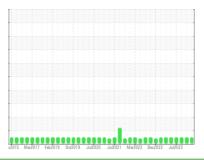


OIL ANALYSIS REPORT

[858805] Machine Id LCL-10 ENGINE 2

Rear Diesel Engine

PHILLIPS 66 Fleet Supreme EC 15W40 (--- GAL)



Sample Rating Trend



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

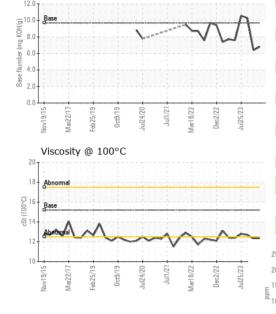
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

37 HVII 22 HVII 31 HV	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0865376	WC0865369	WC0843466
Sample Date		Client Info		24 Jan 2024	20 Nov 2023	23 Sep 2023
Machine Age	hrs	Client Info		0	6935	6806
Oil Age	hrs	Client Info		0	210	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.5	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	6	3
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	0
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	2	2	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	710	<1	0	<1
Cadmium		ASTM D5185m		<1	<1	0
	ppm		11 11 11			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		63	76	83
	1-1-					
Barium	ppm	ASTM D5185m		0	12	0
Barium Molybdenum		ASTM D5185m ASTM D5185m		0 73	12 91	89
Molybdenum Manganese	ppm			_	91 <1	89 <1
Molybdenum	ppm ppm	ASTM D5185m		73	91	89
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		73 <1	91 <1	89 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1116	73 <1 34	91 <1 33	89 <1 36
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1116 1250	73 <1 34 2082	91 <1 33 2263	89 <1 36 2183
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		73 <1 34 2082 1044	91 <1 33 2263 1066	89 <1 36 2183 1110
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		73 <1 34 2082 1044 1148	91 <1 33 2263 1066 1254	89 <1 36 2183 1110 1313
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	1250	73 <1 34 2082 1044 1148 3453	91 <1 33 2263 1066 1254 4063	89 <1 36 2183 1110 1313 4083
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1250 limit/base	73 <1 34 2082 1044 1148 3453	91 <1 33 2263 1066 1254 4063 history1	89 <1 36 2183 1110 1313 4083 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1250 limit/base >25	73 <1 34 2082 1044 1148 3453 current	91 <1 33 2263 1066 1254 4063 history1	89 <1 36 2183 1110 1313 4083 history2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1250 limit/base >25	73 <1 34 2082 1044 1148 3453 current 3	91 <1 33 2263 1066 1254 4063 history1 3	89 <1 36 2183 1110 1313 4083 history2 4 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1250 limit/base >25 >20	73 <1 34 2082 1044 1148 3453 current 3 2 <1	91 <1 33 2263 1066 1254 4063 history1 3 0 3	89 <1 36 2183 1110 1313 4083 history2 4 2 1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 limit/base >3	73 <1 34 2082 1044 1148 3453 current 3 2 <1	91 <1 33 2263 1066 1254 4063 history1 3 0 3	89 <1 36 2183 1110 1313 4083 history2 4 2 1 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	limit/base >25 >20 limit/base >3	73 <1 34 2082 1044 1148 3453 current 3 2 <1 current 0.2	91 <1 33 2263 1066 1254 4063 history1 3 0 3 history1 0.2	89 <1 36 2183 1110 1313 4083 history2 4 2 1 history2 0.1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	limit/base >25 >20 limit/base >3 >20	73 <1 34 2082 1044 1148 3453 current 3 2 <1 current 0.2 8.3	91 <1 33 2263 1066 1254 4063 history1 3 0 3 history1 0.2 8.1	89 <1 36 2183 1110 1313 4083 history2 4 2 1 history2 0.1 7.6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415	1250 limit/base >25 >20 limit/base >3 >20 >3 >20 >30	73 <1 34 2082 1044 1148 3453 current 3 2 <1 current 0.2 8.3 17.8	91 <1 33 2263 1066 1254 4063 history1 3 0 3 history1 0.2 8.1 17.4	89 <1 36 2183 1110 1313 4083 history2 4 2 1 history2 0.1 7.6 16.5



Base Number

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 PROPERT	TIES	method	limit/base	ourrent	history1	history2
FLUID FROFER I	IEO	memou			HISTOLAL	HIStOLY∠

Visc @ 100°C cSt	ASTM D445 15.2	12.3	12.3	12.7
GRAPHS				
Iron (ppm)		Lead (ppm)		
200 - Severe 150 - Abnormal	E E E	80 Severe		
100 Abnomal		40 - Abnormal 20 -		
Nov19/15 Feb25/17 Peb25/19 Pot 19/19 Pot 19/19 Peb25/19 Pot 19/19	Mar18/22 Dec2/22 Jul25/23	Mar22/17	Jul24/20	Mar18/22 Dec2/22
Aluminum (ppm)	_	Chromium (p	opm)	
Severe		Severe		
E 20 Abnomal		20 Abnormal		
10		10		3 2 2 3
Nov19/15 Mar22/17 Feb25/19 Oct9/19 Jul24/20	Mar18/22 Dec2/22 Jul25/23	Nov19/15 Mar22/17 Feb25/19	Jul24/20	Mar18/22 Dec2/22 Jul25/23
Copper (ppm)		Silicon (ppm)) 	
300 - Springly 300 -		60		
100-		Abnormal 20	M_	
Nov19/15 Mar22/17 Feb25/19 Oct9/19 Jul24/20	Mar18/22 - Dec2/22 - Jul25/23 -	Nov19/15 -	Jul24/20	Mar18/22 -
Viscosity @ 100°C		Base Numbe	r	
18 - Abnormal	ng KOH/(g)	10.0 Base 8.0	And or or or or	NA
0 16 Base Base 14 Abmoral	Wumber (m	10.0 Base 8.0 6.0 4.0		L.
Mar22/17 Feb25/19 Jul24/20	Mar18/22	Mar22/17 Feb25/19	Jul24/20	Mart 8/22 +





Laboratory Sample No. Lab Number

Unique Number : 10858395

: 06076304

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0865376

Recieved Diagnosed

: 31 Jan 2024 : 01 Feb 2024

Diagnostician : Wes Davis

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

AES USA - NORTH CHARLESTON

5400 INTERNATIONAL BLVD, BLDG 88-20 NORTH CHARLESTON, SC US 29418

Contact: Maxime Banctel

maxime.banctel@aes-gse.com

T: F: x: