



Report Date: March 30, 2020

File: 1386

Report Number: 145892

PKM Canada Terminals GP ULC doing business as PKM Canada Marine Terminal Limited Partnership  
1995 West First St  
North Vancouver BC V7P 1A8

Dear PKM Canada Terminals GP ULC doing business as PKM Canada Marine Terminal Limited Partnership

**Re: Non-compliance Advisory Letter, Permit 1386, 1995 West First St., North Vancouver, BC**

On March 03, 2020, Ministry of Environment and Climate Change Strategy, Environmental Protection Division staff conducted an inspection of your facility, PKM Canada Terminals GP ULC doing business as PKM Canada Marine Terminal Limited Partnership located at 1995 West First St., North Vancouver, BC with authorization number 1386 under the *Environmental Management Act*.

This Advisory, the alleged violations and the circumstances to which it refers will form part of the compliance history of PKM Canada Terminals GP ULC doing business as PKM Canada Marine Terminal Limited Partnership and will be taken into account in the event of future non-compliance.

Please note that this authorization is considered to be out of compliance until such a time as it can be confirmed to meet the authorization requirements.

**Inspection Details:**

Requirement Description:	<b>1. AUTHORIZED DISCHARGES. 1.1</b>  1.1.1: This section applies to the discharge of effluent from the effluent treatment facility for the ore concentrate storage and loading area, northwest railcar storage area, car wash, truck wash, the dyked bulk petroleum and biofuel tank area and the Berth #1 groundwater recovery system, as shown on the Site Plan. The site reference number for this discharge is E105980. 1.1.1 The maximum rate of discharge is 10,900 cubic metres per day.
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**Ministry of Environment  
and Climate Change  
Strategy**

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Details/Findings:	<p>Inspection Overview:</p> <p>On March 9, 2020, Ministry of Environment and Climate Change Strategy (Ministry) Environmental Protection Officer Michael Jeffery (Officer Jeffery) conducted an office review inspection of PKM Canada Terminals GP ULC doing business as PKM Canada Marine Terminal Limited Partnership's (PKM) terminal loading facility (Facility), located in North Vancouver, BC to verify compliance with Permit #1386 (Permit). The Permit authorizes the discharge of effluent to water (Burrard Inlet) from a bulk loading terminal. The Permit was first issued on June 13, 1972, and most recently amended on February 4, 2020.</p> <p>The inspection period for this report is from January 1, 2018 to December 31, 2019 (Inspection Period), however it is noted that this report does not discuss the January 10, 2018, toxicity failure which was addressed in a previously issued Inspection Report (IR076487) dated April 13, 2018.</p> <p>This inspection included a review of the following documents:</p> <ul style="list-style-type: none"> <li>- 2018 Q1 WQ Data and Cover Letter, prepared by PKM, submitted April 26, 2018 (2018 Q1 Report)</li> <li>- 2018 Q2 WQ Data and Cover Letter, prepared by PKM, submitted July 30, 2018 (2018 Q2 Report)</li> <li>- 2018 Q3 WQ Data and Cover Letter, prepared by PKM, submitted October 30, 2018 (2018 Q3 Report)</li> <li>- 2018 Q4 WQ Data and Cover Letter, prepared by PKM, submitted January 29, 2019 (2018 Q4 Report)</li> <li>- 2019 Q1 WQ Data and Cover Letter, prepared by PKM, submitted April 29, 2019 (2019 Q1 Report)</li> <li>- 2019 Q2 WQ Data and Cover Letter, prepared by PKM, submitted July 29, 2019 (2019 Q2 Report)</li> <li>- 2019 Q3 WQ Data and Cover Letter, prepared by PKM, submitted October 30, 2019 (2019 Q3 Report)</li> <li>- 2019 Q4 WQ Data and Cover Letter, prepared by PKM, submitted January 30, 2020 (2019 Q4 Report)</li> <li>- "Berth 1 Water Treatment Plant Overview" pdf report, prepared by PKM, submitted March 19, 2020 (Berth 1 WTP Overview)</li> <li>- "Berth 4 &amp; 5 Water Treatment Plant Overview" pdf report, prepared by PKM, submitted March 19, 2020 (Berth 4/5 WTP Overview)</li> <li>- "Gravity inv#904" pdf invoice and service records, submitted March 19, 2020 by PKM (Summit Soil Disposal Records)</li> <li>- "INV00007239" and "INV00007802" soil disposal invoices, submitted March 19, 2020 by PKM (Tervita Soil Disposal Records)</li> <li>- "RE_EMS Electronic Data Transfer" email correspondence records, submitted March 19, 2020 by PKM (EMS Correspondence)</li> <li>- "WSCL Inspection and Maintenance Reports - Nov 2018 &amp; Feb 2019", prepared by PKM, submitted March 19, 2020 (WTP Maintenance and Inspection Records)</li> <li>- "2020-03-19 - RE EXT_2020-03-10 - Permit#1386 Inspection - Information Request" Email correspondence sent from Andrew Mullen (Environmental Director, PKM) to Officer Jeffery on March 19, 2020. (March 19, 2020, Email)</li> </ul> <p>Compliance Assessment: Officer Jeffery conducted a file review of flow data submitted within the Inspection Period and confirmed that PKM did not exceed their maximum daily effluent discharge rate for site reference E105980.</p>
Compliance:	In

