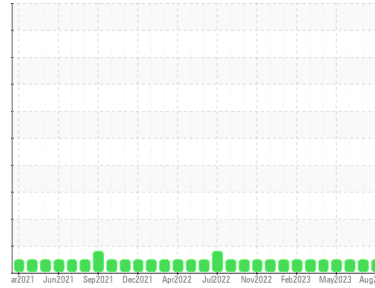


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**Irvington**  
Machine Id  
**Unit 03 DB060103E**

Component  
**Natural Gas Engine**  
Fluid  
**PETRO CANADA DURON MONOGRADE HD 40W (250 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Top Up Amount: 39 GAL )

### 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>PCA0082299</b>	PCA0082301	PCA0082297
Sample Date	Client Info	<b>14 Aug 2023</b>	11 Jul 2023	09 Jun 2023
Machine Age	hrs Client Info	<b>23249</b>	23037	22629
Oil Age	hrs Client Info	<b>23249</b>	23037	22629
Oil Changed	Client Info	<b>Oil Added</b>	Oil Added	Oil Added
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

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

## ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m		<b>1</b>	<1	<1
Barium ppm ASTM D5185m		<b>0</b>	0	0
Molybdenum ppm ASTM D5185m		<b>&lt;1</b>	3	4
Manganese ppm ASTM D5185m		<b>0</b>	0	0
Magnesium ppm ASTM D5185m		<b>888</b>	934	949
Calcium ppm ASTM D5185m		<b>1046</b>	1095	1103
Phosphorus ppm ASTM D5185m		<b>1067</b>	1130	1131
Zinc ppm ASTM D5185m		<b>1220</b>	1332	1334
Sulfur ppm ASTM D5185m		<b>3368</b>	3467	3644

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>+100	<b>1</b>	3	2
Sodium ppm ASTM D5185m		<b>&lt;1</b>	0	8
Potassium ppm ASTM D5185m	>20	<b>0</b>	1	0
Fuel % ASTM D3524	>4.0	<b>1.9</b>	1.4	1.8

## INFRA-RED

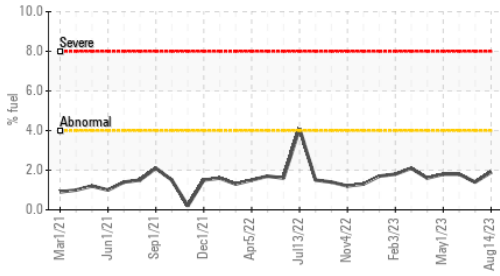
method	limit/base	current	history1	history2
Soot % *ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration Abs/cm *ASTM D7624	>20	<b>4.0</b>	4.4	4.5
Sulfation Abs/.1mm *ASTM D7415	>30	<b>12.9</b>	13.6	13.5

## FLUID DEGRADATION

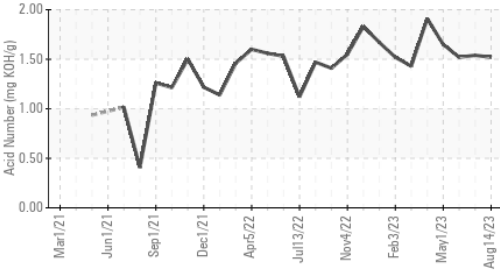
method	limit/base	current	history1	history2
Oxidation Abs/.1mm *ASTM D7414	>25	<b>6.8</b>	7.3	7.0
Acid Number (AN) mg KOH/g ASTM D8045		<b>1.52</b>	1.54	1.52
Base Number (BN) mg KOH/g ASTM D2896	8.5	<b>9.06</b>	9.45	9.27

