

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 621336 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

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

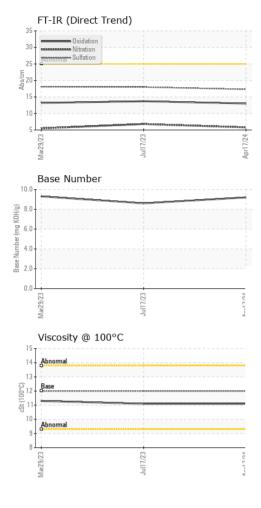
Fluid Condition

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		PCA0121424	PCA0100802	PCA0093265
Sample Date		Client Info		17 Apr 2024	17 Jul 2023	29 Mar 2023
Machine Age	mls	Client Info		34417	18398	13868
Oil Age	mls	Client Info		34417	4535	13868
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	6	9	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		6	6	28
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	1	1	2
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	20	47
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 22	history1 11	history2 63
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	2	22	11	63
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	22 0	11	63 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	22 0 56	11 1 53	63 0 40
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	22 0 56 <1	11 1 53 <1	63 0 40 <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	22 0 56 <1 887	11 1 53 <1 816	63 0 40 <1 660
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	22 0 56 <1 887 1126	11 1 53 <1 816 1167	63 0 40 <1 660 1351
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	22 0 56 <1 887 1126 1046	11 1 53 <1 816 1167 978	63 0 40 <1 660 1351 902
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 0 950 1050 995 1180	22 0 56 <1 887 1126 1046 1209	11 1 53 <1 816 1167 978 1144	63 0 40 <1 660 1351 902 1046
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	22 0 56 <1 887 1126 1046 1209 3668	11 1 53 <1 816 1167 978 1144 3182	63 0 40 <1 660 1351 902 1046 3726
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	22 0 56 <1 887 1126 1046 1209 3668 current	11 1 53 <1 816 1167 978 1144 3182 history1	63 0 40 <1 660 1351 902 1046 3726 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 limit/base >25	22 0 56 <1 887 1126 1046 1209 3668 <i>current</i> 5	11 1 53 <1 816 1167 978 1144 3182 history1 6	63 0 40 <1 660 1351 902 1046 3726 history2 7
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	22 0 56 <1 887 1126 1046 1209 3668 <u>current</u> 5 <	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1	63 0 40 <1 660 1351 902 1046 3726 history2 7 0
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 50 950 1050 995 1180 2600 limit/base >25 >20	22 0 56 <1 887 1126 1046 1209 3668 <u>current</u> 5 <1 3	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1 6	63 0 40 <1 660 1351 902 1046 3726 history2 7 0 2
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 >3	22 0 56 <1 887 1126 1046 1209 3668 current 5 <1 3 current	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1 6 history1	63 0 40 <1 660 1351 902 1046 3726 history2 7 0 2 2 history2
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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	22 0 56 <1 887 1126 1046 1209 3668 <i>current</i> 5 <1 3 <i>current</i> 0.1	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1 6 history1 0.1	63 0 40 <1 660 1351 902 1046 3726 history2 7 0 2 history2 0.1
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	22 0 56 <1 887 1126 1046 1209 3668 <i>current</i> 5 <1 3 <i>current</i> 0.1 5.8	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1 6 history1 0.1 6.8	63 0 40 <1 660 1351 902 1046 3726 history2 7 0 2 history2 0.1 5.5
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	22 0 56 <1 887 1126 1046 1209 3668 <u>current</u> 5 <1 3 <u>current</u> 0.1 5.8 17.3	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1 6 history1 0.1 6.8 18.0	63 0 40 <1 660 1351 902 1046 3726 history2 7 0 2 history2 0.1 5.5 18.1
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 TS ppm 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	22 0 56 <1 887 1126 1046 1209 3668 <i>current</i> 5 <1 3 <i>current</i> 0.1 5.8 17.3	11 1 53 <1 816 1167 978 1144 3182 history1 6 <1 6 <1 6 history1 0.1 6.8 18.0 history1	63 0 40 <1 660 1351 902 1046 3726 history2 7 0 2 2 history2 0.1 5.5 18.1 bistory2



OIL ANALYSIS REPORT



White Metal Yellow Metal	scalar	*Visual				
		visuai	NONE	NONE	NONE	NONE
	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	20.L	NEG	NEG	NEG
FLUID PROPER	RTIES	method	limit/base	curren	t history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.1	11.1	11.3
GRAPHS						
Iron (ppm)			10	Lead (ppr	n)	
Severe			8	Severe		
0 - Abnormal			6 udd			
- Abnormal			- 4	Abnormal		
)			2			
a/5 a/53	Jul17/23		Apr17/24		. 52/711µL	9 [
Mar29/23	Ull		Apr1	Mar29/23	Jult	
Aluminum (ppm)			51	Chromiun	n (ppm)	
Severe			4	Severe		
D-			₌ 3	p		
Abnormal			E 3	Abnormal		
) -			1			
) L				J		
Mar29/23	Jul17/23		Apr17/24	Mar29/23	Jul17/23	
≥ Copper (ppm)	,		4	≥ Silicon (pr		<
T Severe			8			
Abiroimat			6)		
			E.4			
			H.	Abnormal		
]			2]		
n	5					
Mar29/23	Jul17/23		Apr17/24	Mar29/23	Jul17/23	
≥ Viscosity @ 100°C	7		A	≥ Base Num		<
			10.		<u> </u>	
			HOX E	•		
Base			ے۔ بو			
			(0)HOX (0)HOX (0) (0)HOX (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)			
Abnormal	1		ese 2.			
3/23	7/23 -				,/23 +	N.
Mar29/23	Jul17/23		Apr17/24	Mar29/23	Jul17/23	
VearCheck USA - 501 CA0121424 6157275 0992698 IOB 1 (Additional Tes ntact Customer Servic	Recei Teste Diagr	ved : 23 d : 24 losed : 24	3 Apr 2024 4 Apr 2024 4 Apr 2024 - W	les Davis	PHIL Contact:	LEASING #11 ENNETT ROAI ADELPHIA, P. US 1911 ROSTY VITEI transgroup.cor

To discuss this sample report, * - 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)

Report Id: MILPHINE [WUSCAR] 06157275 (Generated: 04/24/2024 10:45:27) Rev: 1

Certificate L2367

Laboratory Sample No. Lab Number **Unique Number Test Package**

Contact/Location: ROSTY VITER - MILPHINE

F: (215)552-9892