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.1</b></p> <p>1.1.2: This section applies to the discharge of effluent from the effluent treatment facility for the ore concentrate storage and loading area, northwest railcar storage area, car wash, truck wash, the dyked bulk petroleum and biofuel tank area and the Berth #1 groundwater recovery system, as shown on the Site Plan. The site reference number for this discharge is E105980.</p> <p>1.1.2 The authorized discharge period is continuous.</p>
Details/Findings:	In the March 19, 2020 Email, Mr. Mullen stated that: "Effluent is discharged from E105980 on a continuous basis". As such, PKM has been found to be in compliance with the requirements of this condition.
Compliance:	In

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.1</b></p> <p>1.1.3: This section applies to the discharge of effluent from the effluent treatment facility for the ore concentrate storage and loading area, northwest railcar storage area, car wash, truck wash, the dyked bulk petroleum and biofuel tank area and the Berth #1 groundwater recovery system, as shown on the Site Plan. The site reference number for this discharge is E105980.</p> <p>1.1.3 The characteristics of the discharge must be equivalent to or better than:</p> <p>Total suspended solids:                   MAXIMUM: 50mg/L. ;</p> <p>Dissolved Copper:                            MAXIMUM: 0.32 mg/L. ;</p> <p>Dissolved Iron:                                MAXIMUM: 1.0 mg/L. ;</p> <p>Dissolved Lead:                                MAXIMUM: 0.2 mg/L. ;</p> <p>Dissolved Zinc:                                MAXIMUM: 1.0 mg/L. ;</p> <p>Oil and Grease:                                MAXIMUM: 10 mg/L. ;</p> <p>Total Organic Carbon:                    MAXIMUM: 10 mg/L. ;</p> <p>pH:    MAXIMUM: 10.5 pH units and MINIMUM: 8.5 pH units. ;</p> <p>Toxicity, Rainbow Trout, 96-hour Single-concentration Test:            MAXIMUM: 50% mortality*. ;</p> <p>*In a static bioassay on Rainbow Trout, there must be no more than 50% fish mortality in 100% (undiluted) effluent within 96 hours.</p>
Details/Findings:	<p>Officer Jeffery conducted a review of the quarterly water sampling data from within the Inspection Period and found that PKM was generally compliant with the required limits of this condition.</p> <p>It is noted however that a Non-Compliance Report (NCR) for this discharge was submitted to the Ministry by PKM on March 12, 2019. The NCR informs the Ministry that, due to calibration issues with the continuous pH monitor, the Facility is not certain if the discharge was outside of the Permitted pH range for a period of approximately 7.5 hours. As the Facility cannot be certain if the pH characteristics of discharge were within the Permitted range as per Section 1.1.3, compliance with this Section cannot be determined for this Inspection Period.</p>
Compliance:	Not Determined

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.1</b></p> <p>1.1.4: This section applies to the discharge of effluent from the effluent treatment facility for the ore concentrate storage and loading area, northwest railcar storage area, car wash, truck wash, the dyked bulk petroleum and biofuel tank area and the Berth #1 groundwater recovery system , as shown on the Site Plan. The site reference number for this discharge is E105980.</p> <p>1.1.4 The authorized works are an effluent neutralization, precipitation and sedimentation facility (including two primary settling basins, two precipitation reactors and a clarifier), a submerged outfall, all other works required to meet the characteristics specified in Section 1.1.3, and related appurtenances as shown on the Site Plan.</p>
Details/Findings:	As this was an office-based inspection, Officer Jeffery was unable to verify the Authorized Works in-place at the Facility, as such compliance with this condition cannot be determined for this Inspection Period.
Compliance:	Not Determined

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.2</b></p> <p>1.2.1: This section applies to the discharge of effluent (storm water) from the sulphur, potash, break bulk, agricultural and wood products storage and loading area, the Berth 4 and 5 groundwater recovery system and the yard area of the administrative office and maintenance shop. The site reference number for this discharge is E105981.</p> <p>1.2.1 The maximum rate of discharge is 13,100 cubic metres per day.</p>
Details/Findings:	Officer Jeffery conducted a file review of flow data submitted within the Inspection Period and confirmed that PKM did not exceed their maximum daily effluent discharge rate of 13,100 cubic metres per day for site reference E105981.
Compliance:	In

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.2</b></p> <p>1.2.2: This section applies to the discharge of effluent (storm water) from the sulphur, potash, break bulk, agricultural and wood products storage and loading area, the Berth 4 and 5 groundwater recovery system and the yard area of the administrative office and maintenance shop. The site reference number for this discharge is E105981.</p> <p>1.2.2 The authorized discharge period is continuous.</p>
Details/Findings:	In the March 19, 2020, Email, Mr. Mullen confirmed that "Effluent is discharged from E105981 on a continuous basis". As such, PKM has been found to be in compliance with the requirements of this condition.
Compliance:	In

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.2</b></p> <p>1.2.3: This section applies to the discharge of effluent (storm water) from the sulphur, potash, break bulk, agricultural and wood products storage and loading area, the Berth 4 and 5 groundwater recovery system and the yard area of the administrative office and maintenance shop. The site reference number for this discharge is E105981.</p> <p>1.2.3 The characteristics of the discharge must be equivalent to or better than:</p> <p>Total suspended solids:                   MAXIMUM: 50mg/L. ;  Dissolved Copper:                            MAXIMUM: 0.3 mg/L. ;  Dissolved Iron:                                MAXIMUM: 1.0 mg/L. ;  Dissolved Lead:                               MAXIMUM: 0.2 mg/L. ;  Dissolved Zinc:                                MAXIMUM: 1.0 mg/L. ;  Oil and Grease:                                MAXIMUM: 10 mg/L. ;  Total Organic Carbon:                        MAXIMUM: 10 mg/L. ;  pH:    MAXIMUM: 10.5 pH units and MINIMUM: 8.5 pH units. ;  Toxicity, Rainbow Trout,  96-hour Single-concentration Test:        MAXIMUM: 50% mortality*. ;</p> <p>*In a static bioassay on Rainbow Trout, there must be no more than 50% fish mortality in 100% (undiluted) effluent within 96 hours.</p>
Details/Findings:	<p>Officer Jeffery conducted a review of the quarterly water sampling data and found that PKM exceeded its discharge characteristic requirements for Total suspended solids (TSS) and Total organic carbon (TOC) at site E105981 9 times throughout the Inspection Period (See Attachment #1).</p> <p>It is noted that a non-compliance report (NCR) was submitted for every exceedance of a discharge characteristic (except an exceedance on January 8, 2018) and that there is increasing discussion in the NCR's in regard to modifying treatment processes to reduce TSS and TOC concentrations in an effort to ensure compliance. PKM informed Officer Jeffery that they are considering an application for a Permit amendment with the Ministry.</p>
Compliance:	Out
Actions to be taken:	<p>TSS and TOC must be kept within Permit requirements. Additional information on Permit amendment requests can be found at the following address:  <a href="https://forms.gov.bc.ca/environment/wda-enquiry/">https://forms.gov.bc.ca/environment/wda-enquiry/</a></p>

Requirement Description:	<p><b>1. AUTHORIZED DISCHARGES. 1.2</b></p> <p>1.2.4: This section applies to the discharge of effluent (storm water) from the sulphur, potash, break bulk, agricultural and wood products storage and loading area, the Berth 4 and 5 groundwater recovery system and the yard area of the administrative office and maintenance shop. The site reference number for this discharge is E105981.</p> <p>1.2.4 The authorized works are an effluent treatment system consisting of settling basins and neutralization facility, submerged outfall, all other works to meet the characteristics specified in Section 1.2.3, and related appurtenances approximately located as shown on the Site Plan.</p>
Details/Findings:	<p>As this was an office-based inspection, Officer Jeffery was unable to verify the Authorized Works in-place at the Facility, as such compliance with this condition cannot be determined for this Inspection Period.</p>
Compliance:	Not Determined

Requirement Description:	<p><b>2. GENERAL REQUIREMENTS. 2.1 Maintenance of Works and Emergency Procedures</b></p> <p>2.1: The authorized works must be inspected regularly and maintained in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents effective operation of the authorized works or leads to an unauthorized discharge, the Permittee must take appropriate remedial action and notify the Director immediately. The Director may reduce or suspend operations to protect the environment until the authorized works has been restored, and/or corrective steps taken to prevent unauthorized discharges.</p>
Details/Findings:	<p>In the March 19, 2020 Email, Mr. Mullen explained that PKM uses a third-party instrumentation company to complete inspections, instrument calibrations, and repairs on a weekly basis. Copies of weekly inspection reports were provided to Officer Jeffery on request.</p> <p>Mr. Mullen further confirmed that the Site Maintenance Department also provides support for larger maintenance projects such as piping, pump, gearbox, and electric motor repairs or replacement, which ensures maintenance of the Authorized Works. PKM has been found to be compliant with the requirement to inspect and maintain their Authorized Works.</p> <p>Mr. Mullen confirmed that there were no emergencies during the Inspection Period, as such compliance with this portion of Section 2.1 is not applicable at the time of this inspection.</p>
Compliance:	In

