

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend







Machine Id **JRYAN** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)** 

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on 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.

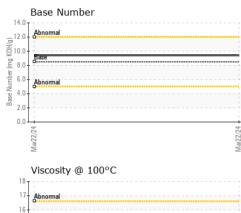
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0691812		
Sample Date		Client Info		22 Mar 2024		
Machine Age	hrs	Client Info		45189		
Oil Age	hrs	Client Info		250		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	2		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	2		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	0		
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 319	history1	history2
	ppm ppm				history1  	history2  
Boron		ASTM D5185m	250	319		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	319 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	319 0 113		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	319 0 113 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	319 0 113 0 674		
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	319 0 113 0 674 1764	  	
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	319 0 113 0 674 1764 764	   	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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	319 0 113 0 674 1764 764 882	    	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	319 0 113 0 674 1764 764 882 3055		
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	319 0 113 0 674 1764 764 882 3055 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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	319 0 113 0 674 1764 764 882 3055 current 4	     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 >158	319 0 113 0 674 1764 764 882 3055 <u>current</u> 4 2	      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 >158 >20	319 0 113 0 674 1764 882 3055 <u>current</u> 4 2 2 <1	     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 ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >158 >20 <b>Imit/base</b>	319 0 113 0 674 1764 764 882 3055 current 4 2 <1 current	     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	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158 >20 <b>limit/base</b> >3	319 0 113 0 674 1764 764 882 3055 <u>current</u> 4 2 <1 2 <1 0.1	     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>i</b> mit/base >25 >158 >20 <b>i</b> mit/base >3 >20	319 0 113 0 674 1764 764 882 3055 current 4 2 <1 2 <1 0.1 0.1 6.1	     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 <b>imit/base</b> >25 >158 >20 <b>imit/base</b> >3 >20 >30	319 0 113 0 674 1764 882 3055 Current 4 2 <1 Current 0.1 6.1 22.7 Current	       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 D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >158 >20 <b>Imit/base</b> >3 >20	319 0 113 0 674 1764 764 882 3055 <u>current</u> 4 2 <1 <u>current</u> 0.1 6.1 22.7	      history1  history1  history1  history1  history1	    history2  history2  history2  history2



(D-19 (2) 15 14 Base

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VISUAL



	VISUAL		method	limit/base	current	history1	history
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal		*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
1	Silt			NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
24 -	Sand/Dirt		*Visual	NONE	NONE		
Mai22/24	Appearance	scalar	*Visual	NORML	NORML		
W	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	<b>FIES</b>	method	limit/base	current	history1	history
	Visc @ 100°C	cSt	ASTM D445	14.4	12.8		
	GRAPHS						
	Ferrous Alloys						
5	iron						
160	8 - chromium						
P.4							
	6						
	4						
	2 -						
	0						
	74 + C/		,	/24			
	Mar22/24			Mar22/24			
	—			2			
	Non-ferrous Meta	5					
	copper						
	8 - excession lead						
	6						
	4						
	2						
				2/24			
	/24-			5			
	, Aar22/24 -			/lar2			
	Viscosity @ 100%			Mar22/24			
	Viscosity @ 100°C	2			Base Number		
	Viscosity @ 100°C	2		14.0	Abnormal		
	Viscosity @ 100°C	:		14.0	Abnormal		
	Viscosity @ 100°C	2		14.0	Abnormal		
	Viscosity @ 100°C	2		14.0	Abnormal		
	Viscosity @ 100°C	:		14.0	Abnormal		
	Viscosity @ 100°C	2		14.0	Abnormal		
	Viscosity @ 100°C	2		14.0 12.0 ( <sup>0</sup> H10.0 June 8.0 June 6.0 seg 4.0	Abnormal Base Abnormal		
	Viscosity @ 100°C	2		14.0	Abnormal Base Abnormal		
	Viscosity @ 100°C	2		14.0 12.0 00000000000000000000000000000000	Abnormal Base Abnormal		
	Viscosity @ 100°C	2		14.0 12.0 00000000000000000000000000000000	Abnormal Base Abnormal		
	Viscosity @ 100°C	2		14.0 12.0 (0) (10) (0) (10) (0) (10) (0) (0) (0) (0) (0) (0) (0) (0) (0) (	Abnormal Base Abnormal		
Laboratory Sample No.	Viscosity @ 100°C	1 Madisor Receiv	ved : 01	14.0 12.0 000 000 000 000 000 000 000	Abnormal Base Abnormal brownal		
Sample No. Lab Number	Viscosity @ 100°C	1 Madisor Receiv Tested	<b>ved</b> : 01 d : 02	14.0 12.0 10.0	Abnormal Base Abnormal Horocome Horocom		CONVENT,
Sample No. Lab Number Unique Number	Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Construction Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Base Construction Viscosity @ 100°C Base Viscosity @ 100°C Base Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Base Viscosity @ 100°C Viscosity @ 100°C Vi	1 Madisor Receiv	<b>ved</b> : 01 d : 02	14.0 12.0 000 000 000 000 000 000 000	Abnormal Base Abnormal Horocome Horocom		CONVENT, US 70
Sample No. Lab Number Unique Number 12367 Test Package	Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Construction Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Base Construction Viscosity @ 100°C Base Viscosity @ 100°C Base Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Base Viscosity @ 100°C Viscosity @ 100°C Vi	1 Madisor Receiv Tested Diagn	ved : 01 d : 02 osed : 02	14.0 12.0 10.0	Abnormal Base Abnormal Abnormal Abnormal Abnormal Abnormal Abnormal Abnormal		CONVENT, US 707 GREG JOS

Contact/Location: GREG JOSEY - STJCONKL