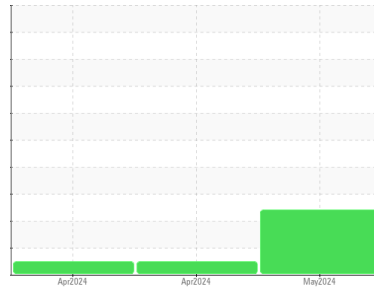


# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**JOHN DEERE D23**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### ▲ Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### ▲ 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 oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PCA0123805</b>	PCA0118479	PCA0118496
Sample Date	Client Info			<b>21 May 2024</b>	30 Apr 2024	05 Apr 2024
Machine Age	hrs	Client Info		<b>13380</b>	13380	13041
Oil Age	hrs	Client Info		<b>339</b>	250	773
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>SEVERE</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.21	<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	>51	<b>&lt;1</b>	9	20
Chromium	ppm	ASTM D5185m	>11	<b>0</b>	<1	1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>2</b>	4	7
Lead	ppm	ASTM D5185m	>26	<b>0</b>	<1	3
Copper	ppm	ASTM D5185m	>26	<b>0</b>	1	5
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>1</b>	18	135
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>55</b>	78	174
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>878</b>	995	873
Calcium	ppm	ASTM D5185m		<b>927</b>	1113	1264
Phosphorus	ppm	ASTM D5185m		<b>957</b>	1066	943
Zinc	ppm	ASTM D5185m		<b>1147</b>	1258	1089
Sulfur	ppm	ASTM D5185m		<b>2973</b>	3611	3464

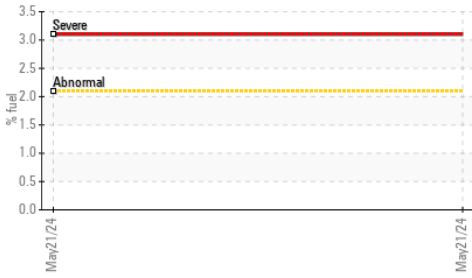
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>22	<b>3</b>	4	5
Sodium	ppm	ASTM D5185m	>31	<b>2</b>	2	6
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Fuel	%	ASTM D3524	>2.1	<b>▲ 3.1</b>	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.1</b>	6.2	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.0</b>	18.8	20.5

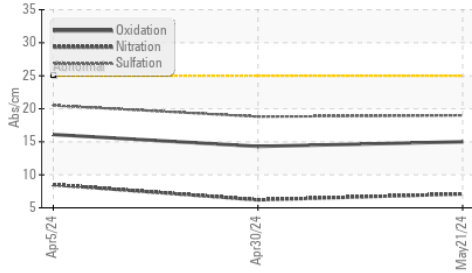
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.0</b>	14.3	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.61</b>	9.2	9.19

# OIL ANALYSIS REPORT

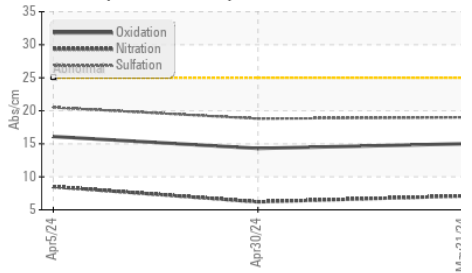
### ▲ Fuel Dilution



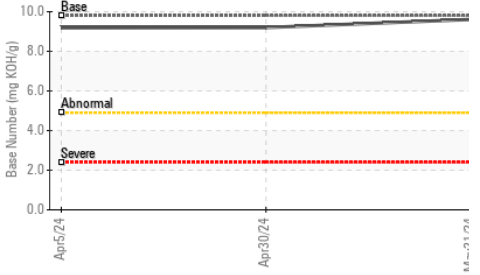
### ● FT-IR (Direct Trend)