Requirement Description:	<p><b>2. GENERAL REQUIREMENTS. 2.2 Bypasses</b></p> <p>2.2: Any bypass of the authorized works is prohibited unless the approval of the Director is obtained and confirmed in writing.</p>
Details/Findings:	<p>In the March 19, 2020, Email, Mr. Mullen confirmed that "There have been no bypasses regarding the treatment works since the last inspection". As such, compliance with this Section is not applicable for this Inspection Period.</p>
Compliance:	Not Applicable

Requirement Description:	<p><b>2. GENERAL REQUIREMENTS. 2.3 Transfer of Authorization</b></p> <p>2.3: A transfer of a Permit or Approval is without effect unless a Director has consented in writing to the transfer.</p>
Details/Findings:	<p>Officer Jeffery reviewed the Ministry's Authorizations Management System (AMS) and confirmed that there were no requests made by PKM, or approved by the Ministry, for a transfer of Permit within the Inspection Period, as such compliance with this condition is not applicable at the time of Inspection.</p>
Compliance:	Not Applicable



Requirement Description:	<b>2. GENERAL REQUIREMENTS. 2.4 Process Modifications</b> 2.4: The Director must be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge. Despite notification under this Section, Permitted levels must not be exceeded.
Details/Findings:	In the March 19, 2020, Email, Mr. Mullen confirmed that there were no changes of the authorized treatment works since the last inspection, as such compliance with this condition is Not Applicable for the Inspection Period.
Compliance:	Not Applicable
Actions to be taken:	It is noted that PKM made reference in their NCR submissions to potential future chemical trials at the berth 4/5 water treatment plant in order to increase the removal of contaminants and reduce TSS concentrations. PKM is reminded to contact the Ministry, via the following link, prior to implementing any changes that may adversely affect the quality of the discharge: <a href="https://forms.gov.bc.ca/environment/wda-enquiry/">https://forms.gov.bc.ca/environment/wda-enquiry/</a>

Requirement Description:	<b>2. GENERAL REQUIREMENTS. 2.5 Solids Disposal</b> 2.5: Solids or sludge from effluent treatment works must be reused as product material or, alternatively, it must be disposed of at a site and in a manner authorized by the Director.
Details/Findings:	In the March 19, 2020, Email, Mr. Mullen confirmed that, where possible, "the solids that accumulate at the Berth #1 water treatment plant ( the works associated with Outfall E105980) are dewatered, assayed for material composition and quality assurance purposes and are then returned into the stockpiles located inside the metals concentrates storage sheds to be reintroduced as product.  The solids that accumulate at the Berth #4/5 water treatment plant (the works associated with Outfall E105981) are dewatered and are then either segregated into an off specification product stockpile for sale at a discounted price or if not suitable for shipment as product the residues are sampled and laboratory tested for material composition/characterization purposes, reclaimed, typically stabilized with cement powder and then shipped offsite for disposal at a landfill facility permitted by the Ministry of Environment and Climate Change Strategy." Mr. Mullen provided copies of Permits and Operating Certificates for the following receiving sites:  - Mission Landfill (Ministry Authorization 105058) - Summit Earthworks Inc. (Ministry Authorization 107108) - Tervita Bioremediation Facility - Richmond (Registration 100072, for solids exceeding Industrial Land Standards, under the BC Contaminated Sites Regulation)
Compliance:	In

Requirement Description:	<b>3. SAMPLING REQUIREMENTS. 3.1 Sampling Procedures</b> 3.1: Sampling is to be carried out in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013 Edition", or most recent edition, or by suitable alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at <a href="http://www.env.gov.bc.ca/epd/wamr/labsys/lab_meth_manual.html">www.env.gov.bc.ca/epd/wamr/labsys/lab_meth_manual.html</a> . Continuous pH monitoring must be carried out using a monitor with digital recorder, or an alternate method, acceptable to the Director.
Details/Findings:	On request, Mr. Mullen was able to provide Officer Jeffery with records of continuous pH monitoring. However, as Officer Jeffery was not present on site to observe effluent sampling procedures, compliance with this Section cannot be determined for this Inspection Period.
Compliance:	Not Determined

Requirement Description:	<b>3. SAMPLING REQUIREMENTS. 3.4 Grab Sampling</b> 3.4: A suitable sampling facility must be installed, and a grab sample of the effluent must be obtained as specified in Section 3.5. Proper care must be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.
Details/Findings:	Officer Jeffery conducted a review of the quarterly water sampling data from within the Inspection Period and found that PKM collected grab samples at the frequency required by Section 3.5. No issues around sample handling were identified within the Inspection Period.
Compliance:	In

