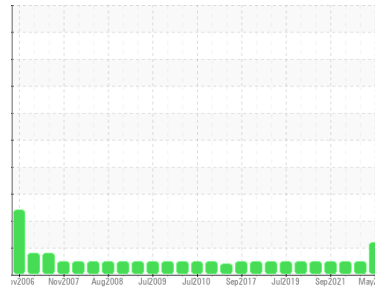




# OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id  
**WESTERN STAR 4900 FA 8080 (S/N SKKMAEDEX7PY44578)**  
 Component  
**Diesel Engine**  
 Fluid  
**VALVOLINE SYNTHETIC 10W30 (--- GAL)**

## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. 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 level is low. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0913269</b>	WC0816189	WC0704819
Sample Date	Client Info		<b>27 May 2024</b>	29 May 2023	20 Jun 2022
Machine Age	mls	Client Info	<b>322831</b>	293704	272188
Oil Age	mls	Client Info	<b>28127</b>	21515	24704
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>85	<b>60</b>	38	34
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	1	1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>3</b>	3	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>40	<b>6</b>	0	2
Lead	ppm	ASTM D5185m	>25	<b>6</b>	4	5
Copper	ppm	ASTM D5185m	>350	<b>3</b>	2	3
Tin	ppm	ASTM D5185m	>5	<b>2</b>	1	2
Antimony	ppm	ASTM D5185m		<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>14</b>	8	6
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>229</b>	204	240
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>488</b>	430	454
Calcium	ppm	ASTM D5185m		<b>1219</b>	1210	1309
Phosphorus	ppm	ASTM D5185m		<b>668</b>	548	560
Zinc	ppm	ASTM D5185m		<b>784</b>	698	732
Sulfur	ppm	ASTM D5185m		<b>1962</b>	1922	1723

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>40	<b>12</b>	8	7
Sodium	ppm	ASTM D5185m		<b>7</b>	5	3
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	3	0

## INFRA-RED

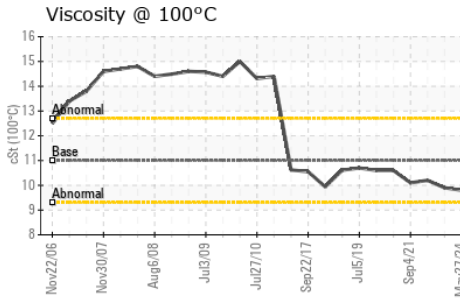
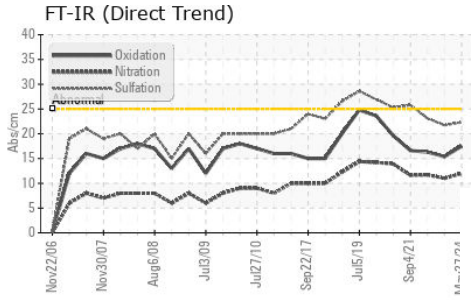
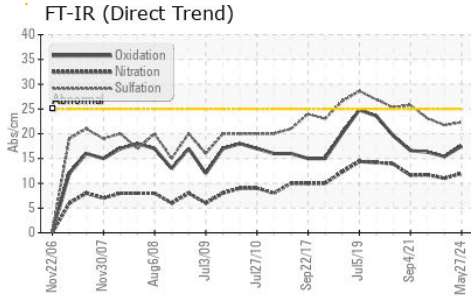
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	<b>0.7</b>	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.0</b>	11.0	11.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.3</b>	21.7	23.1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.5</b>	15.4	16.3
Base Number (BN)	mg KOH/g	ASTM D2896		<b>▲ 2.7</b>	3.3	3.9



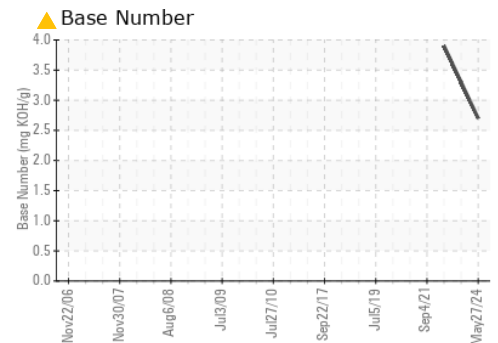
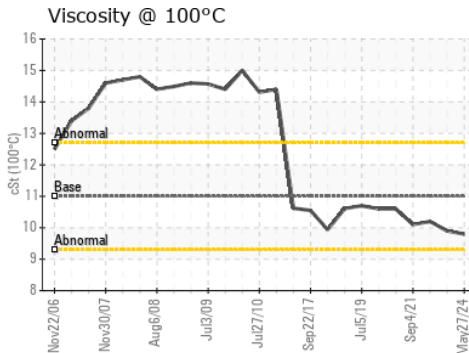
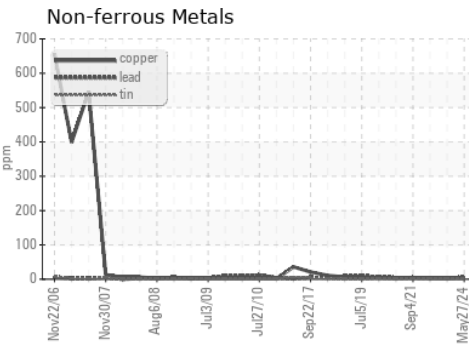
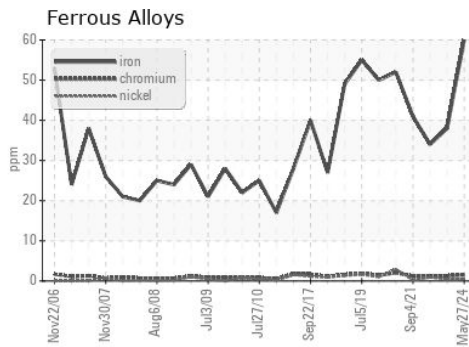
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.0	9.8	9.9

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0913269 **Received** : 31 May 2024  
**Lab Number** : 06196220 **Tested** : 03 Jun 2024  
**Unique Number** : 11058343 **Diagnosed** : 03 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**TRADER CONSTRUCTION CO.**  
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 F: (252)638-4871

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)