### ● FT-IR (Direct Trend)



### Base Number

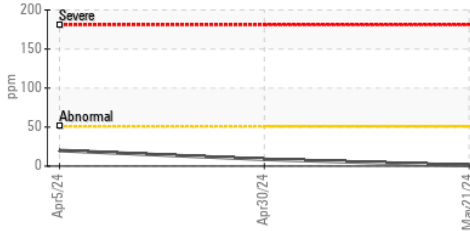


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

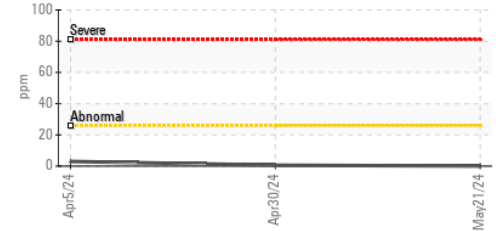
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6 ▲ 12.2	13.0	12.7

### GRAPHS

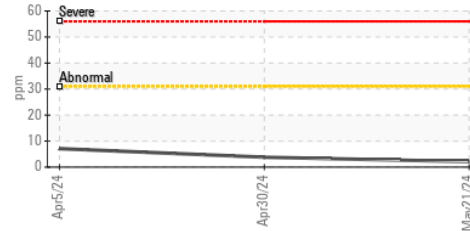
#### Iron (ppm)



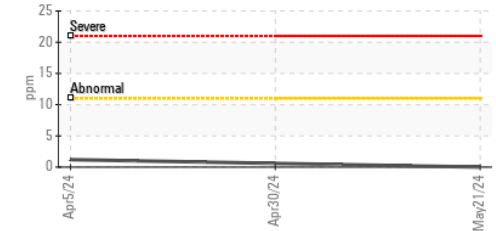
#### Lead (ppm)



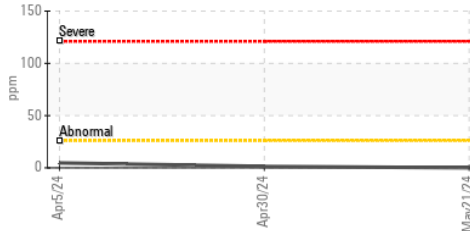
#### Aluminum (ppm)



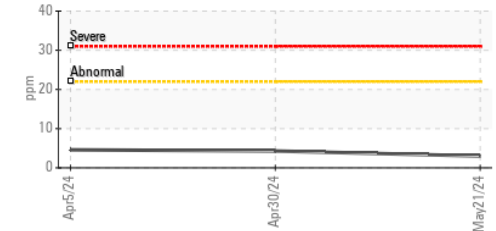
#### Chromium (ppm)



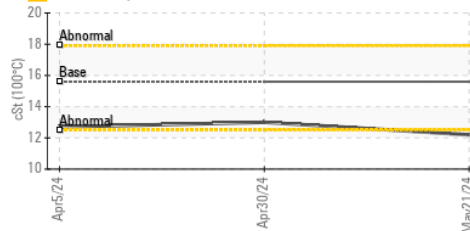
#### Copper (ppm)



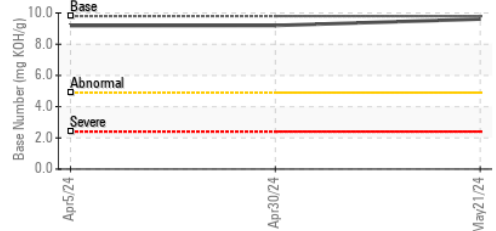
#### Silicon (ppm)



#### ▲ Viscosity @ 100°C



#### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0123805 **Received** : 03 Jun 2024  
**Lab Number** : 06197890 **Tested** : 06 Jun 2024  
**Unique Number** : 11060013 **Diagnosed** : 06 Jun 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

**SCRAP METAL SERVICES (SMS Mill Services LLC)**  
 1500 COMMERCIAL AVE  
 MINGO JUNCTION, OH  
 US 43938  
 Contact: TIM RANDOLPH  
 trandolph@scrapmetalservices.com

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)

T:  
F: