

# OIL ANALYSIS REPORT

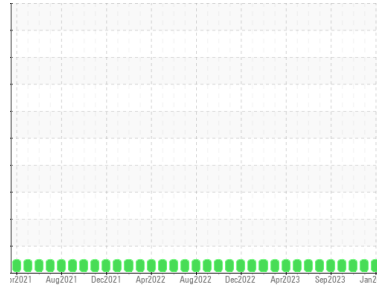
Sample Rating Trend

**NORMAL**



Area  
**FARIBAULT**  
Machine Id  
**[FARIBAULT] Unit 03 DB020103E**

Component  
**Natural Gas Engine**  
Fluid  
**PETRO CANADA DURON MONOGRADE HD 40W (350 GAL)**



## DIAGNOSIS

**Recommendation**  
Resample at the next service interval to monitor. ( Customer Sample Comment: 61 gallons of lube oil added this month. )

**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>PCA0098886</b>	PCA0098885	PCA0098882
Sample Date	Client Info	<b>25 Jan 2024</b>	28 Dec 2023	30 Nov 2023
Machine Age	hrs	<b>987</b>	408	11
Oil Age	hrs	<b>987</b>	408	11
Oil Changed	Client Info	<b>Oil Added</b>	Not Changd	Oil Added
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## 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>5</b>	5	5
Chromium	ppm ASTM D5185m >4	<b>&lt;1</b>	0	<1
Nickel	ppm ASTM D5185m >2	<b>0</b>	0	0
Titanium	ppm ASTM D5185m	<b>0</b>	0	<1
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >9	<b>2</b>	<1	<1
Lead	ppm ASTM D5185m >30	<b>&lt;1</b>	<1	0
Copper	ppm ASTM D5185m >35	<b>4</b>	3	<1
Tin	ppm ASTM D5185m >4	<b>0</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	<b>2</b>	2	2
Barium	ppm ASTM D5185m	<b>5</b>	0	0
Molybdenum	ppm ASTM D5185m	<b>2</b>	3	3
Manganese	ppm ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm ASTM D5185m	<b>896</b>	902	924
Calcium	ppm ASTM D5185m	<b>1025</b>	1024	992
Phosphorus	ppm ASTM D5185m	<b>1114</b>	1011	1029
Zinc	ppm ASTM D5185m	<b>1246</b>	1268	1305
Sulfur	ppm ASTM D5185m	<b>3390</b>	2991	3355

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	<b>5</b>	6	6
Sodium	ppm ASTM D5185m	<b>0</b>	1	2
Potassium	ppm ASTM D5185m >20	<b>1</b>	0	0
Fuel	% ASTM D3524 >4.0	<b>2.2</b>	1.4	0.4

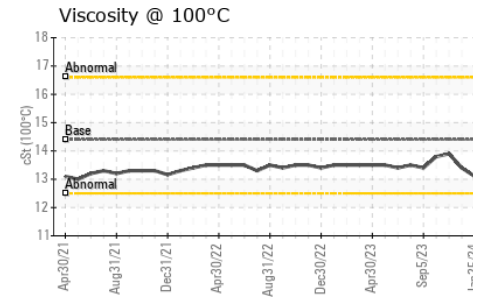
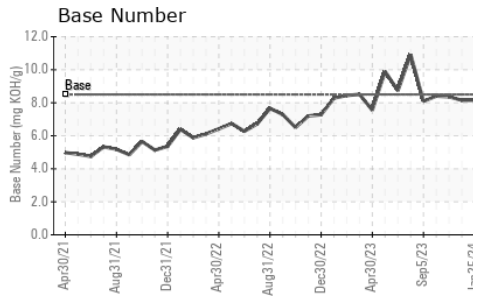
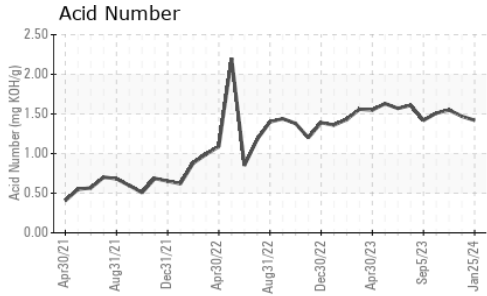
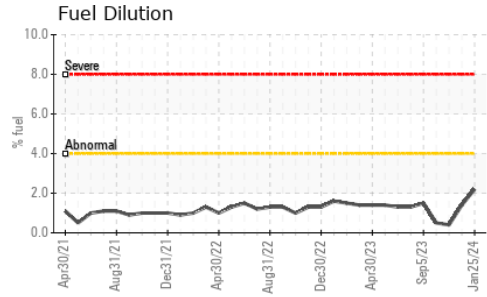
## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	<b>0</b>	0	0
Nitration	Abs/cm *ASTM D7624 >20	<b>3.7</b>	3.4	2.9
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>12.9</b>	12.5	12.0

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>6.7</b>	6.2	5.8
Acid Number (AN)	mg KOH/g ASTM D8045	<b>1.42</b>	1.47	1.55
Base Number (BN)	mg KOH/g ASTM D2896 8.5	<b>8.15</b>	8.15	8.36

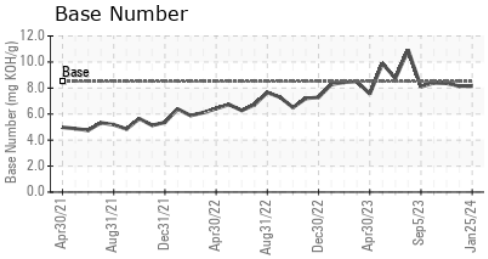
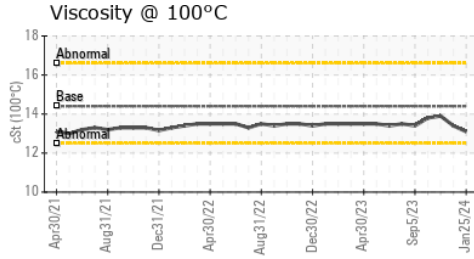
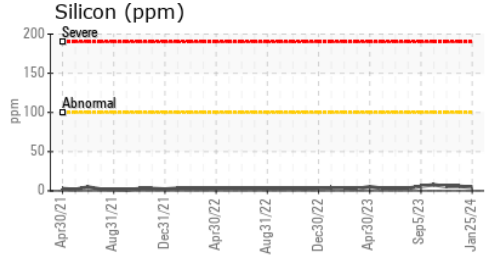
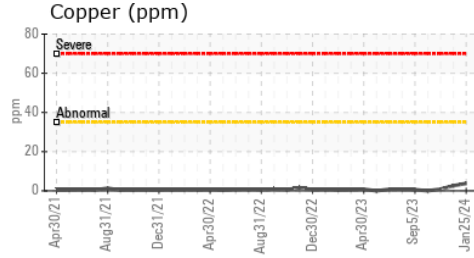
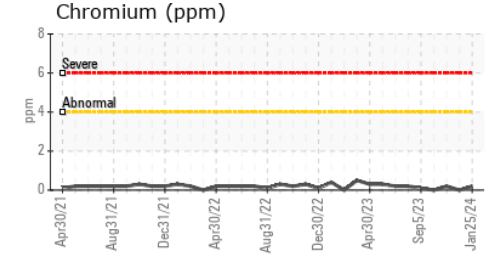
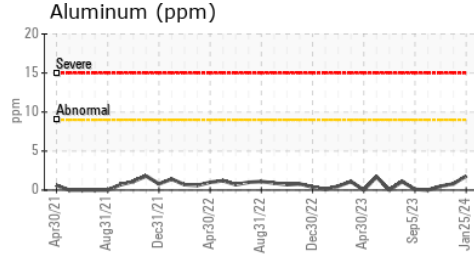
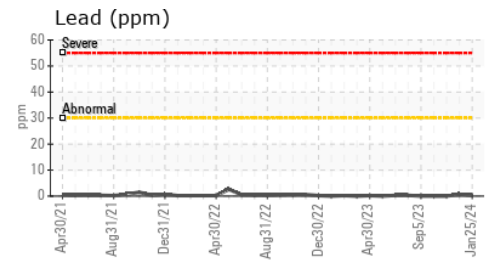
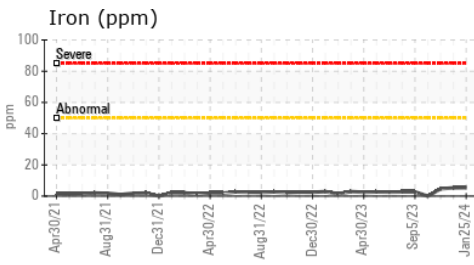
# OIL ANALYSIS REPORT



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>13.1</b>	13.4	13.9

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0098886 **Received** : 05 Feb 2024  
**Lab Number** : 06080901 **Tested** : 07 Feb 2024  
**Unique Number** : 10862992 **Diagnosed** : 07 Feb 2024 - Sean Felton  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

**Magellan Midstream LP - Faribault**  
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 Faribault, MN  
 US 55021  
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 T: (507)381-9649  
 F:

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)