

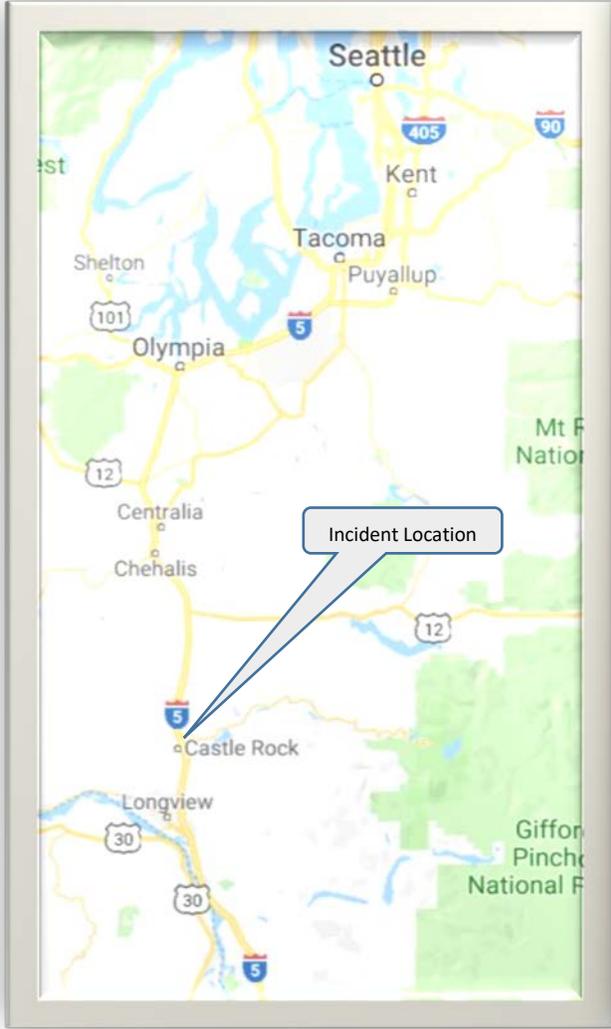
# UTC Incident Investigation Form

<b>Notification ID:</b>	3521	<b>Investigation ID:</b>	7988
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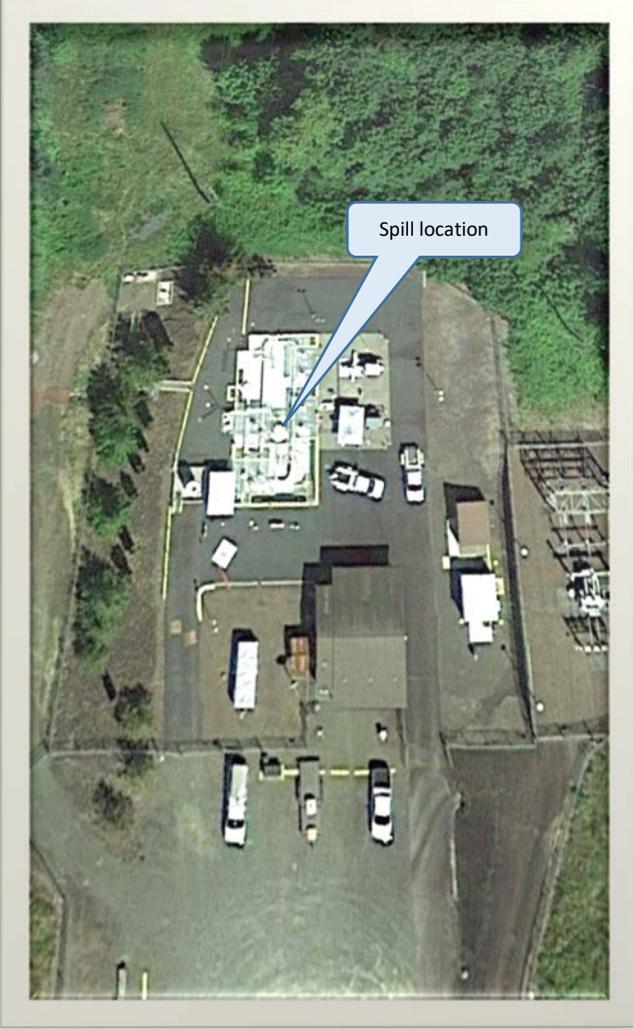
<b>Inspector Name:</b>	Dave Cullom
<b>Date Report Submitted to Chief Engineer:</b>	9/10/2019
<b>Date Report Reviewed &amp; Approved by Chief Engineer:</b>	10/15/2019

