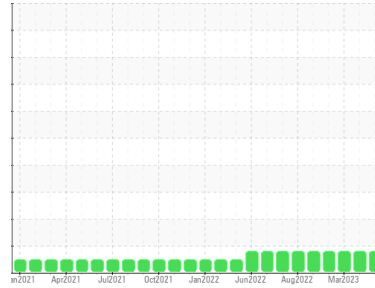


OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
INDEPENDENCE
Machine Id
Unit 04 DB200104E

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring.

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		PCA0097018	PCA0071483	PCA0071481
Sample Date	Client Info		03 Jul 2023	04 May 2023	01 Mar 2023
Machine Age	hrs	Client Info	12841	12760	12652
Oil Age	hrs	Client Info	12841	12760	12652
Oil Changed	Client Info		Oil Added	Not Changd	Filtered
Sample Status			MARGINAL	MARGINAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	15	17	13
Chromium	ppm	ASTM D5185m >4	<1	0	0
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >9	2	0	<1
Lead	ppm	ASTM D5185m >30	2	0	1
Copper	ppm	ASTM D5185m >35	2	2	2
Tin	ppm	ASTM D5185m >4	<1	0	<1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	6	4	4
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	4	8	3
Manganese	ppm	ASTM D5185m	<1	0	<1
Magnesium	ppm	ASTM D5185m	937	936	885
Calcium	ppm	ASTM D5185m	1061	1114	1073
Phosphorus	ppm	ASTM D5185m	1035	1055	992
Zinc	ppm	ASTM D5185m	1276	1319	1251
Sulfur	ppm	ASTM D5185m	3465	3275	3012

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	2	3	2
Sodium	ppm	ASTM D5185m	3	2	2
Potassium	ppm	ASTM D5185m >20	3	<1	0
Fuel	%	ASTM D3524 >4.0	▲ 3.5	▲ 3.6	▲ 4.1

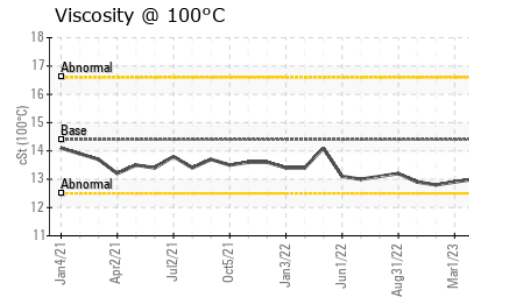
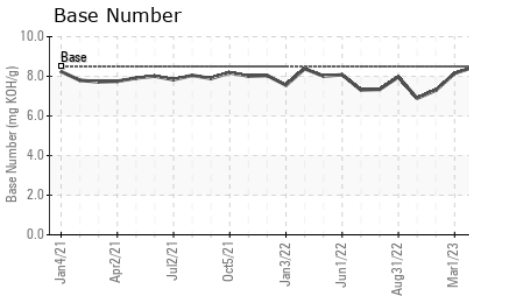
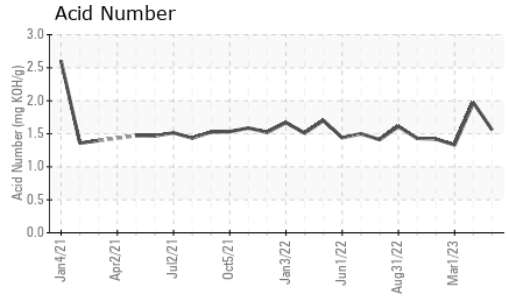
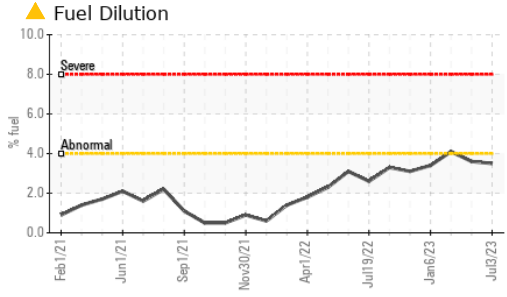
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	5.1	4.6	5.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	15.1	12.8	14.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	9.6	7.7	8.1
Acid Number (AN)	mg KOH/g	ASTM D8045	1.56	1.97	1.33
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	9.66	8.46	8.15

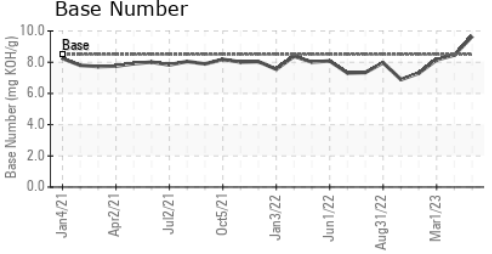
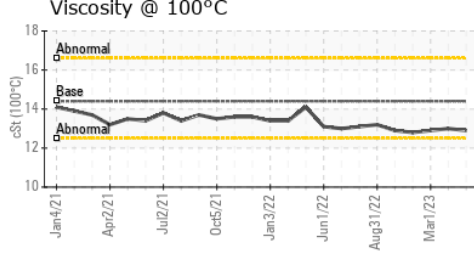
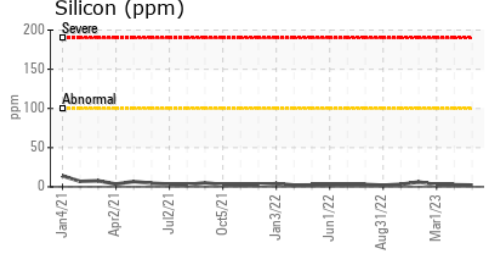
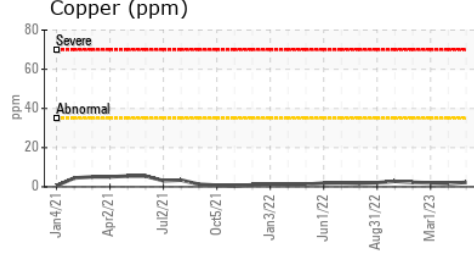
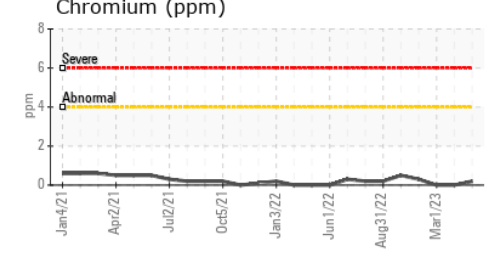
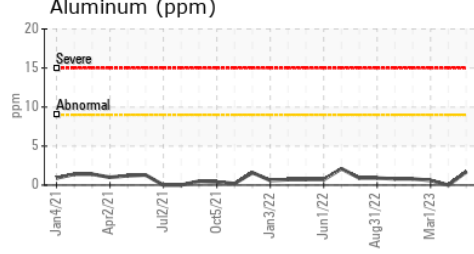
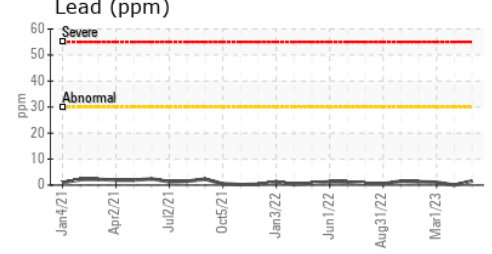
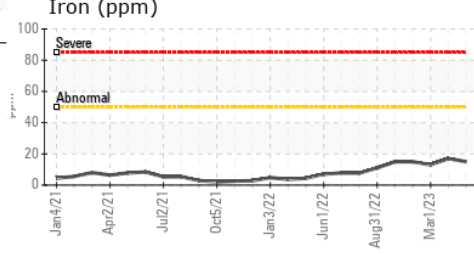
OIL ANALYSIS REPORT



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	12.9	13.0	12.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0097018 **Received** : 12 Jul 2023
Lab Number : **05896947** **Diagnosed** : 14 Jul 2023
Unique Number : 10552757 **Diagnostician** : Sean Felton
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Magellan Midstream LP - Independence
 836 South Rosser Road
 Independence, KS
 US 67301
 Contact: Heath James
 heath.james@magellanlp.com
 T: (620)779-2040
 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)