

OIL ANALYSIS REPORT

Sample Rating Trend



Component Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (--- QTS)

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id DT769

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

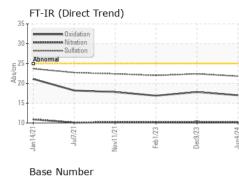
Fluid Condition

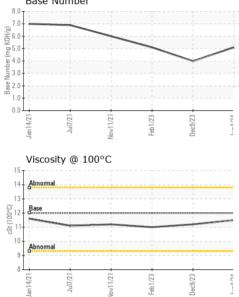
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

			1111/0430	Current	matory	
Sample Number		Client Info		PCA0125392	PCA0107501	PCA0090305
Sample Date		Client Info		04 Jun 2024	09 Dec 2023	01 Feb 2023
Machine Age	mls	Client Info		201722	201722	150003
Oil Age	mls	Client Info		201722	201722	150003
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
		ine ette e el	1:		la la tamurt	histow.0
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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	13	18	17
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>5	0	1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	4	4
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm		>330	2	3	3
Tin	ppm	ASTM D5185m	>15	_ <1	1	<1
Antimony	ppm	ASTM D5185m	210			
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
	le le con					
ADDITIVES	la la	method	limit/base	current	history1	history2
	ppm		limit/base			
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current	history1 <1	history2 1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0	current 1 0	history1 <1 11	history2 1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 1 0 57	history1 <1 11 65	history2 1 0 65
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 1 0 57 <1	history1 <1 11 65 <1	history2 1 0 65 <1
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 1 0 57 <1 893	history1 <1 11 65 <1 895	history2 1 0 65 <1 834
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 1 0 57 <1 893 1064	history1 <1 11 65 <1 895 1067	history2 1 0 65 <1 834 1140
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 1 0 57 <1 893 1064 967	history1 <1 11 65 <1 895 1067 949	history2 1 0 65 <1 834 1140 886
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 1 0 57 <1 893 1064 967 1198	history1 <1 11 65 <1 895 1067 949 1196	history2 1 0 65 <1 834 1140 886 1127
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	2 0 50 950 1050 995 1180 2600	Current 1 0 57 <1 893 1064 967 1198 2997	<1 11 65 <1 895 1067 949 1196 2831	history2 1 0 65 <1 834 1140 886 1127 2544
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 1 0 57 <1 893 1064 967 1198 2997 current	history1 <1 11 65 <1 895 1067 949 1196 2831 history1	history2 1 0 65 <1 834 1140 886 1127 2544 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	methodASTM D5185mASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Limit/base >25	current 1 0 57 <1 893 1064 967 1198 2997 current 6	history1 <1 11 65 <1 895 1067 949 1196 2831 history1 9	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Limit/base >25	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1	history1 <1 11 65 <1 895 1067 949 1196 2831 history1 9 0	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1	<1 11 65 <1 895 1067 949 1196 2831 history1 9 0 5	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 6
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 TS	methodASTM D5185mASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1 <1 current	<1 11 65 <1 895 1067 949 1196 2831 history1 9 0 5 history1	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 6 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >20	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1 current 0 0.6	history1 <1 11 65 <1 895 1067 949 1196 2831 history1 9 0 5 history1 0.7	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 6 history2 0.7
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 50 950 1050 995 1180 2600 <i>limit/base</i> >25 20 <i>limit/base</i> >20	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1 current 0 0.6 10.2	history1 <1 11 65 <1 895 1067 949 1196 2831 history1 9 0 5 history1 0.7 10.3	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 6 history2 0.7 10.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm S	method ASTM D5185m ASTM D78444 *ASTM D7624 *ASTM D7415 method	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 220 20 20 20 20 20 20 20 20 20 2	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1 current 0.6 10.2 21.8 current	<1 11 65 <1 895 1067 949 1196 2831 history1 9 0 5 history1 0.7 10.3 22.4 history1	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 6 history2 0.7 10.2 22.0 history2
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 D7414	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >4 >20 30	current 1 0 57 <1 893 1064 967 1198 2997 current 6 1 <1 current 0.6 10.2 21.8	history1 <1 11 65 <1 895 1067 949 1196 2831 history1 9 0 5 history1 0.7 10.3 22.4	history2 1 0 65 <1 834 1140 886 1127 2544 history2 <1 <1 6 history2 0.7 10.2 22.0



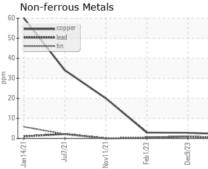
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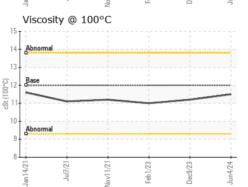


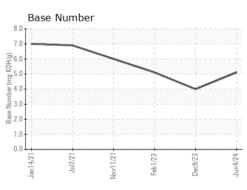


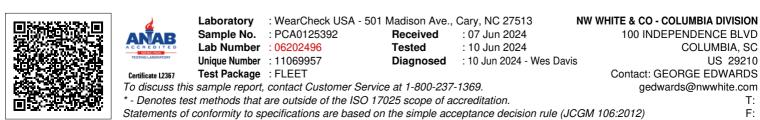
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
			10.00	_		
Visc @ 100°C	cSt	ASTM D445	12.00	11.5	11.2	11.0
Visc @ 100°C GRAPHS	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445	12.00	11.5	11.2	11.0
GRAPHS Ferrous Alloys	cSt	ASTM D445		11.5	11.2	11.0
GRAPHS Ferrous Alloys				11.5	11.2	11.0
GRAPHS Ferrous Alloys		ASTM D445	12.00	11.5	11.2	11.0

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Submitted By: Paul Riddick

Page 2 of 2