Requirement Description:	<p><b>3. SAMPLING REQUIREMENTS. 3.5 Analysis</b></p> <p>3.5: Obtain analysis of the sample for the following:</p> <table border="0"> <thead> <tr> <th>PARAMETER; Frequencies: (Units are in mg/L except for pH and toxicity)</th> <th colspan="2">Sampling Locations and</th> </tr> <tr> <th></th> <th>1.1</th> <th>1.2 ;</th> </tr> </thead> <tbody> <tr> <td>pH(1)</td> <td>Cont.</td> <td>Cont.</td> </tr> <tr> <td>Total Suspended Solids</td> <td>M</td> <td>M</td> </tr> <tr> <td>Dissolved Metals(2) (Cu, Fe, Pb, and Zn)</td> <td>M</td> <td>M</td> </tr> <tr> <td>Total Metals (Cu, Fe, Pb, and Zn)</td> <td>M</td> <td>M</td> </tr> <tr> <td>Oil and Grease</td> <td>M</td> <td>M</td> </tr> <tr> <td>Total Organic Carbon</td> <td>M</td> <td>M</td> </tr> <tr> <td>Total Phosphate phosphorus</td> <td>---</td> <td>M</td> </tr> <tr> <td>Toxicity</td> <td>M</td> <td>M</td> </tr> </tbody> </table> <p>Notes: Cont = continuous monitoring. ; M = monthly grab sample. ;  (1) From the continuous pH monitoring, the Permittee must record all pH readings that are outside the allowable pH range, when they occurred, the maximum and minimum pH values during each excursion period and the duration of the excursions (in hours and as a percentage of discharge time in each quarter). In addition, the Permittee must measure and record the pH of effluent discharges authorized in Sections 1.1 and 1.2 when grab samples are taken. ;  (2) For samples with pH greater than 8.5, the dissolved metals must be analyzed on both un-neutralized samples and samples that have been neutralized to pH 7.5 (<math>\pm 1.0</math> pH units of HCl or NaOH). The normality of reagents used for pH adjustments must be within the range of 1N to 6N. Data from un-neutralized samples must be used for Permit compliance assessments. ; (See PDF 1386 Section 3.5 Table 1)</p>	PARAMETER; Frequencies: (Units are in mg/L except for pH and toxicity)	Sampling Locations and			1.1	1.2 ;	pH(1)	Cont.	Cont.	Total Suspended Solids	M	M	Dissolved Metals(2) (Cu, Fe, Pb, and Zn)	M	M	Total Metals (Cu, Fe, Pb, and Zn)	M	M	Oil and Grease	M	M	Total Organic Carbon	M	M	Total Phosphate phosphorus	---	M	Toxicity	M	M
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Total Phosphate phosphorus	---	M																													
Toxicity	M	M																													
Details/Findings:	<p>Officer Jeffery conducted a review of the quarterly water sampling data from within the Inspection Period and found that PKM had grab sample parameters analyzed at the frequency required by Section 3.5.</p> <p>Furthermore, Officer Jeffery confirmed that PKM measured and recorded the pH of effluent discharges when grab samples were taken. As all reported samples had a pH greater than 8.5, the dissolved metals were analyzed on both un-neutralized samples and samples that were neutralized to pH 7.5. Data from un-neutralized samples was used to assess compliance with the Permit.</p>																														
Compliance:	In																														



Requirement Description:	<b>3. SAMPLING REQUIREMENTS. 3.6 Toxicity Analyses</b> 3.6: Unless otherwise specified by the Director, analyses for determining the toxicity for liquid effluent to fish must be carried out in accordance with the procedures described in Section 3.2, with the exception that if the initial pH of the bioassay sample is greater than 8.5, the pH of each effluent concentration used in the tests may be adjusted to and maintained at pH = 7.5 ( $\pm 1.0$ pH unit) with HCl or NaOH. The normality of reagents used for pH adjustment must be within the range of 1N to 6N.
Details/Findings:	Officer Jeffery conducted a review of the toxicity analyses completed by Nautilus Environmental (Nautilus) within the Inspection Period and found that Nautilus assessed toxicity by conducting 96 hour LC50 tests on rainbow trout, which is listed as an approved analysis procedure in the British Columbia Environmental Laboratory Manual. Therefore, PKM is found to be in compliance with this requirement.
Compliance:	In

Requirement Description:	<b>4. OPERATIONAL REQUIREMENTS FOR EFFLUENT DISCHARGE. 4.1 Flow Measurement</b> 4.1: Provide and maintain a suitable flow measuring device and record once per day the effluent volume discharged over a 24-hour period for the discharges specified in Sections 1.1 and 1.2.
Details/Findings:	Officer Jeffery conducted a file review of flow data submitted within the Inspection Period and confirmed that PKM did record once per day the effluent volume discharged over a 24-hour period for the discharges specified in Sections 1.1 and 1.2.  In the March 19, 2020, Email, Mr. Mullen provided photographs and details for both flow meters. A level transducer is used in conjunction with a v-notch weir in order to measure the effluent volume discharged over a 24-hour period for the discharges specified in Sections 1.1 and 1.2
Compliance:	In

