

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 390483

Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

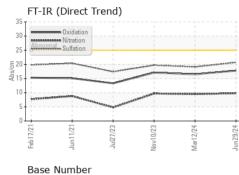
Fluid Condition

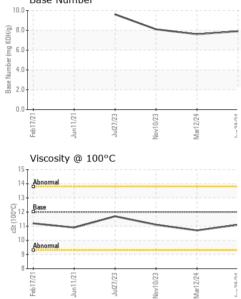
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0129125	PCA0119029	PCA0112244
Sample Date		Client Info		29 Jun 2024	12 Mar 2024	10 Nov 2023
Machine Age	mls	Client Info		187966	175660	164904
Oil Age	mls	Client Info		187966	175660	0
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	13	17	36
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m	- 1	4	0	1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm		>20	3	3	2
Lead	ppm	ASTM D5185m	>40	2	<1	2
Copper	ppm		>330	2	2	3
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m	210	0	0	0
Cadmium		ASTM D5185m				0
				U	0	U
	ppm		limit/base	0 current	0 historv1	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 7	history1 6	history2 3
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 7 0	history1 6 0	history2 3 2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 7 0 52	history1 6 0 64	history2 3 2 60
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 7 0 52 0	history1 6 0 64 0	history2 3 2 60 <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 7 0 52 0 889	history1 6 0 64 0 941	history2 3 2 60 <1 875
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 7 0 52 0 889 1136	history1 6 0 64 0 941 1232	history2 3 2 60 <1 875 1176
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 7 0 52 0 889 1136 1081	history1 6 0 64 0 941 1232 1140	history2 3 2 60 <1 875 1176 991
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 7 0 52 0 889 1136 1081 1320	history1 6 0 64 0 941 1232 1140 1273	history2 3 2 60 <1 875 1176 991 1221
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 7 0 52 0 889 1136 1081 1320 3831	history1 6 0 64 0 941 1232 1140 1273 3356	history2 3 2 60 <1 875 1176 991 1221 4026
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 7 0 52 0 889 1136 1081 1320 3831 current	history1 6 0 64 0 941 1232 1140 1273 3356 history1	history2 3 2 60 <1 875 1176 991 1221 4026 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	2 0 50 950 1050 995 1180 2600	current 7 0 52 0 889 1136 1081 1320 3831 current 5	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3
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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2 current	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3 history1	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2 current 0.6	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3 history1 0.7	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3 history2 0.7
ADDITIVES 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 TS ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2 current 0.6 9.8	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3 history1 0.7 9.5	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3 history2 0.7 9.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2 current 0.6	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3 history1 0.7	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3 history2 0.7
ADDITIVES 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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2 current 0.6 9.8	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3 history1 0.7 9.5	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3 history2 0.7 9.7
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 D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	current 7 0 52 0 889 1136 1081 1320 3831 current 5 3 2 current 0.6 9.8 20.7	history1 6 0 64 0 941 1232 1140 1273 3356 history1 7 2 3 history1 0.7 9.5 19.1	history2 3 2 60 <1 875 1176 991 1221 4026 history2 11 0 3 history2 0.7 9.7 19.7



OIL ANALYSIS REPORT





	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
Mar12/24 - Jun29/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Mar	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
	Visc @ 100°C	cSt	ASTM D445	12.00	11.1	10.7	11.1
	GRAPHS						
	Iron (ppm)			100			· · · · · · · · · · · · · · · · · · ·
Mar12/24 -	200 - Severe			80			
Mai	E 150 Abnormal			udd of	Abnormal		
	100 - 0						
	50			2			
		//23+	2/24 -		12/1	//23	224
	Feb17/21 Jun11/21	Jul27/23 Nov10/23	Mar12/24	Jun29/24	Feb17/21 Jun11/21	Jul27/23 Nov10/23	Mar12/24 Jun29/24
	Aluminum (ppm)				Chromium (p	pm)	
	50 Severe		 ! !	51	Severe		
	+0 + 0	I I I I	1	- 40			
24	20 - Abnormal			udd a	Abnormal		
Mar12/24		*****		2			-
2 -	10			10	0		
		Jul27/23 - Nov10/23 -	Mar12/24 -	Jun29/24	Feb17/21	Jul27/23 - Nov10/23 -	Mar12/24 - Jun29/24 -
		Jul	Mar	Juni	-	Jul	Mar
	Copper (ppm)				Silicon (ppm)		
	400 Severe	+		60			
	틆 200 -			E 41	0		
	100-			21	Abnormal		
	Feb17/21	Jul27/23 -	Mar12/24 -	Jun29/24	Feb17/21	Jul27/23 -	Mar1 2/24 + Jun 29/24 +
	-		Marl	Jun2	Feb1	Jul2 Nov1	Mar1 Jun2
	Viscosity @ 100°	С		10.0	Base Number		
	14 Abnormal	4000000000		(b) HOX Bull Bull Bull Bull Bull Bull Bull Bull			
	0012 #3			ළි 6.1 ක	0		
				- the second sec	0		
	10 - Abnormal			es 2.0			
		723	24 +	0.0		723	124 -
	Feb17/21 Jun11/21	Jul27/23 Nov10/23	Mar12/24	Jun29/24	Feb17/21 Jun11/21	Jul27/23 Nov10/23	Mar12/24 Jun29/24
	,	2	2	~		- Z	е Г
Laboratory					М		LEASING #118
Sample No Lab Numbe		Receiv Testeo		2 Jul 2024 2 Jul 2024			SENNETT ROAD LADELPHIA, PA
Unique Numbe		Diagn		Jul 2024 - W	les Davis		US 19116



Test Package : MOB 1 (Additional Tests: TBN) Certificate L2367 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)

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Page 2 of 2