

# **OIL ANALYSIS REPO**

### Sample Rating Trend



# **CUMMINS SOUTHFIELD GEN 01**

Component

**Diesel Engine** 

NAPA Motor Oil 15W40 (--- GAL)

#### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the

### **Fluid Condition**

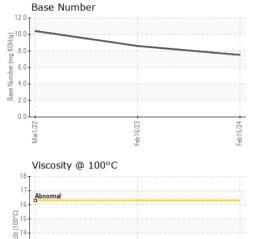
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SIS REPORT				
EN 01				
_14 0 1				
	Mar202	22 Feb202	3 Feb202	4
SAMPLE INFORMATION	method	limit/base	current	hist
Sample Number	Client Info	W	C0894436	WC0771
0	Oli a sat lasta	4.0	F-1-0004	40 = 1 (

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0894436	WC0771531	WC0637004
Sample Date		Client Info		15 Feb 2024	16 Feb 2023	01 Mar 2022
Machine Age	hrs	Client Info		514	485	463
Oil Age	hrs	Client Info		22	17	19
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	V	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	1	<1	3
Chromium	ppm	ASTM D5185m		0	0	<1
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	3
Lead	ppm	ASTM D5185m	>40	<1	0	1
Copper	ppm	ASTM D5185m		1	2	4
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m	>10	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ррпп					
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		21	225	397
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum						
	ppm	ASTM D5185m		13	108	126
Manganese	ppm	ASTM D5185m ASTM D5185m		13 0	108	126 <1
Manganese Magnesium	• • • • • • • • • • • • • • • • • • • •					
•	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm ppm	ASTM D5185m ASTM D5185m		0 58	<1 297	<1 696
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 58 2207	<1 297 1936	<1 696 1707
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 58 2207 896	<1 297 1936 933	<1 696 1707 809
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 58 2207 896 1039	<1 297 1936 933 1117	<1 696 1707 809 1007
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 58 2207 896 1039 3701	<1 297 1936 933 1117 3744	<1 696 1707 809 1007 2434
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 58 2207 896 1039 3701 current	<1 297 1936 933 1117 3744 history1	<1 696 1707 809 1007 2434 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	>25	0 58 2207 896 1039 3701 current	<1 297 1936 933 1117 3744 history1	<1 696 1707 809 1007 2434 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25	0 58 2207 896 1039 3701 current 5	<1 297 1936 933 1117 3744 history1 44 2	<1 696 1707 809 1007 2434 history2 5 2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20	0 58 2207 896 1039 3701 current 5 2	<1 297 1936 933 1117 3744 history1 44 2 0	<1 696 1707 809 1007 2434 history2 5 2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20 limit/base	0 58 2207 896 1039 3701 current 5 2 1 current	<1 297 1936 933 1117 3744 history1 44 2 0 history1 0.2	<1 696 1707 809 1007 2434 history2 5 2 2 history2 0.1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20 limit/base >6	0 58 2207 896 1039 3701 current 5 2 1	<1 297 1936 933 1117 3744 history1 44 2 0 history1	<1 696 1707 809 1007 2434 history2 5 2 2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m  Method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D7844  *ASTM D7624  *ASTM D7415	>25 >20 limit/base >6 >20 >30	0 58 2207 896 1039 3701 current 5 2 1 current 0.1 5.5 15.7	<1 297 1936 933 1117 3744 history1 44 2 0 history1 0.2 8.8 21.2	<1 696 1707 809 1007 2434 history2 5 2 2 history2 0.1 6.8 23.8
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m  method  *ASTM D7844 *ASTM D7624 *ASTM D7415  method	>25 >20 limit/base >6 >20 >30 limit/base	0 58 2207 896 1039 3701 current 5 2 1 current 0.1 5.5 15.7 current	<1 297 1936 933 1117 3744 history1 44 2 0 history1 0.2 8.8 21.2 history1	<1 696 1707 809 1007 2434 history2 5 2 history2 0.1 6.8 23.8 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m  Method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D7844  *ASTM D7624  *ASTM D7415	>25 >20 limit/base >6 >20 >30	0 58 2207 896 1039 3701 current 5 2 1 current 0.1 5.5 15.7	<1 297 1936 933 1117 3744 history1 44 2 0 history1 0.2 8.8 21.2	<1 696 1707 809 1007 2434 history2 5 2 2 history2 0.1 6.8 23.8



## **OIL ANALYSIS REPORT**



Feb16/23

VISUAL		method	limit/base	current	history1	history2
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	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	ΓIES	method	limit/base	current	history1	history2

Visc @ 100°C	cSt	ASTM D445	13.3	12.8	12.7
GRAPHS					
Iron (ppm)			Lead (ppm	)	
200 Severe			80 Severe		
150 Abnormal			Abnormal		
50			20		
0 Mar1/22	Feb16/23	Feb15/24 -	Mar1/22	Feb16/23 -	Feb15/24
Aluminum (ppm)	)		Chromium	(ppm)	
50 Severe			50 Severe		
Abnormal			Abnormal		
20 - Abnormal			20 - Abnormal		
0 22	53	24			
Mar1/22 2	Feb 16/23	Feb15/24	Mar1/22	Feb16/23	Feb15/24
Copper (ppm)			Silicon (ppr	n)	
Severe Publiormal 300			60		
Ē 200 -			E 40		
100-			Abnormal 20		
0	-		. 0		
Mar1/22	Feb16/23	Feb15/24	Mar1/22	Feb 16/23	Feb15/24
Viscosity @ 100°			Base Numb		
Abnormal			12.0 HO 10.0		
(C) (D) 14 Abnormal			8.0		
数 Abnormal			12.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0		
10					
Mar1/22	Feb16/23	Feb15/24	Mar1/22	Feb16/23	Feb15/24





Laboratory

Sample No.

Lab Number : 06101311 Unique Number : 10899541

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0894436 Received : 27 Feb 2024 Tested : 28 Feb 2024

Diagnosed : 28 Feb 2024 - Don Baldridge

Test Package: MOB 1 (Additional Tests: TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

**NATIONAL POWER CORP** 

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Contact: BRANDON RICE brandon.rice@natpow.com

T:

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

F: (919)790-9714

Contact/Location: BRANDON RICE - NATRAL