

# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**WESTERN STAR 89**

Component  
**Diesel Engine**

Fluid  
**CONOCO PHILLIPS GUARDOL ECT 15W40 (--- Oz)**

## DIAGNOSIS

### 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PCA0028074</b>	---	---
Sample Date	Client Info		<b>07 Nov 2023</b>	---	---
Machine Age	mls	Client Info	<b>0</b>	---	---
Oil Age	mls	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>2.0	<b>&lt;1.0</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>98</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>2</b>	---	---
Nickel	ppm	ASTM D5185m >4	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m	<b>0</b>	---	---
Silver	ppm	ASTM D5185m >3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>6</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>7</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>19</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>1</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 85	<b>44</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>53</b>	---	---
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m 350	<b>779</b>	---	---
Calcium	ppm	ASTM D5185m 1800	<b>1253</b>	---	---
Phosphorus	ppm	ASTM D5185m 1000	<b>789</b>	---	---
Zinc	ppm	ASTM D5185m 1100	<b>1085</b>	---	---
Sulfur	ppm	ASTM D5185m 3500	<b>3025</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>9</b>	---	---
Sodium	ppm	ASTM D5185m	<b>2</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>8</b>	---	---

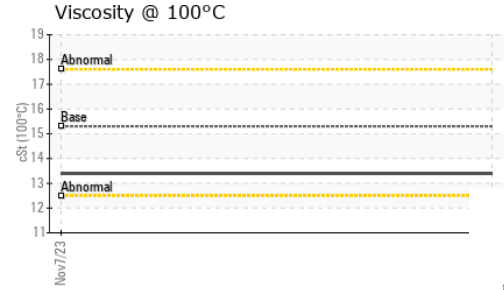
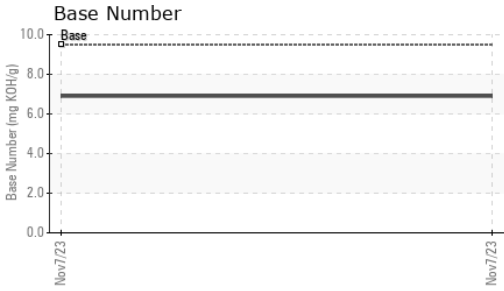
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.5</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>11.1</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>23.5</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>22.1</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.5	<b>6.9</b>	---	---

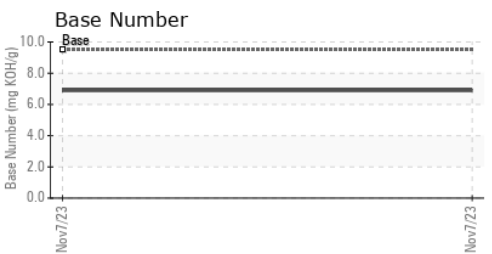
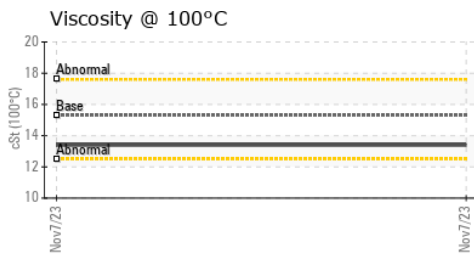
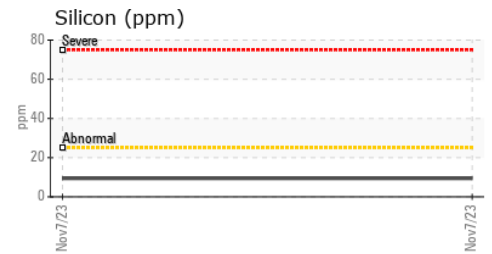
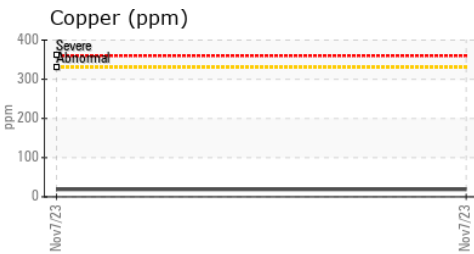
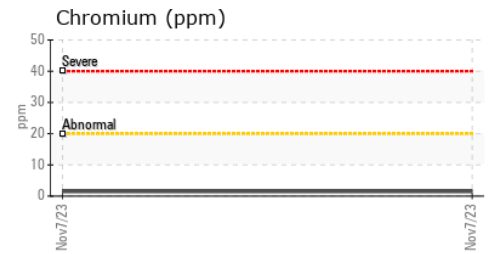
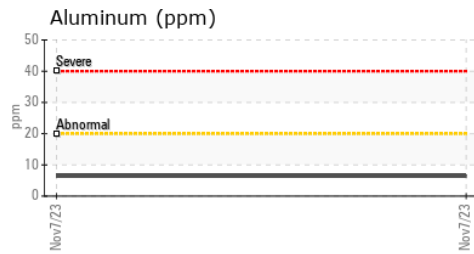
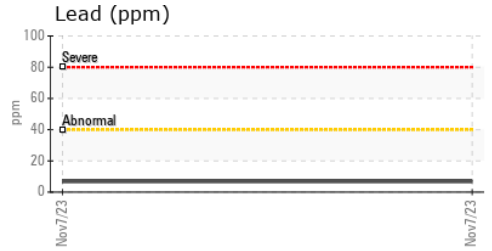
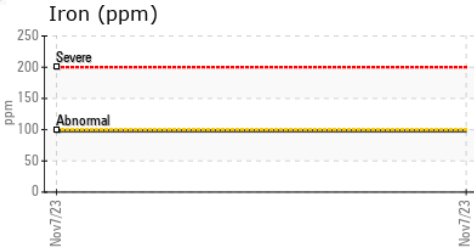
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
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	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	<b>13.4</b>	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0028074 **Received** : 08 Nov 2023  
**Lab Number** : 06002091 **Diagnosed** : 09 Nov 2023  
**Unique Number** : 10735853 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**ALBERT HOGOBOOM OILFIELD TRUCKING INC**  
 767 OIL HILL ROAD  
 EL DORADO, KS  
 US 67042  
 Contact: LOREN JACK  
 loren@hogoboom.net  
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 F: (316)321-1396

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.

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