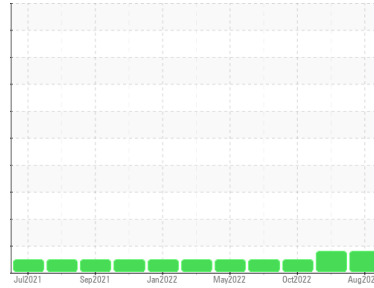


OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
RIDGEWAY
Machine Id
[RIDGEWAY] DB170106E Unit 06
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON MOTOR OIL SAE 40 (350 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. No other contaminants were detected 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		PCA0094547	PCA0094543	PCA0053722
Sample Date	Client Info		30 Aug 2023	30 May 2023	01 Oct 2022
Machine Age	hrs	Client Info	13837	13540	13195
Oil Age	hrs	Client Info	11416	11119	10774
Oil Changed	Client Info		N/A	Not Changd	Not Changd
Sample Status			MARGINAL	MARGINAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	7	6	5
Chromium	ppm	ASTM D5185m >4	<1	0	0
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >9	2	<1	2
Lead	ppm	ASTM D5185m >30	1	0	<1
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	11	12	14
Barium	ppm	ASTM D5185m 1.0	1	0	0
Molybdenum	ppm	ASTM D5185m 1.0	11	14	17
Manganese	ppm	ASTM D5185m 1	0	<1	<1
Magnesium	ppm	ASTM D5185m 15	889	839	804
Calcium	ppm	ASTM D5185m 2540	1206	1220	1260
Phosphorus	ppm	ASTM D5185m 1000	1174	1049	1092
Zinc	ppm	ASTM D5185m 1110	1343	1230	1211
Sulfur	ppm	ASTM D5185m 3700	3867	3828	3947

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	3	4	3
Sodium	ppm	ASTM D5185m	0	2	<1
Potassium	ppm	ASTM D5185m >20	<1	0	0
Fuel	%	ASTM D3524 >4.0	▲ 2.5	▲ 2.6	1.4

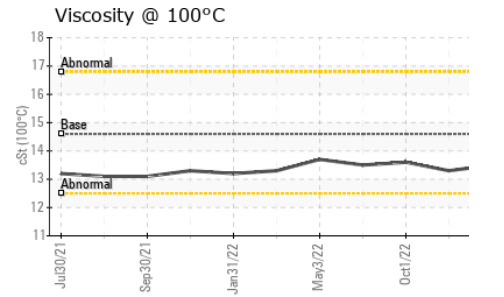
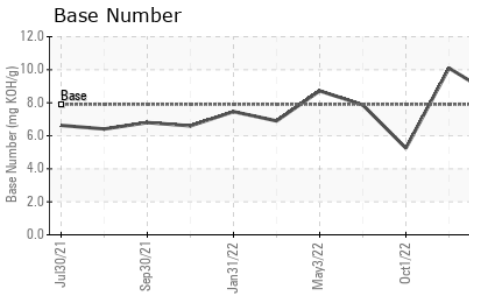
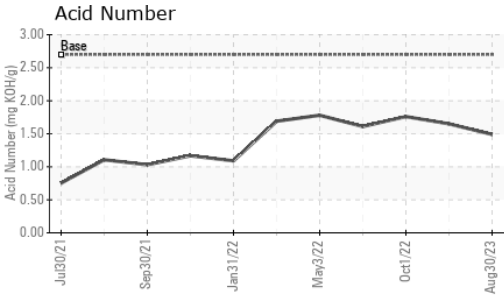
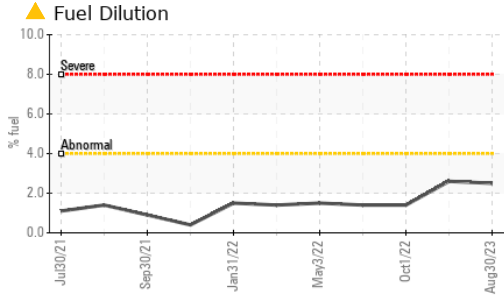
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	3.9	4.1	4.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	12.8	13.6	14.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	6.6	6.9	7.2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.7	1.49	1.65	1.76
Base Number (BN)	mg KOH/g	ASTM D2896 7.9	8.50	10.10	5.25

