

OIL ANALYSIS REPORT

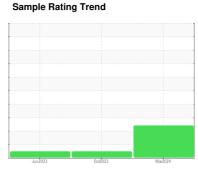




(AT656T) Supermarket - Tractor **MACK 107A1897**

Component **Diesel Engine**

PETRO CANADA DURON SHP 10W30 (11 GAL)





DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

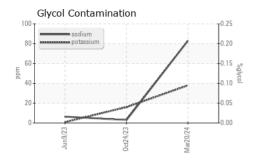
Fluid Condition

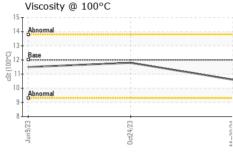
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

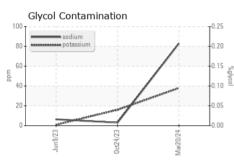
14 3111 10 10 10	,	Jun2023 0ct2023 Mar2024				
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0116460	PCA0104836	PCA0096009
Sample Date		Client Info		20 Mar 2024	24 Oct 2023	09 Jun 2023
Machine Age	mls	Client Info		403574	386916	376506
Oil Age	mls	Client Info		16658	10410	17819
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	11	14	19
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	5	8	4
Lead	ppm	ASTM D5185m	>40	2	0	2
Copper	ppm	ASTM D5185m	>330	6	32	3
Tin	ppm	ASTM D5185m	>15	2	<1	2
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	15	18	6
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2	15 2	18 0	6
Barium	ppm	ASTM D5185m	0	2	0	0
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0 50	2 68	0 50	0 61
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0	2 68 1	0 50 <1	0 61 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	2 68 1 873	0 50 <1 770	0 61 <1 1005
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	2 68 1 873 1079	0 50 <1 770 1168	0 61 <1 1005 1201
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995	2 68 1 873 1079 974	0 50 <1 770 1168 952	0 61 <1 1005 1201 1070
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180	2 68 1 873 1079 974 1180	0 50 <1 770 1168 952 1140	0 61 <1 1005 1201 1070 1393
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600	2 68 1 873 1079 974 1180 3046	0 50 <1 770 1168 952 1140 2775	0 61 <1 1005 1201 1070 1393 3916
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600	2 68 1 873 1079 974 1180 3046	0 50 <1 770 1168 952 1140 2775	0 61 <1 1005 1201 1070 1393 3916 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600	2 68 1 873 1079 974 1180 3046 current	0 50 <1 770 1168 952 1140 2775 history1	0 61 <1 1005 1201 1070 1393 3916 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base	2 68 1 873 1079 974 1180 3046 current 8	0 50 <1 770 1168 952 1140 2775 history1	0 61 <1 1005 1201 1070 1393 3916 history2 5 6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base	2 68 1 873 1079 974 1180 3046 current 8 83	0 50 <1 770 1168 952 1140 2775 history1 3 3	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm	ASTM D5185m Method ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25	2 68 1 873 1079 974 1180 3046 current 8 83 38 NEG	0 50 <1 770 1168 952 1140 2775 history1 3 3 16 NEG	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1 NEG
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm	ASTM D5185m *ASTM D2982 *Method	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	2 68 1 873 1079 974 1180 3046 current 8 83 38 NEG	0 50 <1 770 1168 952 1140 2775 history1 3 3 16 NEG	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1 NEG
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m *ASTM D2982 *Method *ASTM D7844	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	2 68 1 873 1079 974 1180 3046 current 8 83 38 NEG current 0.3	0 50 <1 770 1168 952 1140 2775 history1 3 3 16 NEG history1	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1 NEG history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76145	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	2 68 1 873 1079 974 1180 3046 current 8 83 38 NEG current 0.3 9.6	0 50 <1 770 1168 952 1140 2775 history1 3 3 16 NEG history1 0.5 7.6	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1 NEG history2 1.4 9.2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m *ASTM D7844	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >4 >20 >30	2 68 1 873 1079 974 1180 3046 current 8 83 38 NEG current 0.3 9.6 17.5	0 50 <1 770 1168 952 1140 2775 history1 3 3 16 NEG history1 0.5 7.6 19.8	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1 NEG history2 1.4 9.2 22.4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76145	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >4 >20 >30 limit/base	2 68 1 873 1079 974 1180 3046 current 8 83 38 NEG current 0.3 9.6 17.5	0 50 <1 770 1168 952 1140 2775 history1 3 3 16 NEG history1 0.5 7.6 19.8 history1	0 61 <1 1005 1201 1070 1393 3916 history2 5 6 <1 NEG history2 1.4 9.2 22.4 history2

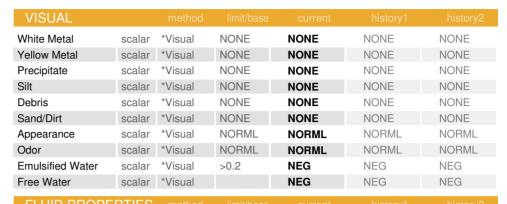


OIL ANALYSIS REPORT

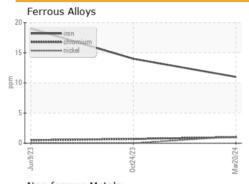


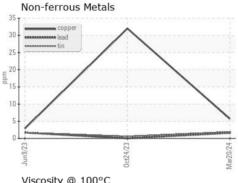


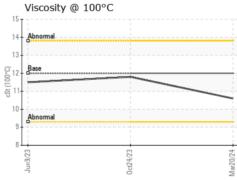


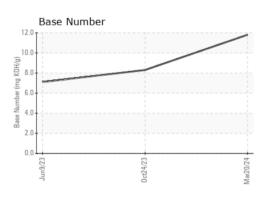


FLUID PROPERTIES						
Visc @ 100°C	cSt	ASTM D445	12.00	10.6	11.8	11.5













Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Lab Number : 06127521 **Unique Number** : 10941672

: PCA0116460 Received **Tested**

: 25 Mar 2024 : 27 Mar 2024 Diagnosed

: 27 Mar 2024 - Jonathan Hester

Transervice - Shop 1072 - Supermarket-Elizabeth 505 Division Street

Elizabeth, NJ US 07207 Contact: Normand Brizak

nbrizak@transervice.com

Test Package: FLEET (Additional Tests: Glycol) 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)

T:

F: