitecap Resources Inc. (formerly Spitfire Energy Ltd) is a Calgary-based company focused on the exploration and production of oil and gas in western Canada with assets in Alberta, Saskatchewan, and northern B.C. Average production in 2016 is estimated to be 41 500 barrels of oil equivalent per day.

Incident Overview

On June 24, 2015, at 9:02 a.m., a release of crude oil was discovered by an operator on a Whitecap Resources Inc. well site at 01-20-035-22W4M. The well was immediately shut in, Whitecap activated their emergency response plan, and cleanup and containment resources were contracted. The Alberta Energy Regulator (AER) was notified at 1:18 p.m. when Whitecap notified the Communication Information Centre (CIC) of the release. The notification estimated the volume of the release at 5–10 cubic metres (m³) of crude oil, of which some entered a neighbouring water body.

The AER Red Deer Field Centre (RDFC) dispatched an inspector who on arrival estimated the release volume to be closer to 50 m³. The release was classified as a level 1 emergency, the AER's Field Incident Response Support Team was dispatched, and notifications were sent to Alberta Environment and Parks Fish and Wildlife, and Environment Canada.

On June 26, 2015, all plans (wildlife monitoring, containment, cleanup, and waste disposal) were approved by the AER. On June 28, 2015, the AER reported that Whitecap did a good job putting the plans into effect and seemed to appropriately allocate resources; the incident level was called down from level 1 emergency to an alert.

On July 3, 2015, Whitecap submitted a release report updating the release volume to 35 m³ and identifying a water body 64 m from the well centre.

On July 8, 2015, Whitecap was notified that the incident was being followed up by the AER investigations team.

Whitecap continued to remediate the site, and on October 29, 2015, they submitted a report to the AER indicating that the surface water body and spill-impacted soil met applicable regulatory guidelines.

Investigation Findings

Findings

On June 23, 2015, at 8:31 a.m., the pump jack was shut in, valves closed, and the on-site piping bled down by the Whitecap operator to allow a contractor to install a Baird valve on the flow line. The Whitecap operator then left the site, leaving the contractor to complete the valve installation. The operator returned to the site at approximately 10:30 a.m. to reopen the closed valves and restart the well. At 10:39 a.m. the pump jack was restarted, the Baird valve pressure was adjusted, and the operator left the site to continue his daily work routine. According to a test separator meter chart, a leak occurred approximately 10–15 minutes after the operator left the site that proceeded to flow uncontrolled into a wetland until the operator returned the next day. The pump jack was shut down at 9:02 a.m., over 22 hours after the release started.

The operator notified the Whitecap foreman of the release and began containment procedures. The foreman failed to follow the Whitecap release reporting procedures and, instead of calling the 24 hour response line, attempted to contact the RDFC inspectors directly starting at 9:40 a.m., finally reaching one at 1:00 p.m. The Whitecap foreman was directed to call the AER 1-800 number for the release notification.

The AER was notified of the release at 1:18 p.m. by the CIC after a delay of approximately 3.5 hours after Whitecap became aware of a release. The CIC notification reported the estimated release volume at 5–10 cubic metres of crude oil, of which some entered a neighbouring water body. This was confirmed in the interviews conducted on November 18 and 19, 2015.

The investigation determined that the release was caused by a combination of operator error and an improperly installed threaded union on a flow line. The Whitecap *Health and Safety Manual*, section 10.17, “Lockout of Energized Equipment,” outlines the procedure for using a lockout system to effectively isolate machinery. The operator failed to use a lockout system and ultimately failed to reopen all of the previously closed valves, leaving one valve closed, causing the pump jack to pump against a closed valve. This caused an increase in pressure on the improperly installed threaded union installed during installation of the Baird valve. This increased pressure resulted in crude oil spraying out from the fitting. This was confirmed in the interviews conducted on November 18 and 19, 2015.

The release migrated off lease and impacted the water body due to the lack of containment around the well as required by section 8.060 (c) of the *Oil and Gas Conservation Rules (OGCR)*. There was a valve installed on the wellhead that closes automatically to shut off an uncontrolled flow, but no pits, dikes, trenches, or other structures or installations to contain a release were present, as required by the *OGCR*.

The site was previously owned by Bashaw Oil Ltd. and was developed within 100 metres of a wetland without the appropriate containment. On May 2, 2013, a well licence application (number 1761208),

including a well site plan, was submitted to the AER by Bashaw. The well site plan indicated that the well centre was within 100 metres of a body of water (low wet area).

Whitecap acquired this site on October 1, 2014, along with a number of other facilities from Bashaw, and conducted an asset integrity review. As confirmed by Whitecap on November 24, 2015, this review concentrated on physical assets and the maintenance activities taken by the previous owner and did not include a review of any licences, applications, etc.

Whitecap operators confirmed during interviews conducted on November 18 and 19, 2015, that they took no notice of the water body during their daily trips to this well site and that there were no containment measures present.

Environmental Impact

This release migrated off lease into an adjacent unnamed shallow water body and resulted in the following impacts (as reported by Whitecap October 29, 2015):

- The death of 15 birds (including 11 American Coots [*Migratory Bird Act*]), 278 amphibians (frogs, salamanders), 3 mammals (muskrats), and 2 reptiles (garter snakes).
- 320.96 tonnes of soil contaminated by petroleum hydrocarbons (PHC) from the spill path (Freehold and Crown) was excavated, and approximately 105 m³ of PHC-contaminated surface water was removed (29.65 m³ of crude oil was recovered).

Temporary Impacts to Aquatic Environment

An AER subject-matter expert on water quality and aquatic ecology and an AER wildlife biologist have reviewed the information on the environmental impact from the release. They believe that the impact on the aquatic environment is likely short lived. Impacted aquatic and semi-aquatic vegetation that was removed will likely recover quickly based on previous experience at similar sites.

Significant Impacts to Wildlife

AER wildlife biologist reviewed the incident and determined that there was significant impact to the wildlife present in the wetland at the time of the release, stating that the wetland was an amphibian breeding pond and that the release likely killed most, if not all, of the amphibian eggs and tadpoles. But they also believed that the impacts were local. With proper reclamation, and no ongoing contamination, the biologist did not believe there to be barriers to future use and recolonization of the site by wildlife.

Potential Contraventions

The investigation has uncovered contraventions of legislation under the jurisdiction of the AER, some of which are also offences that can be prosecuted by the Crown. The following legislation defines contraventions that are also offences:

- Section 227(j) of the *Environmental Protection and Enhancement Act (EPEA)*
- Section 56(1) of the *Public Lands Act (PLA)*
- Section 108 (2) of the *Oil and Gas Conservation Act (OGCA)*

Contravention 1

Legislation/guideline name	Section	Citation
<i>EPEA</i>	109(2)	No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause a significant adverse effect

Findings for Contravention 1

From June 23 to June 24, 2015, Whitecap allowed the release of approximately 35 m³ of crude oil onto public land and a wetland that impacted land and vegetation and killed numerous forms of wildlife. This investigation concludes that the release caused a significant adverse effect to the environment.

Whitecap failed to ensure that appropriate containment existed on the site to control spills. This resulted in the release impacting a water body and the subsequent death of 15 birds (including 11 American Coots [*Migratory Bird Act*]), 278 amphibians (frogs, salamanders), 3 mammals (muskrats), and 2 reptiles (garter snakes).

Contravention 2

Legislation/guideline name	Section	Citation
<i>PLA</i>	54(1)(a.1)	No person shall cause, permit or suffer (a.1) loss or damage to public land

Findings for Contravention 2

The water body shoreline impacted by the release (325 metres) is heavily vegetated with sedge grasses, both mature and juvenile willow, mature poplar and aspen trees, and Canadian pondweed, some of which were damaged by the release and required removal. This meets the definition of “loss or damage” to public land (*PLA*, section 1(1.1)).

