

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 2218

Component Diesel Engine

MOBIL DELVAC 1300 SUPER 10W30 (--- 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

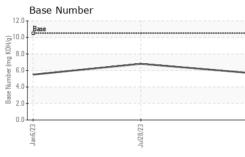
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

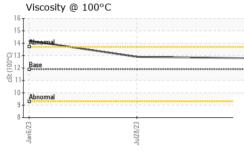
SAMPLE INFORI	MA <u>TION</u>	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0081086	PCA0081102	PCA0081109
Sample Date		Client Info		05 Jan 2024	28 Jul 2023	06 Jan 2023
Machine Age	mls	Client Info		143414	110463	75198
Oil Age	mls	Client Info		32951	35265	25100
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
Glycol		WC Method	20.2	NEG	NEG	NEG
WEAR METAL	c	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>165	27	29	58
Chromium	ppm	ASTM D5185m		<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		73	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm		>20	8	11	37
Lead	ppm	ASTM D5185m		0	<1	<1
Copper	ppm		>90	2	3	7
Tin	ppm		>5	0	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 21	history1 13	history2 35
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	21	13	35
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	limit/base	21 0	13 0	35 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 14	13 0 51	35 0 106
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 14 0	13 0 51 1	35 0 106 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 14 0 496	13 0 51 1 586 1775 774	35 0 106 1 700 1746 726
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	limit/base	21 0 14 0 496 1860	13 0 51 1 586 1775	35 0 106 1 700 1746
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	limit/base	21 0 14 0 496 1860 970	13 0 51 1 586 1775 774	35 0 106 1 700 1746 726
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	limit/base	21 0 14 0 496 1860 970 1227	13 0 51 1 586 1775 774 971	35 0 106 1 700 1746 726 902
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		21 0 14 0 496 1860 970 1227 3550	13 0 51 1 586 1775 774 971 2783 history1 17	35 0 106 1 700 1746 726 902 2857
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	limit/base	21 0 14 0 496 1860 970 1227 3550 current	13 0 51 1 586 1775 774 971 2783 history1	35 0 106 1 700 1746 726 902 2857 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	limit/base >35	21 0 14 0 496 1860 970 1227 3550 current 15	13 0 51 1 586 1775 774 971 2783 history1 17	35 0 106 1 700 1746 726 902 2857 history2 21
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	limit/base >35	21 0 14 0 496 1860 970 1227 3550 current 15 2	13 0 51 1 586 1775 774 971 2783 history1 17 3	35 0 106 1 700 1746 726 902 2857 history2 21 4
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	limit/base >35 >20	21 0 14 0 496 1860 970 1227 3550 current 15 2 18	13 0 51 1 586 1775 774 971 2783 history1 17 3 27	35 0 106 1 700 1746 726 902 2857 history2 21 4 92
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base >35 >20 limit/base	21 0 14 0 496 1860 970 1227 3550 current 15 2 18 2 18 current	13 0 51 1 586 1775 774 971 2783 history1 17 3 27 27 history1	35 0 106 1 700 1746 726 902 2857 history2 21 4 92 92 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 TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >35 >20 limit/base >7.5	21 0 14 0 496 1860 970 1227 3550 current 15 2 15 2 18 current 0.5	13 0 51 1 586 1775 774 971 2783 history1 17 3 27 history1 0.5	35 0 106 1 700 1746 726 902 2857 history2 21 4 92 <u>history2</u> 0.6
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	limit/base >35 >20 limit/base >7.5 >20	21 0 14 0 496 1860 970 1227 3550 current 15 2 18 current 0.5 11.5	13 0 51 1 586 1775 774 971 2783 history1 17 3 27 3 27 history1 0.5 12.9	35 0 106 1 700 1746 726 902 2857 history2 21 4 92 history2 0.6 12.7
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	imit/base >35 >20 imit/base >7.5 >20 >30 imit/base	21 0 14 0 496 1860 970 1227 3550 current 15 2 15 2 18 current 0.5 11.5 26.1 current	13 0 51 1 586 1775 774 971 2783 history1 17 3 27 history1 0.5 12.9 25.0 history1	35 0 106 1 700 1746 726 902 2857 history2 21 4 92 history2 0.6 12.7 27.7 history2
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	Imit/base >35 >20 Imit/base >7.5 >20 >7.5 >20 >30	21 0 14 0 496 1860 970 1227 3550 current 15 2 15 2 18 current 0.5 11.5 26.1	13 0 51 1 586 1775 774 971 2783 history1 17 3 27 history1 0.5 12.9 25.0	35 0 106 1 700 1746 726 902 2857 history2 21 4 92 history2 0.6 12.7 27.7



OIL ANALYSIS REPORT

VISUAL





			method	limit/base	current		
	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
Jul28/23	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 PROPE	ERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	11.9	12.8	12.9	▲ 14.2
	GRAPHS						
	Ferrous Alloys						
	60 iron						
Jul28/23	50 - chromium						
Ju L	40-						
	Ē 30-						
	20-						
	10-						
	0						
	Jan6/23	Jul28/23		Jan5/24			
	L ar	Jul		Jar			
	udd 4						
	2			-			
	0	1/23		/24			
	2 0 EXigure F	Jul28/23		Jan5/24			
	Viscosity @ 100°	-			Base Number		
	0	-		47/Sue 12.0-	T :		
	Viscosity @ 100°	-		12.0	Base Number		
	Viscosity @ 100°	-		12.0	T :		
	Viscosity @ 100°	-		12.0	T :		
	Viscosity @ 100°	-		12.0	T :		
	Viscosity @ 100°	-		12.0	T :		
	Viscosity @ 100°	-		12.0- (0,0,0)(T :		
	Viscosity @ 100°	c		12.0- 10.0- (0)HOX 8.0- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9-	Base		
	Viscosity @ 100°	c		12.0- 10.0- (0)HOX 8.0- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9- 9-	Base	1282/3	
Laboratory Sample No. Lab Number Unique Number Test Package	Viscosity @ 100° Viscosity @ 100° Viscosity @ 100°	C	d :10. ed :11.	12.0- (10.0- (B/HOX) BW) as 0- a guilly as 6.0- 4.0- 92.0- 6.0- 4.0- 92.0- 6.0- 92.0- 6.0- 92.0- 92.0- 9.0- 92.0- 9.0- 9.0- 9.0- 9.0- 9.0- 9.0- 9.0- 9	Base	6	ng Inc VIC1 ⁻ 97 Haning Roa Vicksburg, M US 3918 itact: Josh Poo

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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