

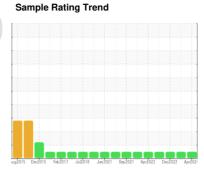
OIL ANALYSIS REPORT

FLEET

VOLVO VNA 26366 (S/N 4V4MC9EG2EN173858)

Diesel Engine

PETRO CANADA DURON SHP 10W30 (40 QTS)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

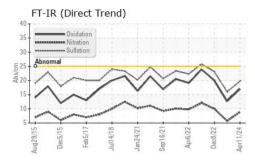
Fluid Condition

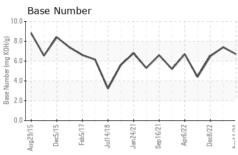
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

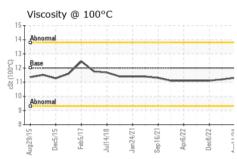
Sample Date	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 480583 438444 422546 Oil Age mis Client Info 42139 33339 18475 Oil Changed Client Info Changed Changed Not Changed Sample Status NORMAL NORMAL NORMAL CONTAMINATION method Imitibase current history1 Fuel WC Method >6.0 <1.0	Sample Number		Client Info		PCA0119911	PCA0093678	PCA0082257
Dil Age	Sample Date		Client Info		11 Apr 2024	27 Apr 2023	08 Dec 2022
Cilient Info Changed NORMAL NORMAL NORMAL NORMAL	Machine Age	mls	Client Info		480583	438444	422546
NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 history2	Oil Age	mls	Client Info		42139	33339	18475
NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 history2	Oil Changed		Client Info		Changed	Changed	Not Changd
Fuel	Sample Status						
Water Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 22 12 23 Chromium ppm ASTM D5185m >20 1 0 <1 Nickel ppm ASTM D5185m >2 2 <1 0 Silver ppm ASTM D5185m >2 2 <1 0 Silver ppm ASTM D5185m >2 5 0 4 Lead ppm ASTM D5185m >40 2 <1 3 Copper ppm ASTM D5185m >40 2 <1 1 Vanadium ppm ASTM D5185m >15 2 <1 1 Vanadium ppm ASTM D5185m <1 0 0 0 ADDITIVES method limit/base current history1	CONTAMINAT	TION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Part	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	22	12	23
Titanium	Chromium	ppm	ASTM D5185m	>20	1	0	<1
ASTM D5185m C1	Nickel	ppm	ASTM D5185m	>2	2	<1	0
Silver	Titanium	ppm	ASTM D5185m		<1	4	0
Aluminum	Silver		ASTM D5185m	>2	<1	0	0
Lead	Aluminum		ASTM D5185m	>25	5	0	4
Copper ppm ASTM D5185m >330 6 1 2 Tin ppm ASTM D5185m >15 2 <1							3
Tin				>330			
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 <1 6 3 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 84 50 60 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 950 1330 742 921 Calcium ppm ASTM D5185m 995 1493 951 947 Zinc ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12							
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 <1				710			
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 <1	Cadmium						
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 84 50 60 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 1330 742 921 Calcium ppm ASTM D5185m 1050 1440 1104 1103 Phosphorus ppm ASTM D5185m 995 1493 951 947 Zinc ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 1 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 0.2 <td>ADDITIVES</td> <td></td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	ADDITIVES		method	limit/base	current	history1	history2
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 84 50 60 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	2	<1	6	3
Molybdenum ppm ASTM D5185m 50 84 50 60 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 1330 742 921 Calcium ppm ASTM D5185m 1050 1440 1104 1103 Phosphorus ppm ASTM D5185m 1050 1440 1104 1103 Phosphorus ppm ASTM D5185m 995 1493 951 947 Zinc ppm ASTM D5185m 1180 1734 1121 1207 Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/	Barium	ppm	ASTM D5185m	0	0	0	0
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 1330 742 921 Calcium ppm ASTM D5185m 1050 1440 1104 1103 Phosphorus ppm ASTM D5185m 995 1493 951 947 Zinc ppm ASTM D5185m 1180 1734 1121 1207 Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1	Molvbdenum		ASTM D5185m	50	84	50	60
Magnesium ppm ASTM D5185m 950 1330 742 921 Calcium ppm ASTM D5185m 1050 1440 1104 1103 Phosphorus ppm ASTM D5185m 1050 1493 951 947 Zinc ppm ASTM D5185m 1180 1734 1121 1207 Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION *ASTM D	-		ASTM D5185m	0	<1	<1	<1
Calcium ppm ASTM D5185m 1050 1440 1104 1103 Phosphorus ppm ASTM D5185m 995 1493 951 947 Zinc ppm ASTM D5185m 1180 1734 1121 1207 Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1	•				1330	742	921
Phosphorus ppm ASTM D5185m 995 1493 951 947 Zinc ppm ASTM D5185m 1180 1734 1121 1207 Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm							
Zinc ppm ASTM D5185m 1180 1734 1121 1207 Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1					-		
Sulfur ppm ASTM D5185m 2600 4380 2942 2957 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m >20 7 2 <1							
Silicon ppm ASTM D5185m >25 12 25 6 Sodium ppm ASTM D5185m 15 0 13 Potassium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	Sulfur						
Sodium ppm ASTM D5185m 15 0 13 Potassium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 15 0 13 Potassium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	Silicon	ppm	ASTM D5185m	>25	12	25	6
Potassium ppm ASTM D5185m >20 7 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	Sodium						
Soot % % *ASTM D7844 >3 0.2 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	Potassium		ASTM D5185m	>20	7	2	<1
Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 8.9 5.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	Soot %	%	*ASTM D7844	>3	0.2	0.1	0.4
Sulfation Abs/.1mm *ASTM D7415 >30 19.7 16.0 23.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0							
Oxidation Abs/.1mm *ASTM D7414 >25 17.0 12.7 20.0	Sulfation						
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/1mm	*ASTM D7414	>25	17.0	12.7	20.0
	Base Number (BN)	mg KOH/g	ASTM D2896	- 20	6.7	7.4	6.5



OIL ANALYSIS REPORT





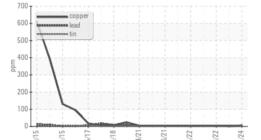


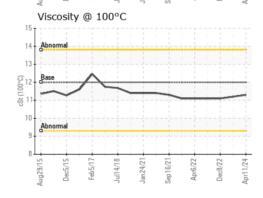
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
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

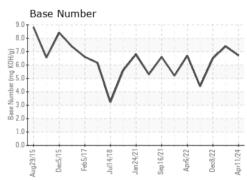
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.3	11.2	11.1

GRAPHS













Certificate 12367

Laboratory Sample No.

Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0119911 Lab Number : 06156673 Unique Number : 10992096

Received : 22 Apr 2024 **Tested**

: 23 Apr 2024

Diagnosed : 24 Apr 2024 - Sean Felton

 $\mathsf{ACCOMAC},\,\mathsf{VA}$ US 23301 Contact: PEGGY KIMES peggy.kimes@perdue.com T: (757)787-5304

PERDUE FARMS - ACCOMAC

22520 LANKFORD HWY

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)

F: (757)787-5208