Requirement Description:	<p><b>5. REPORTING REQUIREMENTS. 5.1 Reporting</b></p> <p>5.1: Maintain data of analyses, lab quality assurance data and flow and field measurements for inspection and submit the data, suitably tabulated, to the Director, for the previous quarter. All reports must be submitted within 31 days of the end of the reporting period. The Permittee must keep continuous pH measurement charts for the discharges authorized in Sections 1.1 and 1.2 available for inspection. Each report must include a statement outlining the number of exceedances of Permitted levels that occurred during the reporting period. The dates of the exceedances must be clearly identified in the data submission and an explanation as to the cause of the exceedances and a description of the measures taken to rectify the situation must be provided. Should no exceedances have occurred over the reporting period, a statement to that effect must be included. Sample analysis data and field measurement data must be submitted in an electronic format and entered into the provincial database system known as EMS (Environmental Monitoring System) within 30 days after the sampling date.</p>
Details/Findings:	<p>Officer Jeffery reviewed the Quarterly Reports submitted within the Inspection Period and confirmed that reports were submitted within the required 31 days post-reporting period, contained all lab quality assurance data and flow measurements, and contained explanations &amp; dates for each exceedance within the quarter. On request, PKM also produced records of continuous pH monitoring charts for the discharges authorized in Sections 1.1 and 1.2, as required by this condition.</p> <p>Mr. Mullen confirmed that ALS Canada Inc. is currently uploading quarterly data to the Ministry's EMS on behalf of PKM Canada Marine Terminal LP although this process has only been implemented recently. PKM is also coordinating with ALS to conduct an upload of historic environmental monitoring data as detailed in the EMS Correspondence document provided to Officer Jeffery by Mr. Mullen on March 19, 2020. As the current process to upload historic data into EMS was initiated within the Inspection Period but it still ongoing, and data received during the Inspection Period was not always entered into EMS within the required 30 days post-sampling, PKM has been found to be out of compliance with this Section for the Inspection Period.</p>
Compliance:	Out
Actions to be taken:	Moving forward, ensure that data is entered into the provincial EMS system within 30 after the sampling date.

Requirement Description:	<b>5. REPORTING REQUIREMENTS. 5.2 Non-compliance Reporting</b> 5.2: The Permittee must immediately notify the Director or designate of any non-compliance with the requirements of this Permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director, Environmental Protection. Within 30 days of the non-compliant event, the Permittee must submit to the Director, Environmental Protection, a written report including, but not necessarily limited to, the following: (a.) all relevant test results related to the non-compliance. ; (b.) an explanation of the most probable cause(s) of the non-compliance. ; and (c.) remedial action planned and/or taken to prevent similar non-compliance(s) in the future.
Details/Findings:	Officer Jeffery conducted a review of the non-compliance notifications submitted within the Inspection Period and can confirm that, except for 1 event where test results were received on April 16, 2019, and not reported to the Ministry until April 29, 2019, written non-compliance notifications, including available test results, were reported to the Ministry immediately after any non-compliance was identified by PKM (see Attachment 1) .  Follow-up written non-compliance reports (NCR's) were typically submitted by PKM, each with all the requirements of Section 5.2 (a-c). However, as 4 of the reports were not submitted within 30 days of the non-compliant event (see Attachment 1), PKM has been found to be out of compliance with the requirements of this Section.
Compliance:	Out

Requirement Description:	<b>5. REPORTING REQUIREMENTS. 5.3 Non-compliance Reporting of Toxicity</b> 5.3: Immediately notify the Director of any toxicity failures.
Details/Findings:	Within the Inspection Period, there was 1 instance of toxicity failure on January 10, 2018, which was addressed through a previous Inspection Report issued by the Ministry (IR076487) and is not being assessed as part of this report. As there were no other instances of toxicity failure within the Inspection Period, compliance with this condition is not applicable at this time.
Compliance:	Not Applicable

Requirement Description:	<b>5. REPORTING REQUIREMENTS. 5.4 Spill Reporting</b> 5.4: All spills to the environment (as defined in the Spill Reporting Regulation) must be reported immediately in accordance with the Spill Reporting Regulation. Notification shall be via the Provincial Emergency Program at 1-800-663-3456.
Details/Findings:	Officer Jeffery reviewed the correspondence on file with the Ministry and identified one spill to the environment on August 15, 2019 (DGIR 191655). Mr. Mullen confirmed in the March 19, 2020, Email that there had been an additional two spills within the Inspection Period on October 31 and December 16, 2018, DGIR's 180633 and 183606, respectively. Mr. Mullen confirmed that all spills were reported immediately in accordance with the Spill Reporting Regulation and that notification was given via the Provincial Emergency Program phone number listed in the Permit.
Compliance:	In

Requirement Description:	<b>5. REPORTING REQUIREMENTS. 5.5 Additional Toxicity Monitoring</b> 5.5: For the discharges described in Sections 1.1.3 and 1.2.3 rainbow trout toxicity testing must be increased from once per month to once per week if a sample of effluent fails the rainbow trout toxicity test. For the purpose of this Section, a sample is considered to have failed if more than 50% of the test fish die in a 100% effluent solution. Samples must continue to be collected and tested on one day each week until they pass three consecutive tests, at which time testing can revert to once per month. For rainbow trout, 96-hour single-concentration toxicity tests, the percent of fish survival after 96 hours in the undiluted sample must also be recorded.
Details/Findings:	Within the Inspection Period, there was 1 instance of toxicity failure on January 10, 2018, which was addressed through a previous Inspection Report issued by the Ministry (IR076487) and is not being assessed as part of this report. As there were no other instances of toxicity failure within the Inspection Period, compliance with this condition is not applicable at this time.
Compliance:	Not Applicable

Requirement Description:	<b>6. ADDITIONAL STUDIES. 6.1 Further Information Required</b> 6.1: Additional studies are required to evaluate whether the current permitted discharge limits for discharge 1.1 and 1.2 are fully protective of the marine receiving environment. Determining if existing permit limits are appropriate and protective is not possible due to a lack of receiving environment monitoring data. Retain an appropriately qualified professional to design and implement a study to evaluate existing effluent quality and to conduct dilution modelling at the edge of the initial dilution zone for discharge 1.1 and 1.2. This study should include but not be limited to: (a) conduct dilution modelling and calculate if existing permit limits are protective of marine aquatic life. ; (b) if existing permit limits are found to not be fully protective for marine aquatic life, investigate the potential impact of effluent on marine aquatic life and recommend protective effluent limits. ; (c) examine a background site in Burrard Inlet as a comparison and comment on the potential impact of cumulative impacts on the dilution models. ; (d) consider the influence of various tidal conditions and tidal influences on effluent mixing and dispersion. ; and (e) conduct modelling on both total and dissolved metals to determine if permit limits should be changed from dissolved to total metals. ; Study is to be initiated within one year and completed within two years of permit amendment date. Study design to be reviewed by the Director prior to implementation. Results of the study must be submitted and reviewed by the Director to determine whether further receiving environment monitoring is required and to determine if changes to existing discharge parameters are needed for protection of marine aquatic life.
Details/Findings:	Officer Jeffery reviewed the correspondence on file and confirmed that Kinder Morgan (former authorization holder) submitted the report titled "Final Effluent Quality and Dilution Study" and dated July 5, 2017, to the Ministry via email on July 6, 2017. The report is currently under review by the Ministry and Mr. Mullen confirmed that PKM has not received any further comment on the report contents. No compliance assessment has been made to determine if the study includes the listed requirements of (a) to (e). As the Ministry will determine whether further receiving environment monitoring is required and if changes to existing discharge parameters are needed for protection of marine aquatic life, compliance with this condition cannot be determined at the time of this inspection.
Compliance:	Not Determined

The Ministry of Environment Compliance and Enforcement Policy and Procedure (C&E Policy) document prescribes common requirements and procedures for all Ministry staff to ensure consistent and risk based assessment and response to non-compliance. The compliance determination for this inspection has been assessed as a **Level 1, Category B, Advisory**.

Compliance History:

2018-01-16 - IR76487 - Level 2, Category B, Warning - 1.1.3 - Failure to meet discharge characteristic requirements, 5.2 - Exceeded 30-day period for submission of non-compliance written report  
2017-11-27 - IR74047 - Level 1, Category B, Advisory - 1.2.3 - Failure to meet discharge characteristic requirements, 2.2 - Unauthorized bypasses, 3.5 - Failure to analyze all required parameters, 5.1 - Failure to submit laboratory quality assurance data certificates and failure to upload analysis data to the Ministry's Environmental Monitoring System (EMS)  
2017-03-13 - IR48798 - Level 1, Category A, Advisory - (Office Inspection of 2014 Q4 Data) - 5.1 - Failure to submit laboratory quality assurance data certificates  
2017-03-13 - IR48796 - Level 2, Category A, Advisory - (Office Inspection of 2015 Q4 Data) - 1.2.3 - Failure to meet discharge characteristic requirements, 5.1 - Failure to submit laboratory quality assurance data certificates

More information about Environmental Compliance, the Non-Compliance Decision Matrix, and reporting and data submission requirements can be found at the links below:

General compliance information:

[www.gov.bc.ca/environmentalcompliance](http://www.gov.bc.ca/environmentalcompliance)

Non-Compliance Decision Matrix information:

[www.gov.bc.ca/environment/how-compliance-is-assessed](http://www.gov.bc.ca/environment/how-compliance-is-assessed)

Reporting and data submission requirements (to be sent to [EnvAuthorizationsReporting@gov.bc.ca](mailto:EnvAuthorizationsReporting@gov.bc.ca)):

[www.gov.bc.ca/submit-waste-authorization-reports](http://www.gov.bc.ca/submit-waste-authorization-reports)

Please be advised that this inspection report may be published on the provincial government website within 7 days.

Below are attachments related to this inspection.

If you have any questions about this letter, please contact the undersigned.

Yours truly,

Michael Jeffery  
Environmental Protection Officer

cc: [AMullen@pembina.com](mailto:AMullen@pembina.com);  
[CaWeston@pembina.com](mailto:CaWeston@pembina.com)

**Attachments:**

1) Attachment 1 - Non-Compliance Summary.pdf      Attachment 1 -  
Non-Compliance Summary

**Deliver via:**

Email:       Fax:       Mail:   
Registered Mail:       Hand Delivery:

**Ministry of Environment  
and Climate Change  
Strategy**

Compliance  
Environmental  
Protection Division

Mailing Address:  
2nd Fl  
10470-152nd St  
Surrey BC V3R 0Y3

Telephone: 604 582 5200  
Facsimile: 604 930 7119  
Website: [www.gov.bc.ca/env](http://www.gov.bc.ca/env)

**DISCLAIMER:**

Please note that sections of the permit, regulation or code of practice referenced in this inspection record are for guidance and are not the official version. Please refer to the original permit, regulation or code of practice.

To see the most up to date version of the regulations and codes of practices please visit  
<http://www.bclaws.ca>

If you require a copy of the original permit, please contact the inspector noted on this inspection record.

It is also important to note that this inspection record does not necessarily reflect each requirement or condition of the authorization therefore compliance is noted only for the requirements or conditions listed in the inspection record.



**Attachment 1 - Permit #1386 Non-Compliance Events (January 1, 2018 - December 31, 2019) \***

Outfall	Non-Compliance Event	Permitted Limit (mg/L)	Sample Results (mg/L)	Event Date	Results Received	Notification Date	Follow-up Report	
							Submission Date	Within 30 Days
1.2 - E105981	Monthly grab TSS sample exceeded permit limit	50	50.5	8-Jan-18	19-Jan-18	22-Jan-18	Not submitted	No
1.2 - E105981	Monthly grab TSS sample exceeded permit limit	50	60.2	11-Jun-18	25-Jun-18	25-Jun-18	11-Jul-18	Yes
1.2 - E105981	Potential NC, continuous TSS monitor lost signal	N/A	N/A	20-Aug-18	N/A	20-Aug-18	20-Sep-18	Yes
1.2 - E105981	Calibration TSS sample exceeded permit limit	50	54.4	23-Aug-18	27-Aug-18	27-Aug-18	20-Sep-18	Yes
1.2 - E105981	Monthly grab TOC sample exceeded permit limit	10	10.3	25-Sep-18	27-Sep-18	28-Sep-18	24-Oct-18	Yes
1.2 - E105981	Monthly grab TSS and TOC samples exceeded permit limit	50 (TSS) / 10 (TOC)	59.7 / 14.0	10-Jan-19	22-Jan-19	23-Jan-19	9-Mar-19	No
1.2 - E105981	Monthly grab TSS sample exceeded permit limit	50	56.8	7-Feb-19	12-Feb-19	12-Feb-19	9-Mar-19	No
1.1 - E105980	Continuous pH monitoring potentially not accurate	N/A	N/A	12-Mar-19	12-Mar-19	12-Mar-19	8-Apr-19	Yes
1.2 - E105981	Monthly grab TOC sample exceeded permit limit	10	12.9	4-Apr-19	16-Apr-19	29-Apr-19	6-May-19	No
1.2 - E105981	Monthly grab TOC sample exceeded permit limit	10	19.9	13-Sep-19	26-Sep-19	26-Sep-19	11-Oct-19	Yes
1.2 - E105981	Monthly grab TOC sample exceeded permit limit	10	10.5	7-Oct-19	17-Oct-19	17-Oct-19	7-Nov-19	Yes
1.2 - E105981	Monthly grab TOC sample exceeded permit limit	10	12.9	18-Nov-19	27-Nov-19	27-Nov-19	17-Dec-19	Yes

\* This record does not include the January 10, 2018, toxicity failure which was addressed in a previously issued Inspection Report (IR076487) dated April 13, 2018.