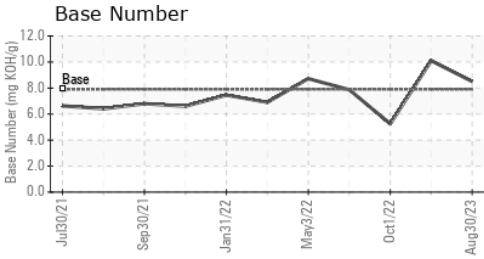
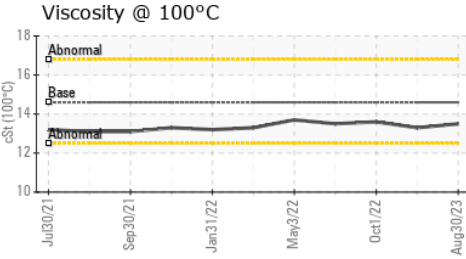
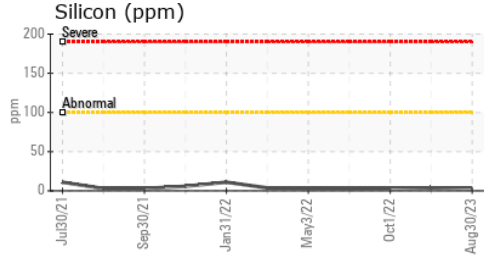
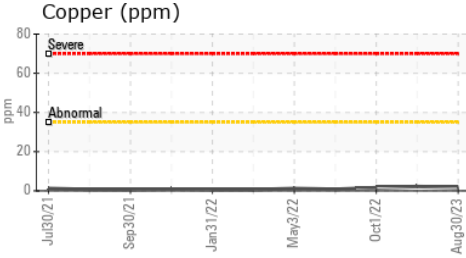
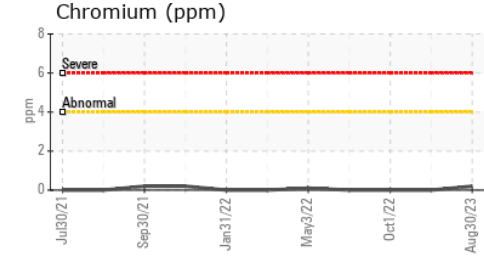
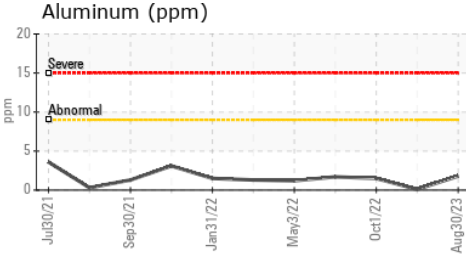
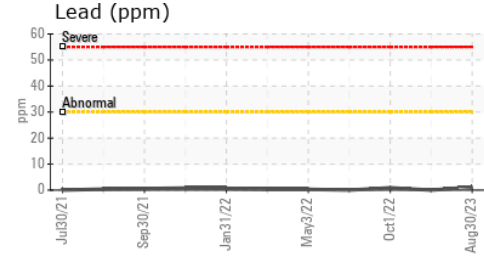
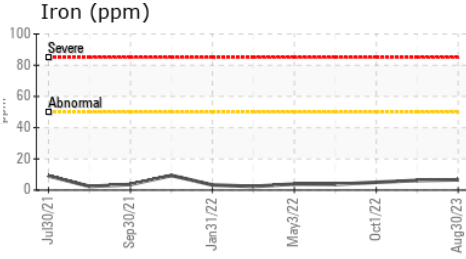
OIL ANALYSIS REPORT



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	14.6	13.5	13.3	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0094547 **Received** : 06 Sep 2023
Lab Number : **05944254** **Diagnosed** : 09 Sep 2023
Unique Number : 10634866 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Magellan Midstream LP - Ridgeway
 20471 West 230 Place
 Ridgeway, MO
 US 64481
 Contact: Kevin Meister
 kevin.meister@magellanlp.com
 T: (660)872-6417
 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)