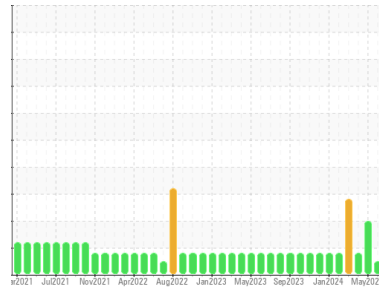


# OIL ANALYSIS REPORT

Area  
**Irrington**  
 Machine Id  
**Unit 02 DB060102E**  
 Component  
**Natural Gas Engine**  
 Fluid  
**PETRO CANADA DURON MONOGRADE HD 40W (250 GAL)**

Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
 Resample at the next service interval to monitor. ( Customer Sample Comment: Top Up Amount: 76 GAL-drained oil due to water pump failure )

**Wear**  
 All component wear rates are normal.

**Contamination**  
 Fuel content negligible. There is no indication of any contamination in the oil.

**Fluid Condition**  
 The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PCA0105156</b>	PCA0105158	PCA0105160
Sample Date	Client Info		<b>26 Jun 2024</b>	06 May 2024	11 Apr 2024
Machine Age	hrs	Client Info	<b>28551</b>	28397	28208
Oil Age	hrs	Client Info	<b>20123</b>	19969	19780
Oil Changed	Client Info		<b>Oil Added</b>	Oil Added	Oil Added
Sample Status			<b>NORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	<b>2</b>	15	15
Chromium	ppm	ASTM D5185m >4	<b>4</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >9	<b>&lt;1</b>	<1	2
Lead	ppm	ASTM D5185m >30	<b>3</b>	12	15
Copper	ppm	ASTM D5185m >35	<b>4</b>	12	14
Tin	ppm	ASTM D5185m >4	<b>0</b>	2	4
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>6</b>	12	14
Barium	ppm	ASTM D5185m	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	<b>5</b>	4	5
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>887</b>	730	878
Calcium	ppm	ASTM D5185m	<b>1043</b>	1033	1291
Phosphorus	ppm	ASTM D5185m	<b>1094</b>	848	1047
Zinc	ppm	ASTM D5185m	<b>1236</b>	1020	1307
Sulfur	ppm	ASTM D5185m	<b>3482</b>	2132	2622

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	<b>8</b>	2	7
Sodium	ppm	ASTM D5185m	<b>11</b>	7	5
Potassium	ppm	ASTM D5185m >20	<b>3</b>	<1	2
Fuel	%	ASTM D3524 >4.0	<b>1.0</b>	▲ 4.6	▲ 5.2

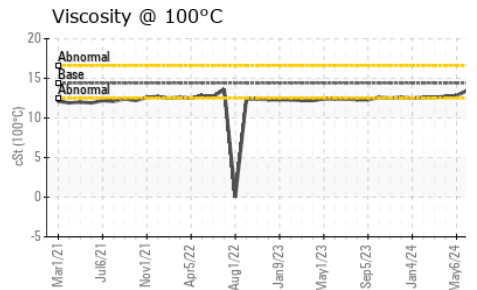
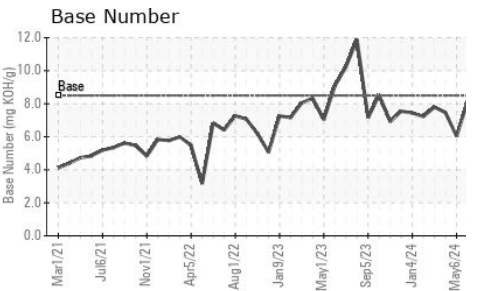
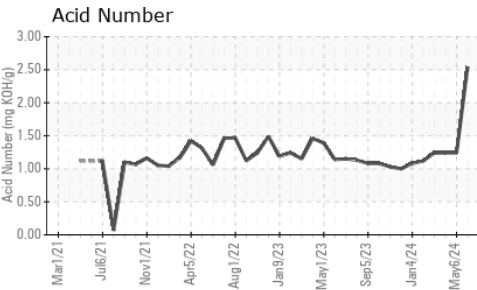
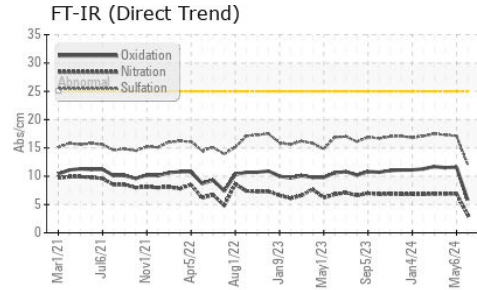
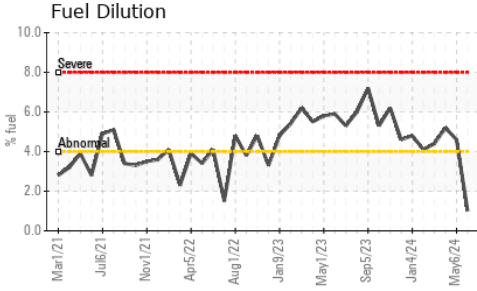
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>3.2</b>	6.9	6.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>12.1</b>	17.1	17.3