<b>Operator:</b>	Olympic Pipe Line
<b>District/Unit:</b>	South
<b>Location:</b>	Castle Rock, Washington (Latitude: 46.26538 Longitude: -122.8829)
<b>Incident Date:</b>	6/04/2019

**Description:**



Castle Rock Location



Castle Rock Station Aerial View

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Image of containment area where the spill occurred.



Proximity of sump tank and associated pump (red arrow) to valve V-1705. (blue arrow)

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Sump tank containment with product floating on top. All product was captured within the containment.



The **blue arrow** indicates a flange with residual leaked product remaining.  
The **red arrow** is the pump that was also operated during the investigation and it did not appear

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to leak during testing after cycling the pump off and on.



Close up image of Red Jacket sump pump at Castle Rock Station. No visible product leakage noted on pump housing. Date, serial number, and model number on capacitor cover is illegible in the photo.

### **Facts/Chronology of Events:**

#### **06-04-2019**

0815 Nick Becker arrived to offload drag reducing agent (DRA).

0830 Nick Becker grease packed the 14" WKM Gate Valve (V-1705) seals before operation.

0830 Renton Control Center (RCC) had an alarm triggered indicating a release of product. All product was contained within the sump concrete containment area and was recovered by a hazardous material disposal contractor.

0830 Jeff Berry was notified of the release.

0934 Incident call to UTC of a contained spill at Castle Rock Station by Sandy Conlan.

0954 UTC Incident Notification Sent.

1000 Left UTC.

1115 Arrived at Castle Rock Station.

1326 Sent update to UTC Pipeline Safety Staff indicating I was still on site and, at the time, OPL

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determined it wasn't leak on the sump pump after operating both the sump pump and the valve.

OPL had shut the 14" line down.

OPL was repacking the mainline valve V-1705 to see if it contained product mixed with the packing material.

1401 Left Castle Rock Station.

**07-02-2019** OPL 7000-1 Accident Report received.

**08-16-2019** OPL 7000-1 Supplemental - Accident Report received. The OPL report states: "The 4-5 gallon leak was due to a torn / worn O-ring and seal in the vent case of the Red Jacket sump pump. The O-ring and seal were replaced."

**08-23-2019** OPL 7000-1 Final Supplemental - Accident Report received

## Causes/Contributing Factors:

A data request has not been made to the operator to determine the model and service history of the pump. I cannot determine the date, serial number, and model number from field photos taken shortly after the incident. I reviewed the Red Jacket Petroleum Equipment service manual for the 4" "Extracta" Petroleum Pumps. It is unknown if that is the same model that failed during this incident. The document, RJ 5190.pdf Rev 3/93, does state that for pumps manufactured prior to 6/6/84 there are upgraded seal kit to be used. Additionally, The manufacturer states: "All Red Jacket submersible petroleum pumps manufactured prior to November 7, 1984 (Date code 21184) were supplied with a brass check valve. After this date, pumps were supplied with plastic check valves. Effective February 1993, pumps are supplied with a stainless steel check valve."

It is unknown if this is the pump, the 4" "Extracta" Petroleum Pump, that is in service without further investigation and with a service report from OPL detailing what components were replaced, the material type of the existing seals, and the historical service history. A cause or contributing factor, in absence of the information, is undetermined.

## Regulatory Analysis/ Violations:

While on site, seal pump failure was discussed and tested for by cycling the pump off and on. It did not noticeably leak at that time. The packing was checked on V-1705 at it was determined that the valve needed to be serviced and new chevron seals installed. The 7000-1 Accident Report indicated that it was later determined that there was a sump pump seal failure.

No probable violation recommended at this time.

## Follow up/ Recommendations:

The seal failure appears to be an isolated case. I recommend that we continue to monitor for failures involving seals and O-rings of these types of pumps in the future and take further action if there is a pattern of reoccurrence.