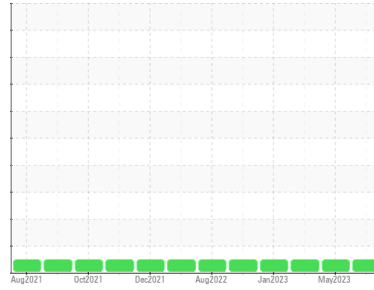


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
DRUMRIGHT
Machine Id
Unit 01 DB120101E
Component
Diesel 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

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	PCA0052190	PCA0052182	PCA0052197
Sample Date	Client Info	04 Jul 2023	04 May 2023	09 Apr 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history 1	history 2
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185m >100	4	3	3
Chromium	ppm	ASTM D5185m >20	<1	0	0
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	1	<1	0
Lead	ppm	ASTM D5185m >40	0	0	<1
Copper	ppm	ASTM D5185m >330	2	2	0
Tin	ppm	ASTM D5185m >15	0	0	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	<1	0	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	1	<1	<1
Manganese	ppm	ASTM D5185m	<1	<1	0
Magnesium	ppm	ASTM D5185m	1006	871	864
Calcium	ppm	ASTM D5185m	1137	954	1029
Phosphorus	ppm	ASTM D5185m	1246	976	1096
Zinc	ppm	ASTM D5185m	1478	1132	1255
Sulfur	ppm	ASTM D5185m	4081	2949	3154

CONTAMINANTS

method	limit/base	current	history 1	history 2	
Silicon	ppm	ASTM D5185m >25	2	4	<1
Sodium	ppm	ASTM D5185m	1	0	0
Potassium	ppm	ASTM D5185m >20	0	0	<1
Fuel	%	ASTM D3524 >5	1.1	1.2	1.2

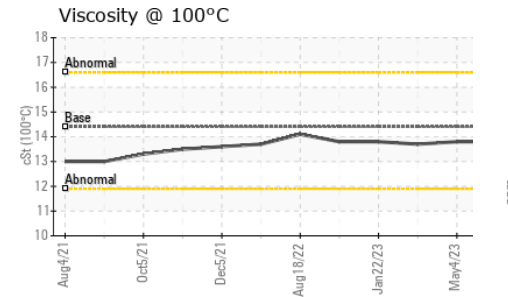
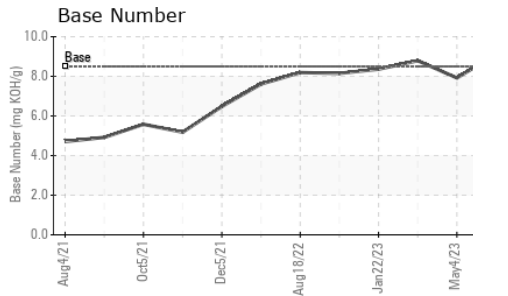
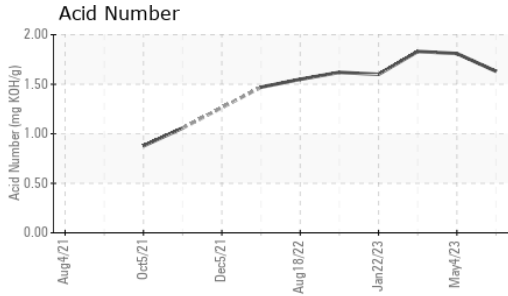
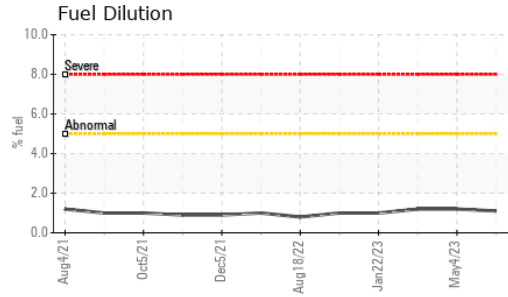
INFRA-RED

method	limit/base	current	history 1	history 2	
Soot %	%	*ASTM D7844 >2	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	4.0	3.5	3.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	13.2	11.5	13.0

