

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine PETRO CANADA DURON SHP 10W30 (10 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.

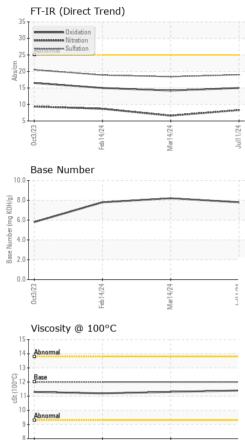
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0130571	PCA0117757	PCA0110801
Sample Date		Client Info		11 Jul 2024	14 Mar 2024	14 Feb 2024
Machine Age	mls	Client Info		210301	0	186546
Oil Age	mls	Client Info		15222	0	12196
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	7	7	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	3	3	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 2	history2 3
	ppm ppm					
Boron		ASTM D5185m	2	<1	2	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	<1 <1	2 0	3 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	<1 <1 64	2 0 62	3 0 58 <1 914
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	<1 <1 64 0	2 0 62 <1	3 0 58 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	<1 <1 64 0 960	2 0 62 <1 1039	3 0 58 <1 914
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	<1 <1 64 0 960 1140	2 0 62 <1 1039 1208	3 0 58 <1 914 1001
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	<1 <1 64 0 960 1140 963	2 0 62 <1 1039 1208 1161	3 0 58 <1 914 1001 984
Boron 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	2 0 50 950 1050 995 1180	<1 <1 64 0 960 1140 963 1272	2 0 62 <1 1039 1208 1161 1358	3 0 58 <1 914 1001 984 1197
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	<1 <1 64 0 960 1140 963 1272 2922 current 5	2 0 62 <1 1039 1208 1161 1358 4141 history1 4	3 0 58 <1 914 1001 984 1197 2752 history2 10
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	<1 <1 64 0 960 1140 963 1272 2922 current	2 0 62 <1 1039 1208 1161 1358 4141 history1	3 0 58 <1 914 1001 984 1197 2752 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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	<1 <1 64 0 960 1140 963 1272 2922 current 5	2 0 62 <1 1039 1208 1161 1358 4141 history1 4	3 0 58 <1 914 1001 984 1197 2752 history2 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	<1 <1 64 0 960 1140 963 1272 2922 current 5 0	2 0 62 <1 1039 1208 1161 1358 4141 history1 4 2 2 2 history1	3 0 58 <1 914 1001 984 1197 2752 history2 10 4 1 1
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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >20	<1 <1 64 0 960 1140 963 1272 2922 current 5 0 5	2 0 62 <1 1039 1208 1161 1358 4141 history1 4 2 2 2 history1 0.2	3 0 58 <1 914 1001 984 1197 2752 history2 10 4 1 1 history2 0.4
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 TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >20	<1 <1 64 0 960 1140 963 1272 2922 current 5 0 5 0 5 current 0.3 8.3	2 0 62 <1 1039 1208 1161 1358 4141 history1 4 2 2 history1 0.2 6.6	3 0 58 <1 914 1001 984 1197 2752 history2 10 4 1 1 history2 0.4 8.7
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 limit/base >25 >20 limit/base >20	<1 <1 64 0 960 1140 963 1272 2922 current 5 0 5 5 0 5 current	2 0 62 <1 1039 1208 1161 1358 4141 history1 4 2 2 2 history1 0.2	3 0 58 <1 914 1001 984 1197 2752 history2 10 4 1 1 history2 0.4
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 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >4 >20	<1 <1 64 0 960 1140 963 1272 2922 current 5 0 5 0 5 current 0.3 8.3	2 0 62 <1 1039 1208 1161 1358 4141 history1 4 2 2 history1 0.2 6.6	3 0 58 <1 914 1001 984 1197 2752 history2 10 4 1 1 history2 0.4 8.7
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 20 imit/base >4 >20 >30	<1 <1 64 0 960 1140 963 1272 2922 current 5 0 5 0 5 current 0.3 8.3 19.0	2 0 62 <1 1039 1208 1161 1358 4141 history1 4 2 2 2 history1 0.2 6.6 18.4	3 0 58 <1 914 1001 984 1197 2752 history2 10 4 1 1 history2 0.4 8.7 18.9