Contravention 3

Legislation/guideline name	Section	Citation
<i>OGCR</i>	8.060(c)	Where a well or facility is located closer than 100 metres to the normal high water mark of a body of water or permanent stream or is in a location such that in the opinion of the Regulator a spill or leak may reach the water, the licensee or operator shall (c) construct pits, dikes, trenches or other structures or installations to contain effluent or spill material

Findings for Contravention 3

In this incident, if Whitecap had completed an asset integrity review that included licences and applications for this well, or even a site assessment, they would have noted the location of the water body, which is clearly marked on the original well licence application site plan. Identification of this water body within 100 metres of a well should have prompted Whitecap to build a structure or installation to contain a spill.

Due Diligence

EPEA (section 229), *PLA* (section 59(3)), and *OGCA* (section 110(2)) each provide a defence to certain offences. The defence requires the AER to consider whether a regulated party can establish on a balance of probabilities that the regulated party took all reasonable steps to prevent the commission of contraventions that are offences. This is known as “due diligence.” Having established the contraventions above, the AER considers whether the evidence establishes a defence.

After reviewing all the available information, there is lack of evidence to support due diligence. The regulated party did not take all reasonable steps to prevent the commission of the contraventions, based on the following:

- Operators failed to follow Whitecap procedures and processes when shutting in a facility (specifically, using a lockout system). This system, if used, could have signaled that a valve was still closed.
- Whitecap has operated this facility since taking it over on October 1, 2014, with operators on site daily, but no one took notice of the water body located 64 metres away despite the sight line to the water body being unobstructed. There was no assessment of the site or well licence to ensure that it met AER requirements.

Compliance History

A Field Inspection System report shows that between October 2014 and September 2015, Whitecap was issued a single notice of high-risk noncompliance for a July 21, 2014, release onto Freehold land caused by an operator not following documented procedures.

On July 3, 2015, Whitecap submitted a voluntary self-disclosure to the RDFC for 14 other sites noncompliant with *OGCR* section 8.060 (c). The RDFC approved the disclosure on July 10, 2015.

There is no record of enforcement for the same period in Alberta Environment and Parks' records.

There was one contravention of the *PLA* for violation of terms and conditions, with an administration penalty issued in June 2012.

Conclusion and Recommended Counts

The investigation into the release reported on June 24, 2015, has identified contributing factors leading to the pipe failure and three potential contraventions of *EPEA*, the *PLA*, and the *OGCR*. The investigation also found that Whitecap did not take all reasonable measures to prevent the release impacting a water body located less than 100 metres from the well.

Mitigating Factors

Whitecap submitted a voluntary self-disclosure to the RDFC for 14 other sites noncompliant with *OGCR* section 8.060 (c) and brought the sites into compliance within the AER-imposed deadline.

Aggravating Factors

Meeting the requirements when a well is within 100 metres of a water body is essential in order to protect the environment and public lands.

Whitecap has operated this facility since October 1, 2014, with operators on site daily; however, no one attempted to comply with the requirement to install a containment structure despite the body of water being located 64 metres away.

The operator failed to use a Whitecap-mandated lockout system and ultimately failed to open all of the previously closed valves, leaving one valve closed, which caused the pump jack to pump against a closed valve.

The following counts are a recommendation for the statutory decision maker. These are not final and may change upon review and further evaluation of the investigation findings.

Count 1

On or about June 23, 2015, in the Province of Alberta, Whitecap Resources Inc. did permit the release into the environment of 35 m³ of crude oil that caused a significant adverse effect contrary to section 109(2) of the *Environmental Protection and Enhancement Act*, which is an offence under 227(j).

Count 2

On or about June 23, 2015, in the Province of Alberta, Whitecap Resources Inc. released into the environment 35 m³ of crude oil that caused damage to a water body and the environment (as defined in *EPEA*) contrary to section 54(1)(a.1) and 54(1)(a.2)(e) of the *Public Lands Act*, which is an offence under 56(1)(g).

Count 3

On or about June 23, 2015, in the Province of Alberta, Whitecap Resources Inc. released into the environment 35 m³ of crude oil that impacted a water body located 100 metres of a well, contrary to section 8.060(c) of the *OGCR*, which is an offence under section 108(2) of the *Oil and Gas Conservation Act*.