

## **OIL ANALYSIS REPORT**

Sample Rating Trend

#### NORMAL

### Machine Id HINO 372134

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (12 GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

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 condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0110632	PCA0110648	PCA0083837
Sample Date		Client Info		04 Mar 2024	10 Jan 2024	18 May 2023
Machine Age	mls	Client Info		208254	205355	190238
Oil Age	mls	Client Info		2899	6830	7299
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	8	9
Chromium	ppm	ASTM D5185m	>20	<1	0	2
Nickel	ppm	ASTM D5185m	>4	0	0	1
Titanium	ppm	ASTM D5185m		51	2	20
Silver	ppm	ASTM D5185m	>3	0	0	2
Aluminum	ppm	ASTM D5185m	>20	2	2	5
Lead	ppm	ASTM D5185m	>40	<1	<1	5
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	2
Vanadium	ppm	ASTM D5185m		<1	<1	1
Cadmium		AOTH DELOS				0
Caumum	ppm	ASTM D5185m		0	0	2
ADDITIVES	ррп	method	limit/base	0 current	0 history1	2 history2
	ppm	method	limit/base			
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 99	history1 2	history2 14
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 99 0	history1 2 0	history2 14 19
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 99 0 22	history1 2 0 62	history2 14 19 36
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 99 0 22 <1	history1 2 0 62 <1	history2 14 19 36 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 99 0 22 <1 527	history1 2 0 62 <1 980	history2 14 19 36 2 606
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           99           0           22           <1           527           1491	history1 2 0 62 <1 980 1120	history2 14 19 36 2 606 947
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	current           99           0           22           <1           527           1491           937	history1           2           0           62           <1           980           1120           1068	history2 14 19 36 2 606 947 756
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	current           99           0           22           <1           527           1491           937           1101	history1 2 0 62 <1 980 1120 1068 1269	history2 14 19 36 2 606 947 756 928
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 99 0 22 <1 527 1491 937 1101 3724	history1         2         0         62         <1         980         1120         1068         1269         3218	history2 14 19 36 2 606 947 756 928 2844
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current           99           0           22           <1           527           1491           937           1101           3724           current	history1         2         0         62         <1         980         1120         1068         1269         3218         history1	history2 14 19 36 2 606 947 756 928 2844 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	2 0 50 950 1050 995 1180 2600	current           99           0           22           <1           527           1491           937           1101           3724           current           5	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3	history2         14         19         36         2         606         947         756         928         2844         history2         6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	current           99           0           22           <1           527           1491           937           1101           3724           current           5           3	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3         5	history2         14         19         36         2         606         947         756         928         2844         history2         6         5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	current           99           0           22           <1           527           1491           937           1101           3724           current           5           3           4	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3         5         0         history1         0.8	history2         14         19         36         2         606         947         756         928         2844         history2         6         5         7         history2         1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	current         99         0         22         <1         527         1491         937         1101         3724         current         5         3         4         current	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3         5         0         history1         0         8.9	history2         14         19         36         2         606         947         756         928         2844         history2         6         5         7         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current         99         0         22         <1         527         1491         937         1101         3724         current         5         3         4         current         0.4	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3         5         0         history1         0.8	history2         14         19         36         2         606         947         756         928         2844         history2         6         5         7         history2         1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D7844           *ASTM D7624           *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <b>i</b> mit/base >25 >20 <b>i</b> mit/base >3 >20	current           99           0           22           <1           527           1491           937           1101           3724           current           5           3           4           current           0.4           8.6	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3         5         0         history1         0         8.9	history2         14         19         36         2         606         947         756         928         2844         history2         6         5         7         history2         1         10.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D7844           *ASTM D7624           *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	current         99         0         22         <1         527         1491         937         1101         3724         current         5         3         4         current         0.4         8.6         18.7	history1         2         0         62         <1         980         1120         1068         1269         3218         history1         3         5         0         history1         0.8         8.9         18.2	history2         14         19         36         2         606         947         756         928         2844         history2         6         5         7         history2         1         10.6         20.7

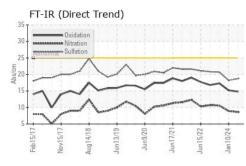


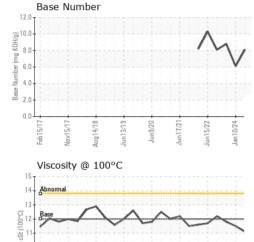
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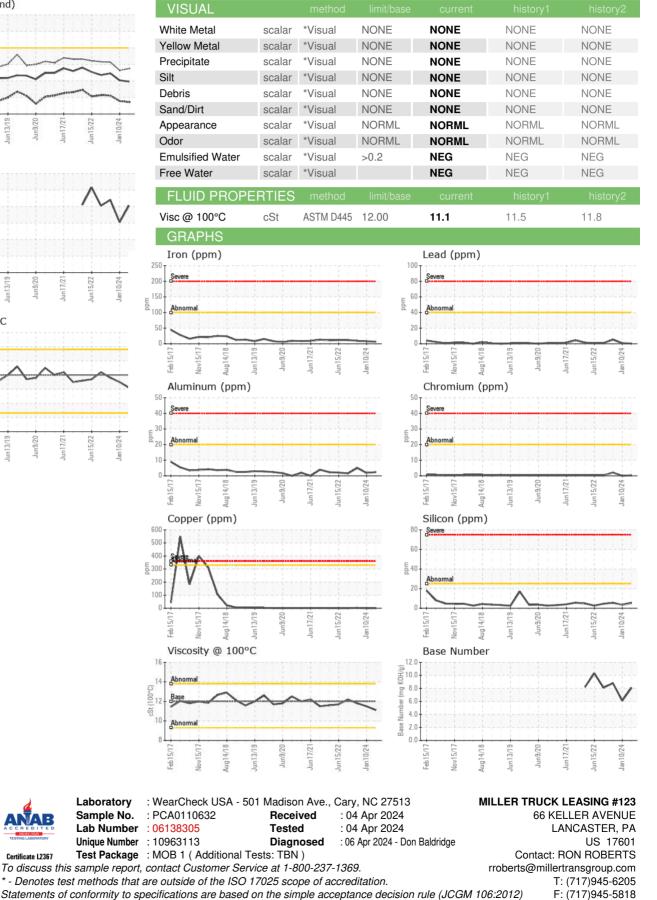




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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: MILLAN [WUSCAR] 06138305 (Generated: 04/06/2024 11:21:25) Rev: 1

Certificate 12367

Laboratory

Sample No.

Contact/Location: RON ROBERTS - MILLAN