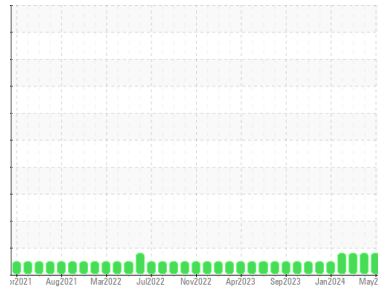


OIL ANALYSIS REPORT

Area
ALBERT LEA
 Machine Id
Unit 05 DB010105E
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON MONOGRADE HD 40W (350 GAL)

Sample Rating Trend



FUEL



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: 94 gallons of lube oil added this month.)

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	PCA0106497	PCA0106495	PCA0106492
Sample Date	Client Info	29 May 2024	29 Apr 2024	02 Apr 2024
Machine Age	hrs	3364	3025	2646
Oil Age	hrs	3364	3025	2646
Oil Changed	Client Info	Oil Added	Oil Added	Not Changd
Sample Status		MARGINAL	MARGINAL	MARGINAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>50	8	10	5
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	2	1
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>35	2	2	2
Tin	ppm	ASTM D5185m	>4	<1	0	<1
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	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	2	<1
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		858	950	900
Calcium	ppm	ASTM D5185m		989	1089	989
Phosphorus	ppm	ASTM D5185m		1032	1195	1132
Zinc	ppm	ASTM D5185m		1232	1342	1320
Sulfur	ppm	ASTM D5185m		2904	3672	3087

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>+100	4	5	5
Sodium	ppm	ASTM D5185m		<1	1	2
Potassium	ppm	ASTM D5185m	>20	<1	<1	0
Fuel	%	ASTM D3524	>4.0	▲ 2.1	▲ 2.1	▲ 2.1

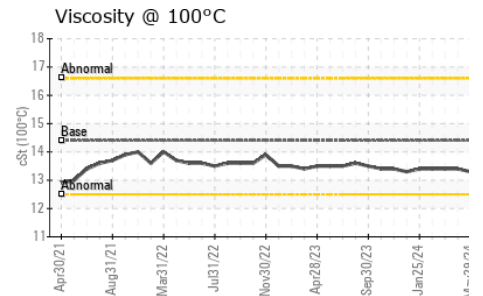
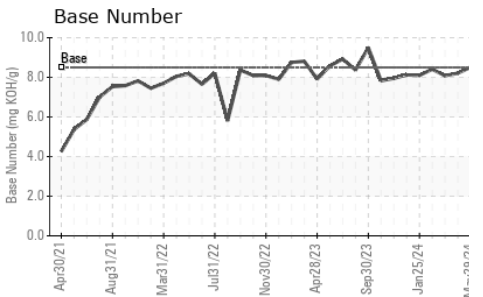
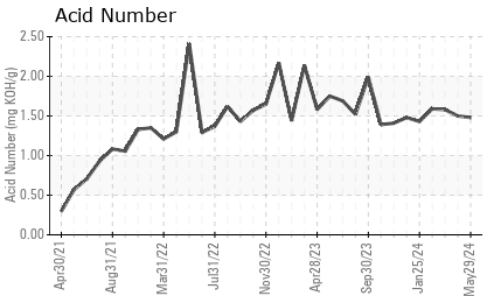
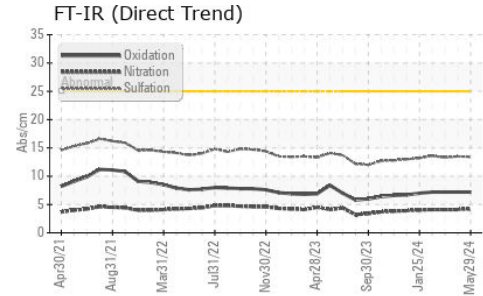
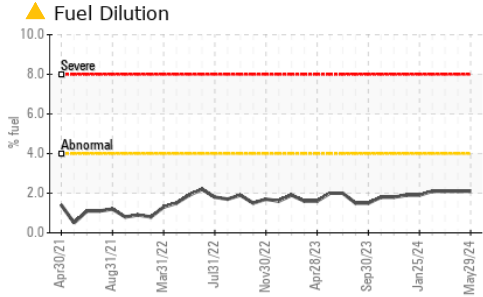
INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	4.2	4.1	4.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	13.4	13.5	13.3