# OIL ANALYSIS REPORT

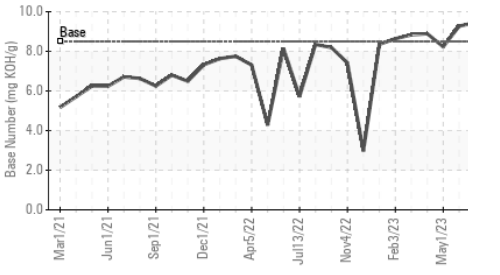
**Fuel Dilution**



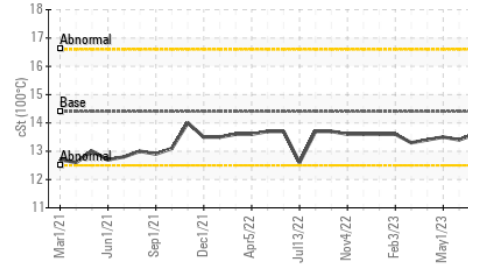
**Acid Number**



**Base Number**



**Viscosity @ 100°C**

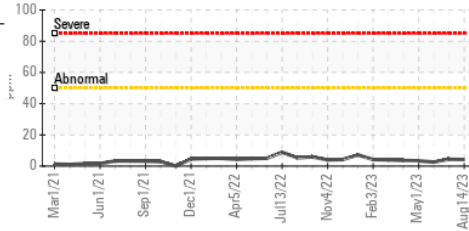


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

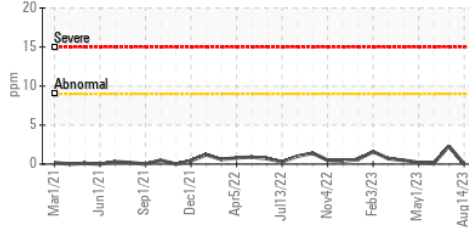
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.5</b>	13.6

## GRAPHS

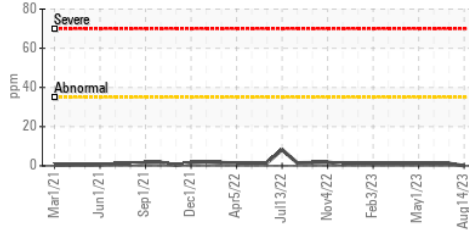
**Iron (ppm)**



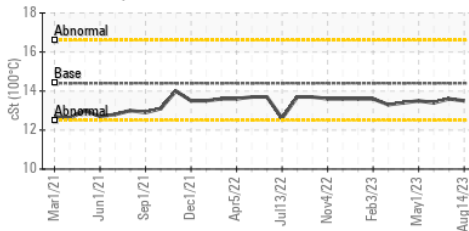
**Aluminum (ppm)**



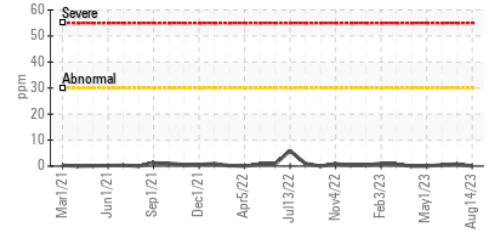
**Copper (ppm)**



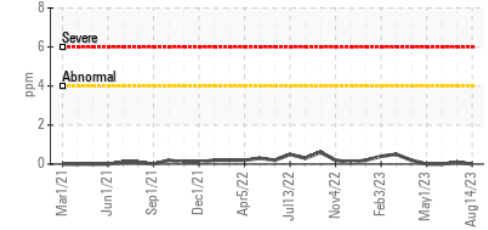
**Viscosity @ 100°C**



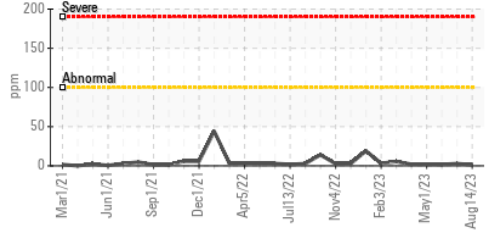
**Lead (ppm)**



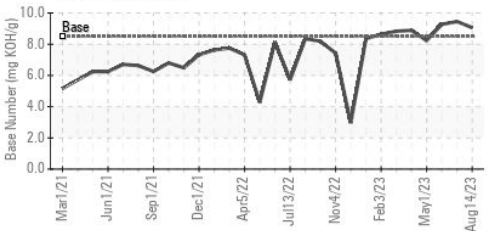
**Chromium (ppm)**



**Silicon (ppm)**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0082299 **Received** : 18 Aug 2023  
**Lab Number** : 05928409 **Diagnosed** : 21 Aug 2023  
**Unique Number** : 10608356 **Diagnostician** : Sean Felton  
**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)

T:  
F: