

# **OIL ANALYSIS REPORT**

Sample Rating Trend







Machine Id PORT Component Port Genset Fluid DIESEL ENGINE OIL SAE 40 (--- LTR)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm. 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

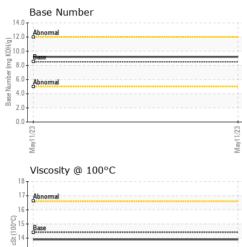
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KFS0003182		
Sample Date		Client Info		11 May 2023		
Machine Age	hrs	Client Info		500		
Oil Age	hrs	Client Info		500		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0		
Water		WC Method	>0.1	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>25	5		
Chromium	ppm	ASTM D5185m	>5	<1		
Nickel	ppm	ASTM D5185m	>5	<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>5	0		
Aluminum	ppm	ASTM D5185m	>10	2		
Lead	ppm	ASTM D5185m	>10	7		
Copper	ppm	ASTM D5185m	>20	<1		
Tin	ppm	ASTM D5185m	>5	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 0	history1	history2
	ppm ppm					
Boron		ASTM D5185m	250	0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	0 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	0 0 57		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	0 0 57 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	0 0 57 <1 1048		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	0 0 57 <1 1048 1156	  	
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	250 10 100 450 3000 1150	0 0 57 <1 1048 1156 989	   	
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	250 10 100 450 3000 1150 1350	0 0 57 <1 1048 1156 989 1312	    	
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	250 10 100 450 3000 1150 1350 4250	0 0 57 <1 1048 1156 989 1312 3570		
Boron Barium 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250	0 0 57 <1 1048 1156 989 1312 3570 current	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	0 0 57 <1 1048 1156 989 1312 3570 current 3	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216	0 0 57 <1 1048 1156 989 1312 3570 current 3 1	     history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	0 0 57 <1 1048 1156 989 1312 3570 <u>current</u> 3 1 3	     history1  	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	0 0 57 <1 1048 1156 989 1312 3570 current 3 1 3 3 2 1 3 2	     history1   history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	0 0 57 <1 1048 1156 989 1312 3570 current 3 1 3 2 1 3 2 0.1	     history1   history1  history1	     history2   history2
Boron Barium 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <i>limit/base</i> >25 >216 >20	0 0 57 <1 1048 1156 989 1312 3570 current 3 1 3 1 3 0.1 5.9	      history1   history1  	      history2   history2
Boron Barium 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >216 >216 >20 <b>Imit/base</b> >20	0 0 57 <1 1048 1156 989 1312 3570 current 3 1 3 current 0.1 5.9 18.8	      history1  history1  history1	      history2  history2  history2
Boron Barium 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 ASTM D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 20 216 >216 >20 20 imit/base >20 >30	0 0 57 <1 1048 1156 989 1312 3570 current 3 1 3 2 0.1 5.9 18.8 current	      history1   history1   history1   history1	      history2  history2  history2  history2



13 Abnormal 12 11 May11/23

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	VISUAL		method				history2
	White Metal	scalar	*Visual	NONE	NONE		
1	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
May11/23	Appearance	scalar	*Visual	NORML	NORML		
May	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.1	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPER		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	14.4	13.9		
	GRAPHS						
	Ferrous Alloys						
	iron						
CC 11	8 chromium						
1	o needeen nickel						
	6 -						
	u dd						
	4						
	2						
	0						
	/23			/23			
	May11/23			May11/23			
	Ma			W			
				-			
	Non-ferrous Meta	als		-			
	Non-ferrous Meta	als					
	10 copper	als					
	10 copper lead	als					
	10 copper						
	8 copper						
	8 6						
	8 copper						
	8 6						
	8 6						
	10 8 6 4 2 -						
	10 8 6 4 2 0						
	10 8 6 4 2 -						
	10 8 6 4 2 0						
	U Copper Lead Copper Lead				Base Number		
	U COPPET Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Lead Coppet Coppet Lead Coppet C				T		
	U Copper Lead Copper Lead			EZ/LI/AEW 14.0	Abnormal		
	Viscosity @ 100°			EZ/LI/AEW 14.0	Abnormal		
	Viscosity @ 100°			EZ/LI/AEW 14.0	Abnormal		
	Viscosity @ 100°			EZ/LI/AEW 14.0	Abnormal		
	10 10 10 10 10 10 10 10 10 10			EZ/LI/AEW 14.0	Abnormal		
	Viscosity @ 100°			EZ/LI/AEW 14.0	Abnormal		
	U Copper lead lead L			EZ/11/keW (D/HOX) Bul) Japonio Bul) Japonio	Abnormal Base Abnormal		
	Viscosity @ 100°			EZ/LIL <sup>A</sup> EW 14.0 12.0 (\$\mathcal{b}(10.0 12.0 \mathcal{b}(10.0 12.0 \mathcal{b}(10.0 12.0 \mathcal{b}(10.0)\\mathcal{b}(10.0)\\mathcal{b}(	Abnormal		
	Uicore Copper lead			EZ/11/kew (0,HOX bu) Jaguard 6.0 8.0 9.0 9.0 9.0 14.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12	Abnormal Base Abnormal		
	Uicore Copper lead			EZ/11/kew (0,HOX bu) Jaguard 6.0 8.0 9.0 9.0 9.0 14.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12	Abnormal Base Abnormal		
	Viscosity @ 100°			EZ/LIL <sup>A</sup> EW 14.0 12.0 (\$\mathcal{b}(10.0 12.0 \mathcal{b}(10.0 12.0 \mathcal{b}(10.0 12.0 \mathcal{b}(10.0)\\mathcal{b}(10.0)\\mathcal{b}(	Abnormal		
	Viscosity @ 100°	C		EZ/11/AeW 14.0 (0/HQX Bu) action 8.0 2.0 2.0 5 27/11/AeW	Abnormal Base Abnormal		
Laboratory	Viscosity @ 100° Viscosity @ 100° bhomal bhomal contractions contracti	C 01 Madisc	on Ave., Cary	EZ/11/AeW EZ/11/AeW EZ/11/AeW EZ/11/AeW 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 0	Abnormal Base Abnormal		
AR Sample No.	Viscosity @ 100° Viscosity @ 100°	C 01 Madisc Recei	on Ave., Cary ived : 25	EZILIARW EZILIA	Abnormal Base Abnormal		
	Viscosity @ 100° Viscosity @ 100°	C 01 Madisc	on Ave., Cary ived : 25	EZ/11/AeW EZ/11/AeW EZ/11/AeW EZ/11/AeW 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 2.0 0.0 0	Abnormal Base Abnormal	2200	CLIFTON A
Sample No. Lab Number	Viscosity @ 100° Viscosity @ 100° boomal Constant Co	C 01 Madisc Recei Teste	on Ave., Cary ived : 25 ed : 25	EZULIARW EXTLAND EX	Abnormal Base Abnormal	2200	OIL COMPAN CLIFTON AV IASHVILLE, T US 372
Sample No. Lab Number Unique Number	Viscosity @ 100° Viscosity @ 100° b b b b b b b b b c c c c c c c c c c	C 01 Madisc Recei Teste	on Ave., Cary ived : 25	EZILIARW EZILIARW EZILIARW EZILIARW EZILIARW EZILIARW EXILIA	Abnormal Base Abnormal	2200 N	CLIFTON AV
Sample No. Lab Number	Viscosity @ 100° Viscosity @ 100°	C 01 Madisc Recei Teste Diagr	on Ave., Cary ived : 25 nosed : 25	EZULIARW EXAMPLE A CONTRACT OF CONTRACT O	Abnormal Base Abnormal	2200 N Contact: C	CLIFTON A IASHVILLE, US 372

Contact/Location: CHRIS HIGGINS - KIMNAS