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	7.2	7.2	7.2
Acid Number (AN)	mg KOH/g	ASTM D8045		1.48	1.50	1.58
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.51	8.21	8.08

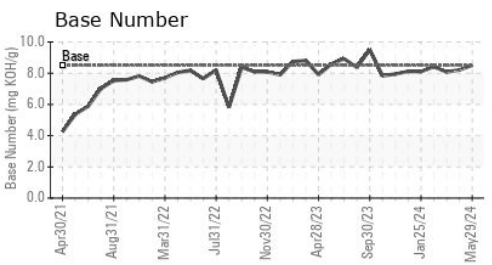
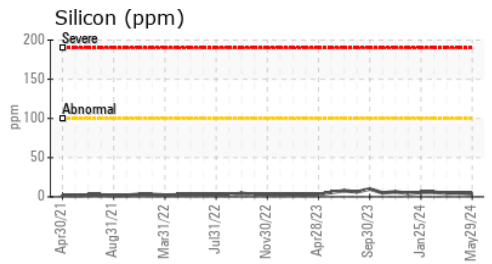
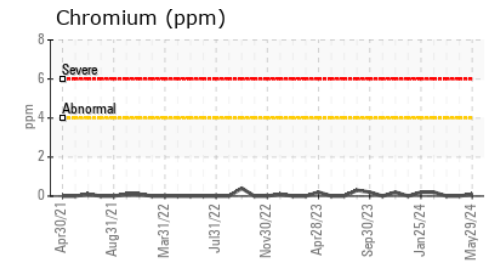
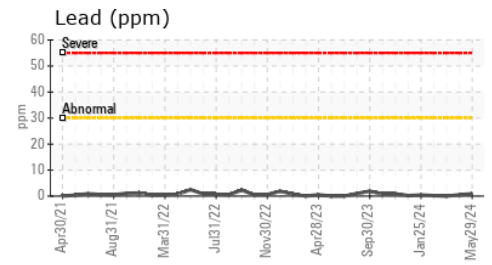
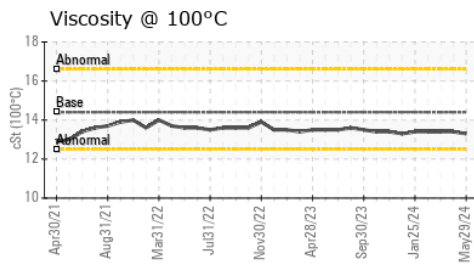
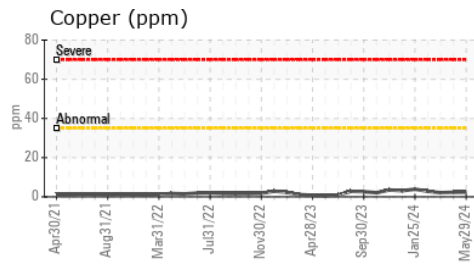
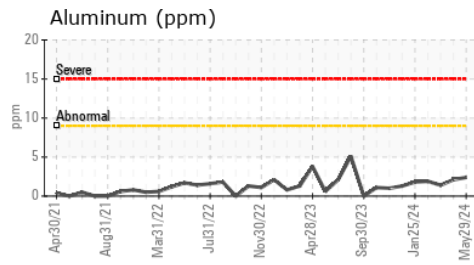
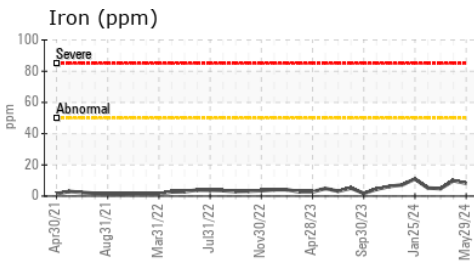
OIL ANALYSIS REPORT



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	13.3	13.4	13.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0106497
Lab Number : 06198331
Unique Number : 11060454
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Magellan Midstream LP - Albert Lea
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 US 56036

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