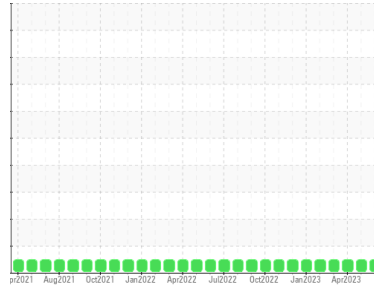


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
FARIBAULT
Machine Id
[FARIBAULT] Unit 04 DB020104E
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: 56 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	history 1	history 2
Sample Number	Client Info		PCA0098874	PCA0098872	PCA0088281
Sample Date	Client Info		30 Jun 2023	01 Jun 2023	30 Apr 2023
Machine Age	hrs	Client Info	13804	13737	13677
Oil Age	hrs	Client Info	13804	13737	13677
Oil Changed		Client Info	Oil Added	Oil Added	Oil Added
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	<1	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	2	2	2
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m	915	982	933
Calcium	ppm	ASTM D5185m	1130	1077	1079
Phosphorus	ppm	ASTM D5185m	1213	1191	1196
Zinc	ppm	ASTM D5185m	1356	1406	1405
Sulfur	ppm	ASTM D5185m	3433	3878	3622

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >+100	4	3	3
Sodium	ppm	ASTM D5185m	0	6	4
Potassium	ppm	ASTM D5185m >20	2	1	1
Fuel	%	ASTM D3524 >4.0	1.2	1.4	1.4

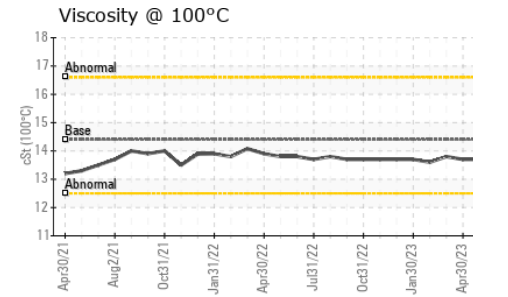
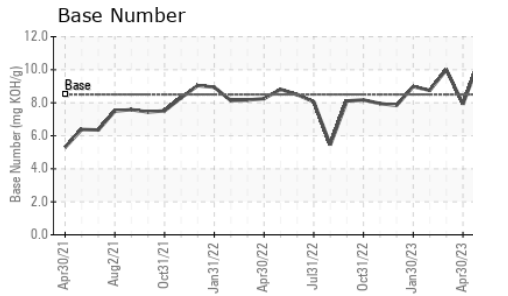
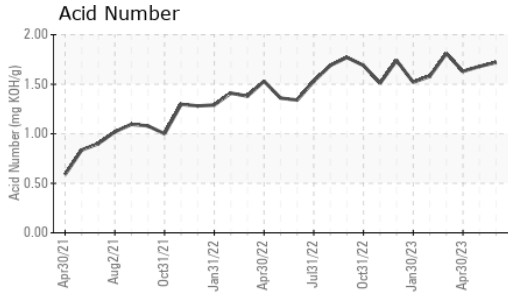
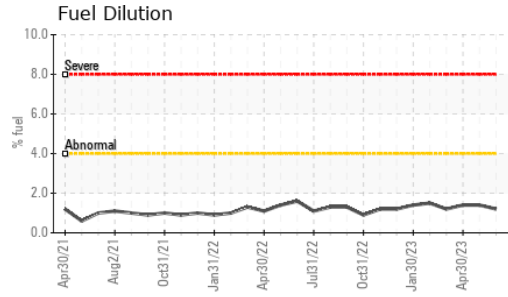
INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	3.8	3.7	3.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	13.2	13.2	11.6

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	6.6	6.5	6.2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.72	1.68	1.63
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	9.07	10.54	7.92

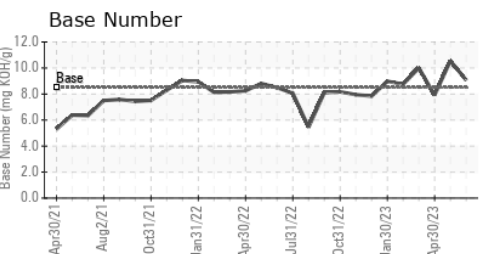
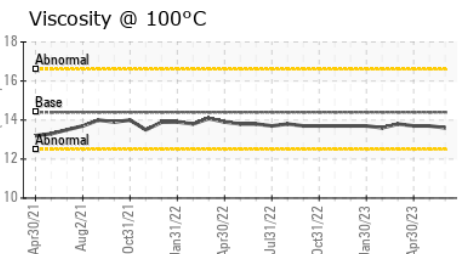
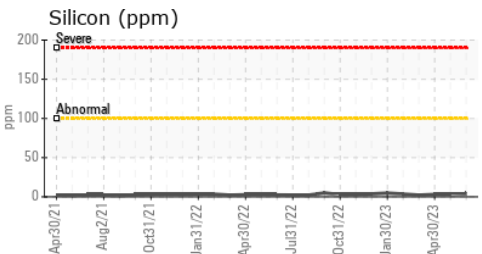
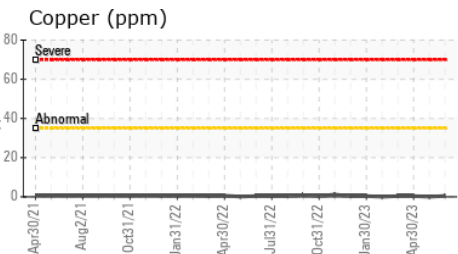
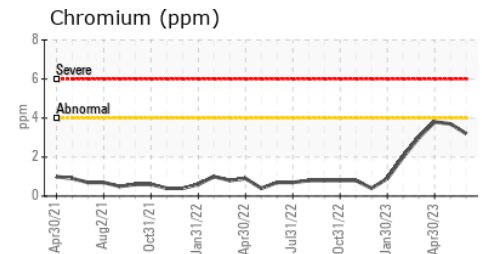
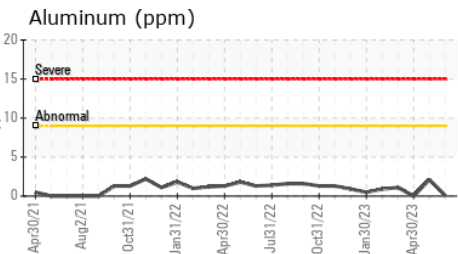
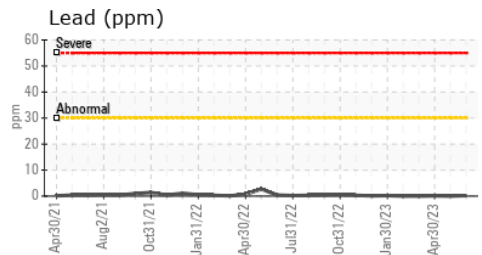
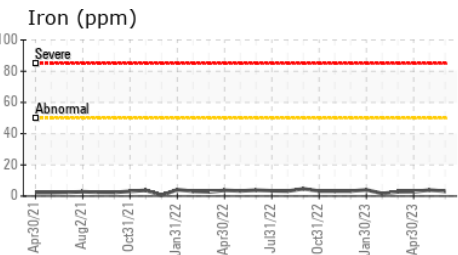
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0098874 **Received** : 07 Jul 2023
Lab Number : 05892971 **Diagnosed** : 11 Jul 2023
Unique Number : 10548781 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Magellan Midstream LP - Faribault
 22535 Bagley Avenue
 Faribault, MN
 US 55021
 Contact: Jon Coulter
 Jon.Coulter@magellanlp.com
 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)