

## **OIL ANALYSIS REPORT**







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

### DIAGNOSIS

Machine Id

#### 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

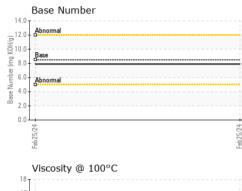
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

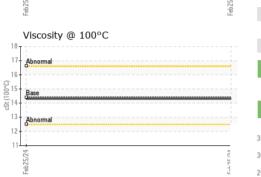
SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0082989		
Sample Date		Client Info		25 Feb 2024		
Machine Age	mls	Client Info		0		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	35		
Chromium	ppm	ASTM D5185m	>20	2		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	17		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	1		
Tin	ppm	ASTM D5185m	>15	0		
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 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 59		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	0 0 59 <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 59 <1 894		
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 59 <1 894 1009		
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 59 <1 894 1009 958	   	
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 59 <1 894 1009 958 1201	    	
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 59 <1 894 1009 958 1201 2795		
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	250 10 100 450 3000 1150 1350 4250 limit/base	0 0 59 <1 894 1009 958 1201 2795 current	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 limit/base >25	0 0 59 <1 894 1009 958 1201 2795 current 4	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 59 <1 894 1009 958 1201 2795 current 4 0	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	0 0 59 <1 894 1009 958 1201 2795 <u>current</u> 4 0 0	     history1  	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm 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 <b>limit/base</b>	0 0 59 <1 894 1009 958 1201 2795 current 4 0 0 0	     history1   history1	    history2   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 ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >216 >20 <b>limit/base</b>	0 0 59 <1 894 1009 958 1201 2795 current 4 0 0 0 current 0.7	      history1   history1  history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solfur Solicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm spm 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	0 0 59 <1 894 1009 958 1201 2795 current 4 0 0 0 current 0.7 10.0	      history1   history1   	     history2   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 TS ppm ppm ppm ppm spm 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	0 0 59 <1 894 1009 958 1201 2795 <b>current</b> 4 0 0 0 <b>current</b> 0.7 10.0 20.5	      history1  history1  history1	    history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >216 >216 >20 <b>imit/base</b> >3 >20 >30	0 0 59 <1 894 1009 958 1201 2795 current 4 0 0 0 current 0.7 10.0 20.5 current	      history1  history1  history1	    history2  history2  history2  history2



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VISUAL





	White Metal	scalar	*Visual	NONE	NONE		
	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		
,/24	Appearance	scalar	*Visual	NORML	NORML		
Feb25/24	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPE			limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	14.4	14.3		
	GRAPHS						
	Ferrous Alloys						
	35 iron			-			
16 JC	30 - chromium						
Cali	25 -						
	E 15						
	ä 15 -						
	10						
	5						
	54		********	/24			
	Feb 25/24			Feb 25/24			
	Non-ferrous Meta	le		_			
	10 <sub>1</sub>						
	copper						
	8 - tin						
	6						
	6						
	б- Ща 4-						
	6+						
	б 4 2-						
	4						
	4 2 0			5,24			
	4			Feb25/24			
	4 2 0	C		Feb25/24	Raco Number		
	4 2 0 4 7 2 5 2 5 2 9 4	C		14.0-	Base Number		
	viscosity @ 100°C	c			Base Number		
	Viscosity @ 100°C	c		14.0	[]		
	Viscosity @ 100°C	C		14.0	[]		
	Viscosity @ 100°C	C		14.0	Abnormal		
	Viscosity @ 100°C	C		14.0	Abnormal		
	Viscosity @ 100°C	c		14.0	Abnormal Base		
	Viscosity @ 100°C	c		14.0- 12.0- (0) (10.0- (2)) (10.0- (2)) (10)	Abnormal Base		
	Viscosity @ 100°C	C		14.0 12.0 (D) 10.0 (D	Abnormal Base		
	Viscosity @ 100°C	C		14.0. 12.0. 10	Abnormal Base Abnormal		
	Viscosity @ 100°C	C		14.0- 12.0- (9) 10.0- (9) 10.0- (9) 10.0- (9) 8.0- 9 6.0- 9 4.0- 2.0-	Abnormal Base		
	Viscosity @ 100°C			14.0- 12.0- (0,10,00 Bu) by Base 4.0- 2.0- 4- 2.0- 4- 2.0- 4- 0.0-	Abnormal Base Abnormal		
Laboratory	Viscosity @ 100°C	)1 Madisc		14.0- 12.0- (9)(10.0- 9)(10.0-	Abnormal Base Abnormal	BEAUDRY OI	
Sample No.	Viscosity @ 100°C	)1 Madisc Recei	ived : 26	14.0- 12.0- (9)10.0- 900 8.0- 900 8.0-	Abnormal Base Abnormal	BEAUDRY OI 630 PROC	L & PROPAN
Sample No. Lab Number	Viscosity @ 100°C	)1 Madisc Rece Teste	ived : 26 ed : 27	14.0- 12.0- 12.0- 10	Abnormal Base Abnormal	BEAUDRY OI 630 PROC	<b>L &amp; PROPAN</b> CTOR AVE N LK RIVER, M
Sample No. Lab Number	Viscosity @ 100°C	)1 Madisc Rece Teste	ived : 26 ed : 27	14.0- 12.0- (9)10.0- 900 8.0- 900 8.0-	Abnormal Base Abnormal	BEAUDRY OI 630 PROO E	L & PROPAN

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (763)633-1432