0ct3/23

Feb 14/24

OIL ANALYSIS REPORT



Mar14/24

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 PROP		method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	5 12.00	11.4	11.3	11.2
GRAPHS						
Ferrous Alloys						
16						
14- 12-						
톱 ¹⁰ 8		-				
6						
4						
2						
		4/24 -	/24			
0ct3/23 Feb14/24		Mar14/24	Jul11/24			
Non-ferrous Met	als	_				
¹⁰ T						
seesesseeses lead						
o assessment tin						
6						
e d						
6 4						
udd 4						
2						
4 2 0		74	24-			
4 2 0		Aar14/24				
4 2 0	PC	Mar14/24	Juit 1/24			
0ct3/23	PC	Mar14/24	hitting 9.	Base Numbe	r	
4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2°C	Mari 1/24	9.	0	r	
4 0 EXE EXE EXE EXE EXE EXE EXE EXE EXE E	°C	Mar14/24	9.	0	r	
4 2 0 EZZ EZZ 4 4 4 7 7 7 7 7 7 7 7 7 7 7 7 7	PC	Mart 4/24	9.	0	r	
4 2 0 EZZ EZZ 4 4 4 7 7 7 7 7 7 7 7 7 7 7 7 7	2C	Mari 4/24	9.	0	r	
4 2 0 EXECUTE EXE	2°C	Mari 4/24	9.	0	r	
4 2 0 EC EC EC EC EC EC EC EC EC EC	2°C	Mart 4/24	9.	0	r	
4 2 0 EZCEPO Viscosity @ 1004 15 14 Abnormal 13 14 Base 10	2°C	Mari 4/24	9.		r	
4 2 0 EXECUTE EXE	2°C		9. 8. (0, 7. HOM 6. 5. 4. 4. 4. 4. 4. 3. 8. 8. 7. 7. 1. 9. 8. 7. 7. 1. 9. 8. 9. 7. 7. 9. 9. 8. 9. 7. 7. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.			
4 2 0 EXECUTE EXE	2°C		9. 8. (0, 7. HOM 6. 5. 4. 4. 4. 4. 4. 3. 8. 8. 7. 7. 1. 9. 8. 7. 7. 1. 9. 8. 9. 7. 7. 9. 9. 8. 9. 7. 7. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.			
4 2 0 EXERCISE EXERCIS	2°C	Mar14/24	9. 8. (P. 7. HQ: 6. 6. 4. 4. 3. 88 2. 1.			Mar 14/24
4 2 0 EZCEPD0 Viscosity @ 1000 15 14 Abnomal 13 10 9 8 EZCEPD0 15 14 Abnomal 10 10 10 10 10 10 10 10 10 10		Mari 4,24	9. 8. 7. 1. 9. 10 10 10 10 10 10 10 10 10 10 10 10 10		Feb14/24	
Viscosity @ 1000	501 Madisc	Potense	9. 8. (0)(0) 5. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	0qt3/23 0qt3/23	P2/b1gg	
4 2 0 EZCEPD0 Viscosity @ 1000 15 14 Abnomal 13 10 9 8 EZCEPD0 15 14 Abnomal 10 10 10 10 10 10 10 10 10 10		both Ave., Car ived : 1	9. 8. 7. 1. 9. 10 10 10 10 10 10 10 10 10 10 10 10 10	0qt3/23 0qt3/23	BLUE M	
Viscosity @ 1000 Viscosity @ 1000 Abnomal	501 Madisc Rece Teste	Pop Ave., Car ived : 1	9. 8. (0)(0) 5. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	10 10 10 10	BLUE M	AX TRUCKI

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)

Certificate L2367

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