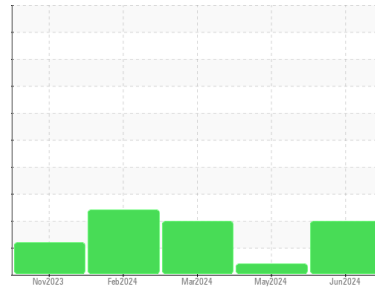




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**98217**  
 Component  
**Diesel Engine**  
 Fluid  
**10W30 SYN (--- GAL)**

## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

### Contamination

Light fuel dilution occurring.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>SBP0006596</b>	SBP0006597	SBP0006594
Sample Date	Client Info		<b>21 Jun 2024</b>	03 May 2024	26 Mar 2024
Machine Age	mls	Client Info	<b>109050</b>	102209	95362
Oil Age	mls	Client Info	<b>6841</b>	6847	6300
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ATTENTION	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
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	>100	<b>9</b>	13	11
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	1	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>22</b>	9	31
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>53</b>	52	49
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>343</b>	383	384
Calcium	ppm	ASTM D5185m		<b>1133</b>	1224	1168
Phosphorus	ppm	ASTM D5185m		<b>569</b>	600	628
Zinc	ppm	ASTM D5185m		<b>656</b>	676	706
Sulfur	ppm	ASTM D5185m		<b>2122</b>	2448	2535

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>3</b>	3	9
Sodium	ppm	ASTM D5185m		<b>0</b>	4	1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	2
Fuel	%	ASTM D3524	>5	<b>4.9</b>	<1.0	2.9

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	6.4	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.6</b>	18.4	16.7

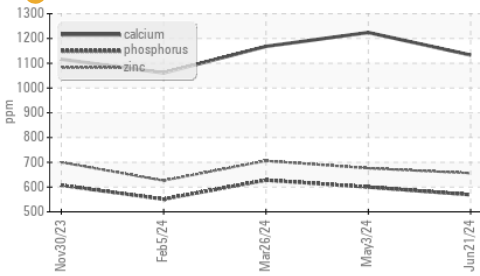
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.0</b>	13.4	10.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>3.6</b>	3.8	5.70

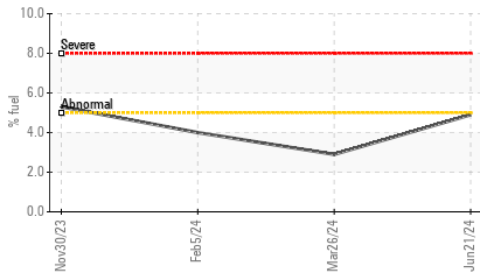


# OIL ANALYSIS REPORT

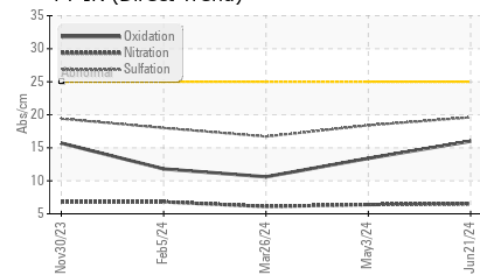
### Additives



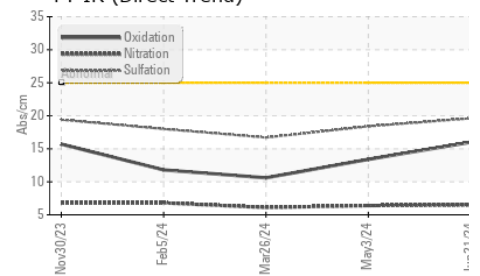
### Fuel Dilution



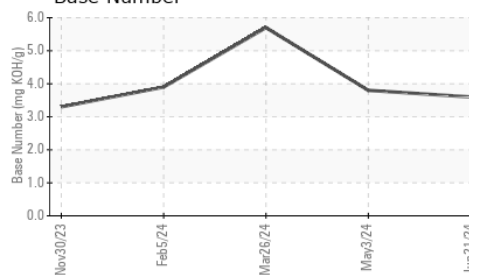
### FT-IR (Direct Trend)



### FT-IR (Direct Trend)



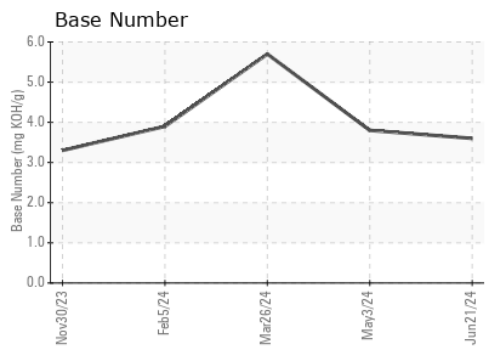
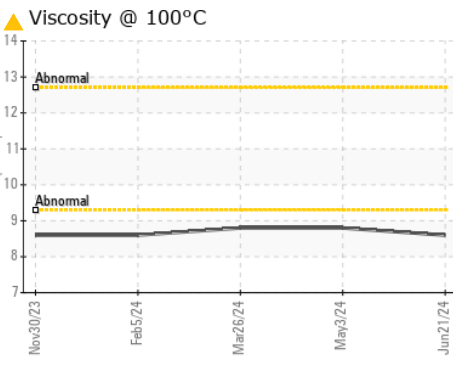
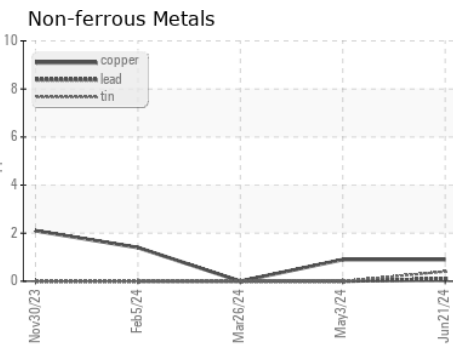
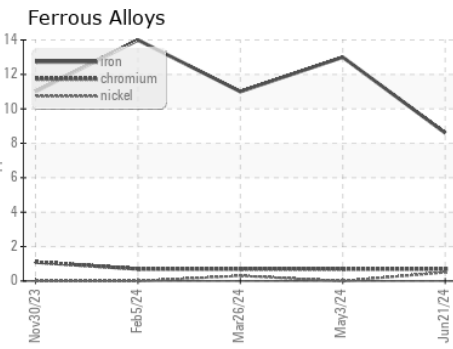
### Base Number



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	▲ 8.6	● 8.8	▲ 8.8

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0006596      **Received** : 17 Jul 2024  
**Lab Number** : 06238982      **Tested** : 19 Jul 2024  
**Unique Number** : 11127816      **Diagnosed** : 19 Jul 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**Sapp Bros. Fleet - Omaha Petroleum Location**  
 9915 South 148th  
 OMAHA, NE  
 US 68138  
 Contact: Stephanie Kelly  
 skelly@sappbros.net  
 T: (800)211-8589  
 F:

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)