

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area Walgreens - Yard Horse [Walgreens - Yard Horse] 136A83002

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 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.

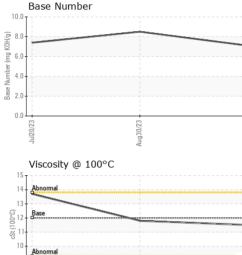
Fluid Condition

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

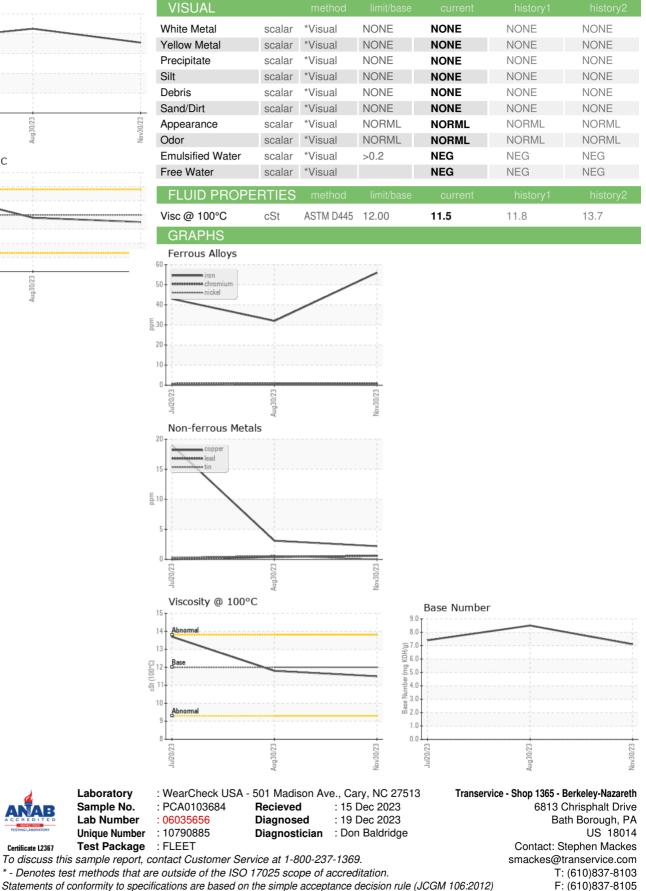
SAMPLE INFORI		method	limit/booo	ourroat	biotorut	biotory 0
			limit/base	current	history1	history2
Sample Number		Client Info		PCA0103684	PCA0093582	PCA0093607
Sample Date		Client Info		30 Nov 2023	30 Aug 2023	20 Jul 2023
Machine Age	mls	Client Info		3418	0	233
Oil Age	mls	Client Info		2121	0	233
Oil 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	56	32	43
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		2	5	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm		>20	2	<1	4
Lead	ppm	ASTM D5185m	>40	- <1	<1	0
Copper	ppm		>330	2	3	19
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m	210	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	historv1	historv2
ADDITIVES	nom	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	10	16	60
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	10 0	16 0	60 9
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	10 0 36	16 0 56	60 9 80
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	10 0 36 <1	16 0 56 2	60 9 80 6
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	10 0 36 <1 635	16 0 56 2 826	60 9 80 6 150
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	10 0 36 <1 635 1566	16 0 56 2 826 1193	60 9 80 6 150 1941
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	10 0 36 <1 635 1566 1013	16 0 56 2 826 1193 1052	60 9 80 6 150 1941 937
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	10 0 36 <1 635 1566 1013 1132	16 0 56 2 826 1193 1052 1240	60 9 80 6 150 1941 937 1125
Boron 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	2 0 50 950 1050 995 1180 2600	10 0 36 <1 635 1566 1013 1132 3589	16 0 56 2 826 1193 1052 1240 3928	60 9 80 6 150 1941 937 1125 3697
Boron 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	2 0 50 950 1050 995 1180 2600	10 0 36 <1 635 1566 1013 1132 3589 current	16 0 56 2 826 1193 1052 1240 3928 history1	60 9 80 6 150 1941 937 1125 3697 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2 0 50 950 1050 995 1180 2600	10 0 36 <1 635 1566 1013 1132 3589 current 8	16 0 56 2 826 1193 1052 1240 3928 history1 9	60 9 80 6 150 1941 937 1125 3697 history2 20
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	10 0 36 <1 635 1566 1013 1132 3589 current 8 0	16 0 56 2 826 1193 1052 1240 3928 history1 9 2	60 9 80 6 150 1941 937 1125 3697 history2 20 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2 0 50 950 1050 995 1180 2600 limit/base	10 0 36 <1 635 1566 1013 1132 3589 current 8	16 0 56 2 826 1193 1052 1240 3928 history1 9	60 9 80 6 150 1941 937 1125 3697 history2 20
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 -20 imit/base	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 <i>history2</i>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1 current 1.3	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1 0.7	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 -20 imit/base	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 <i>history2</i>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1 current 1.3	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1 0.7	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1 current 1.3 8.8	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1 0.7 6.7	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 20 4 7 history2 0.6 9.2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1 current 1.3 8.8 19.2	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1 0.7 6.7 18.2	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 history2 0.6 9.2 19.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	10 0 36 <1 635 1566 1013 1132 3589 current 8 0 <1 current 1.3 8.8 19.2 current	16 0 56 2 826 1193 1052 1240 3928 history1 9 2 2 2 history1 0.7 6.7 18.2 history1	60 9 80 6 150 1941 937 1125 3697 history2 20 4 7 20 4 7 history2 0.6 9.2 19.5 history2



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