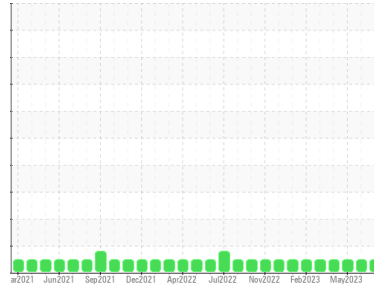


OIL ANALYSIS REPORT

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: 98 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	PCA0082301	PCA0082297	PCA0082295
Sample Date	Client Info	11 Jul 2023	09 Jun 2023	01 May 2023
Machine Age	hrs Client Info	23037	22629	22311
Oil Age	hrs Client Info	23037	22629	22311
Oil Changed	Client Info	Oil Added	Oil Added	Oil Added
Sample Status		NORMAL	NORMAL	NORMAL

WEAR METALS

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

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m		<1	<1	<1
Barium ppm ASTM D5185m		0	0	0
Molybdenum ppm ASTM D5185m		3	4	3
Manganese ppm ASTM D5185m		0	0	<1
Magnesium ppm ASTM D5185m		934	949	844
Calcium ppm ASTM D5185m		1095	1103	959
Phosphorus ppm ASTM D5185m		1130	1131	949
Zinc ppm ASTM D5185m		1332	1334	1087
Sulfur ppm ASTM D5185m		3467	3644	2793

CONTAMINANTS

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

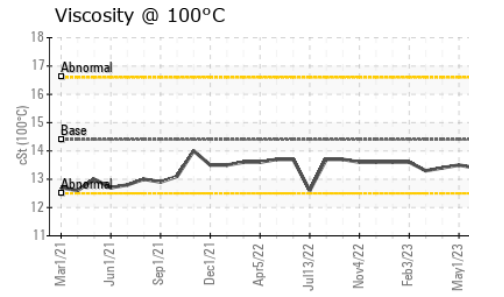
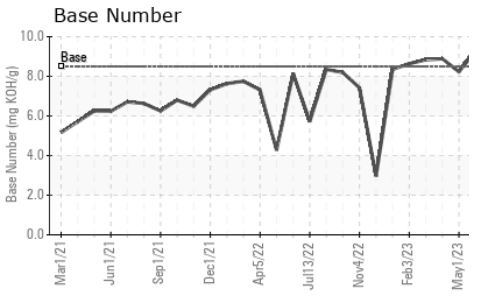
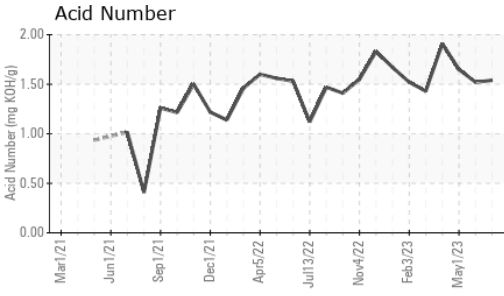
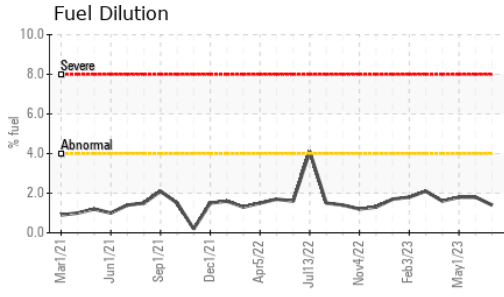
INFRA-RED

method	limit/base	current	history1	history2
Soot % *ASTM D7844		0.1	0.1	0.1
Nitration Abs/cm *ASTM D7624	>20	4.4	4.5	3.7
Sulfation Abs/.1mm *ASTM D7415	>30	13.6	13.5	11.8

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation Abs/.1mm *ASTM D7414	>25	7.3	7.0	6.6
Acid Number (AN) mg KOH/g ASTM D8045		1.54	1.52	1.65
Base Number (BN) mg KOH/g ASTM D2896	8.5	9.45	9.27	8.23

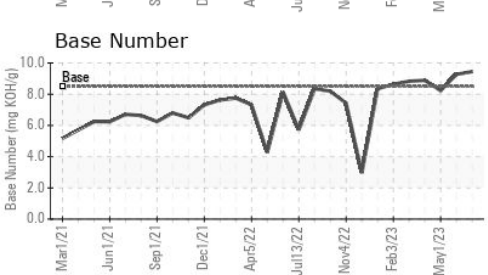
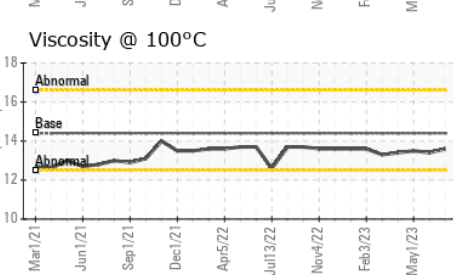
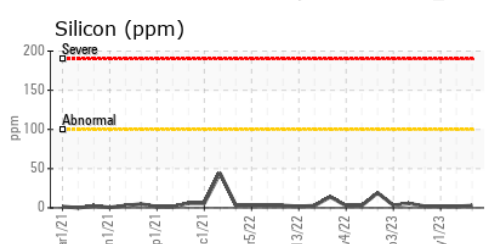
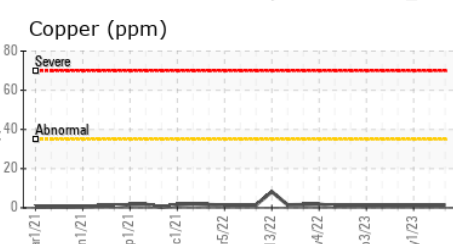
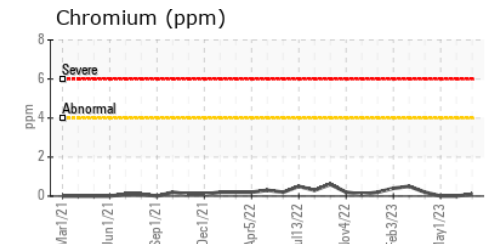
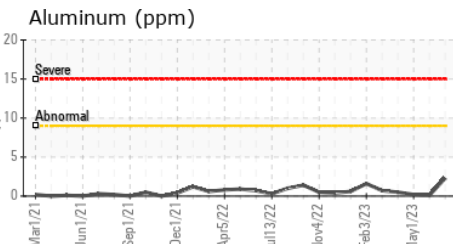
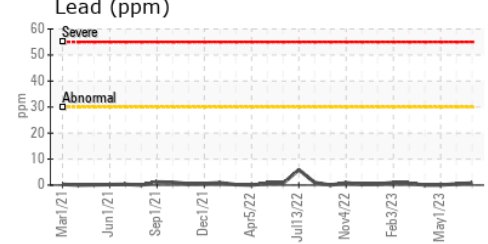
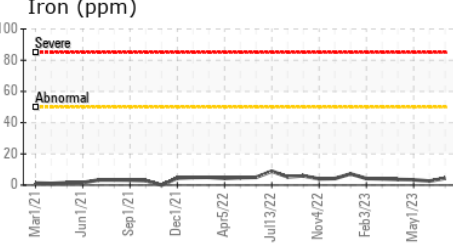
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
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	13.6	13.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0082301 **Received** : 18 Jul 2023
Lab Number : 05901449 **Diagnosed** : 20 Jul 2023
Unique Number : 10562805 **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)

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