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>5.8</b>	11.6	11.5
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>2.54</b>	1.24	1.24
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>8.10</b>	6.04	7.46

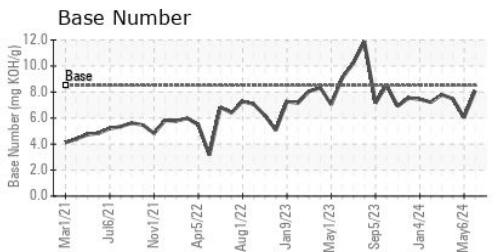
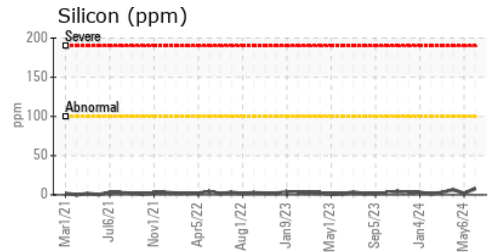
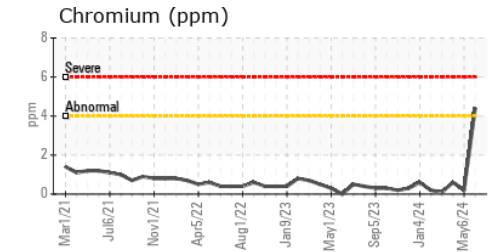
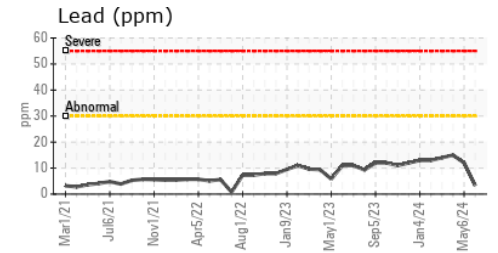
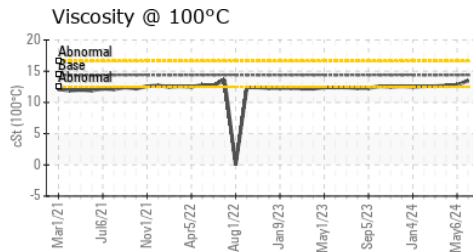
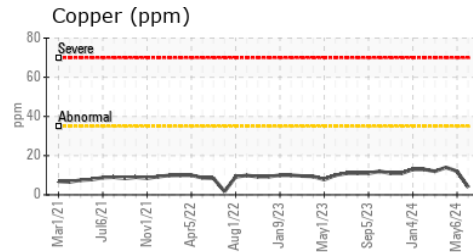
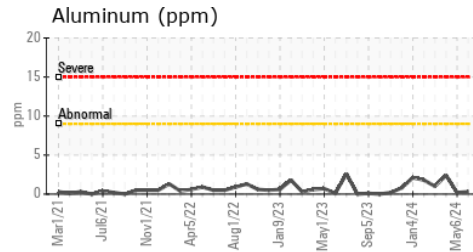
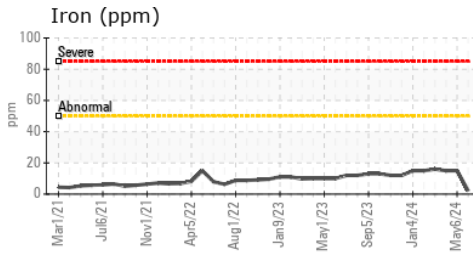
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>NONE</b>	▲ MODER	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.5</b>	12.8	12.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0105156 **Received** : 28 Jun 2024  
**Lab Number** : 06223633 **Tested** : 02 Jul 2024  
**Unique Number** : 11101830 **Diagnosed** : 03 Jul 2024 - Jonathan Hester  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

**Magellan Midstream LP - Omaha**  
 9405 Bennington Road  
 Omaha, NE  
 US 68122  
 Contact: Zach Jones  
 zach.jones@magellanlp.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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