FLUID DEGRADATION

method	limit/base	current	history 1	history 2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	6.9	6.4	6.5
Acid Number (AN)	mg KOH/g	ASTM D8045	1.63	1.81	1.831
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	9.11	7.92	8.79

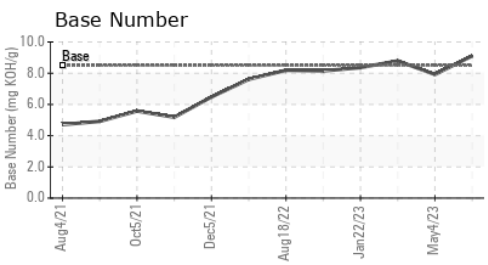
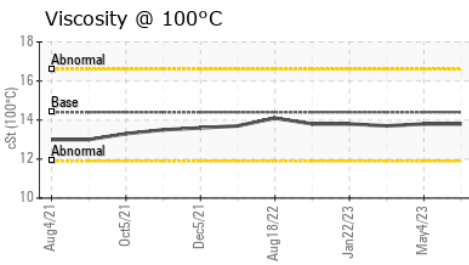
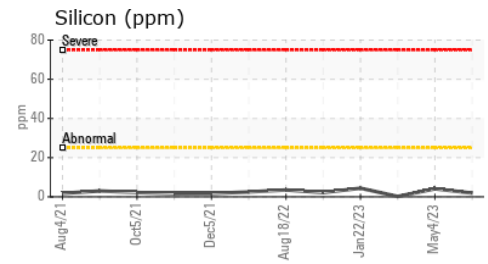
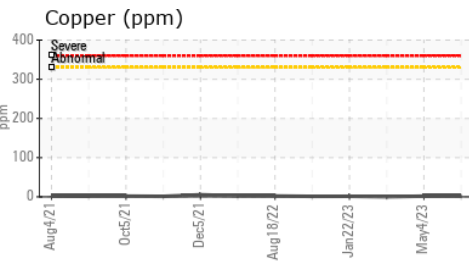
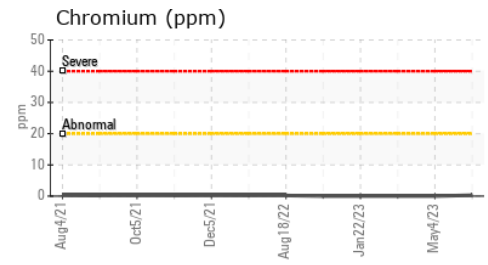
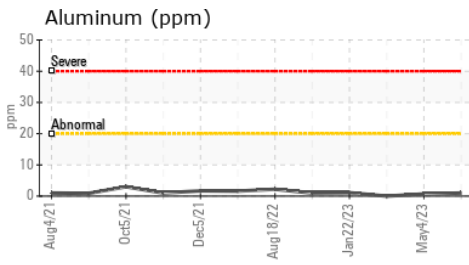
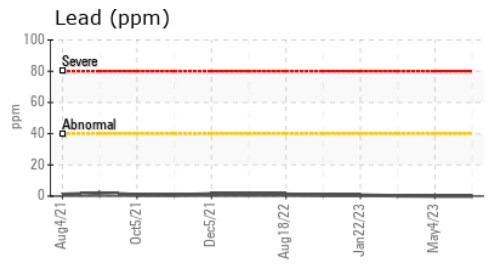
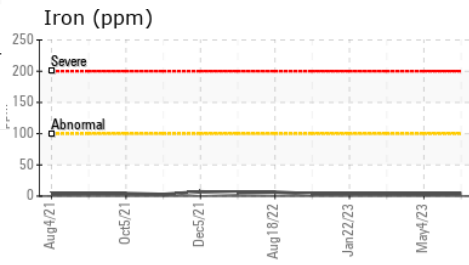
OIL ANALYSIS REPORT



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	>0.2	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	13.8	13.8	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0052190 **Received** : 03 Jul 2023
Lab Number : 05889763 **Diagnosed** : 06 Jul 2023
Unique Number : 10545573 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Magellan Midstream LP - Drumright
 55200 South Hwy 16
 Drumright, OK
 US 74030
 Contact: Todd Clark
 Todd.Clark@magellanlp.com
 T: (918)619-3013
 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)