

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend







Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 40 (--- GAL)

#### DIAGNOSIS

Machine Id 4221337

#### 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

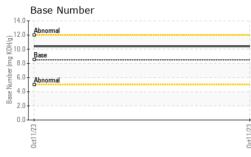
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

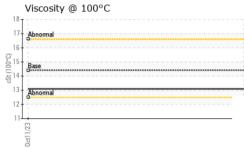
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		IL06009305		
Sample Date		Client Info		11 Oct 2023		
Machine Age	mls	Client Info		80792		
Oil Age	mls	Client Info		8000		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel	•	WC Method	>5	<1.0		
Glycol		WC Method	20	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	nom	ASTM D5185m	>100	34		
Chromium	ppm	ASTM D5185m ASTM D5185m	>100	34 <1		
Nickel	ppm		>20	<1 <1		
	ppm	ASTM D5185m ASTM D5185m	>4	< 1		
Titanium Silver	ppm		>3	0		
	ppm	ASTM D5185m	>3 >20	-		
Aluminum Lead	ppm	ASTM D5185m ASTM D5185m	>20	5 2		
	ppm			_		
Copper	ppm	ASTM D5185m	>330	16		
Tin	ppm	ASTM D5185m	>15	2		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 24	history1	history2
Boron Barium	ppm ppm		250 10		, in the second s	
Boron		ASTM D5185m	250	24		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10 100	24 0 47 1		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10	24 0 47		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	24 0 47 1		 
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	24 0 47 1 549		
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	24 0 47 1 549 1854	  	  
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	24 0 47 1 549 1854 801		   
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	24 0 47 1 549 1854 801 999		
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	24 0 47 1 549 1854 801 999 2318		
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 <b>method</b>	250 10 100 450 3000 1150 1350 4250	24 0 47 1 549 1854 801 999 2318 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	24 0 47 1 549 1854 801 999 2318 current 8	     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 <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216	24 0 47 1 549 1854 801 999 2318 current 8 4	     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	24 0 47 1 549 1854 801 999 2318 current 8 4 0	     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>imit/base</b> >25 >216 >20 <b>imit/base</b>	24 0 47 1 549 1854 801 999 2318 current 8 4 0 0	    history1   history1	     history2    history2
Boron Barium 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >216 >20 <b>Iimit/base</b> >3	24 0 47 1 549 1854 801 999 2318 <b>current</b> 8 4 0 <b>current</b> 2.5	     history1   history1  history1	     history2  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 <b>Iimit/base</b> >25 >216 >20 <b>Iimit/base</b> >3 >20	24 0 47 1 549 1854 801 999 2318 <i>current</i> 8 4 0 <i>current</i> 2.5 15.2	     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 D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 20 225 >216 >20 >20 >30 >30 Simit/base	24 0 47 1 549 1854 801 999 2318 <i>current</i> 8 4 0 <i>current</i> 2.5 15.2 29.0	      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 D5185m	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >216 >20 <b>imit/base</b> >3 >20 >30	24 0 47 1 549 1854 801 999 2318 <b>current</b> 8 4 0 <b>current</b> 2.5 15.2 29.0	     history1  history1  history1	    history2  history2  history2  history2  history2



# **OIL ANALYSIS REPORT**

VISUAL





etal scala Metal scala ate scala scala scala scala rt scala ance scala scala ed Water scala ater scala 100°C cSt	rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual	NONE NONE NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NONE NONE NORML NORML NORML	() () () () () () () () () () () () ()	
Metal scala   ate scala   scala scala   scala scala   rt scala   ance scala   scala scala   ance scala   ed Water scala   ater scala   PROPERTIES	rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual	NONE NONE NONE NONE NORML NORML	NONE NONE NONE NONE NORML NORML NEG	 	  
rt scala rt scala ance scala ed Water scala ater scala	rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual	NONE NONE NORML NORML	NONE NONE NORML NORML NORML NEG	 	  
rt scala ance scala scala ed Water scala ater scala	rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual	NONE NORML NORML	NONE NONE NORML NORML NEG		
rt scala ance scala scala ed Water scala ater scala PROPERTIES	rr *Visual rr *Visual rr *Visual rr *Visual rr *Visual	NONE NORML NORML	NONE NORML NORML NEG		
ance scala scala ed Water scala ater scala	ur *Visual ur *Visual ur *Visual ur *Visual	NORML NORML	NORML NORML NEG		
ed Water scala ater scala PROPERTIES	ur *Visual ur *Visual ur *Visual	NORML	NORML NEG		
ed Water scala ater scala PROPERTIES	r *Visual r *Visual		NEG		
ater scala	r *Visual	>0.2			
PROPERTIES					
	method		NEG		
		limit/base	current	history1	history2
100 0 031	ASTM D445		13.1		
PHS	ASTM D445	14.4	13.1		
is Alloys					
iron chromium					
•• nickel					
		1/23			
		0ct11			
errous Metals					
- conner					
na lead					
		t11/23			
		00			
ity @ 100°C			Base Number		
		14.0	Abnormal		
		12.0-4			
		풍 <sup>10.0</sup>	Base		
		Ĕ 8.0 -			
		- 6.0 -	Abnormal		
		ي ية 4.0 -			
		2.0			
		0.0	2		
		411/2			
	errous Metals	errous Metals	Errous Metals	errous Metals	errous Metals

Contact/Location: DAVID JOHNS - IDEATLGA