

Area  
**EXCAVATION RETR**  
Machine Id  
**JOHN DEERE 225D**  
Component  
**Lower Hydraulic System**  
Fluid  
**PETRO CANADA ENVIRON MV 46 (230 LTR)**

**RECOMMENDATION**

The filter change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PC337988</b>	---	---
Sample Date		Client Info		<b>13 Feb 2024</b>	---	---
Machine Age	kms	Client Info		<b>9000</b>	---	---
Oil Age	kms	Client Info		<b>9000</b>	---	---
Filter Age	kms	Client Info		<b>1000</b>	---	---
Oil Changed		Client Info		<b>Not Changd</b>	---	---
Filter Changed		Client Info		<b>Changed</b>	---	---
Sample Status				<b>ABNORMAL</b>	---	---

**WEAR**

Iron ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. All other component wear rates are normal.

PQ		ASTM D8184*		<b>0</b>	---	---
Iron	ppm	ASTM D5185(m)	>20	<b>▲ 41</b>	---	---
Chromium	ppm	ASTM D5185(m)	>10	<b>3</b>	---	---
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	---	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Silver	ppm	ASTM D5185(m)		<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m)	>10	<b>1</b>	---	---
Lead	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185(m)	>75	<b>2</b>	---	---
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	---	---
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

**CONTAMINATION**

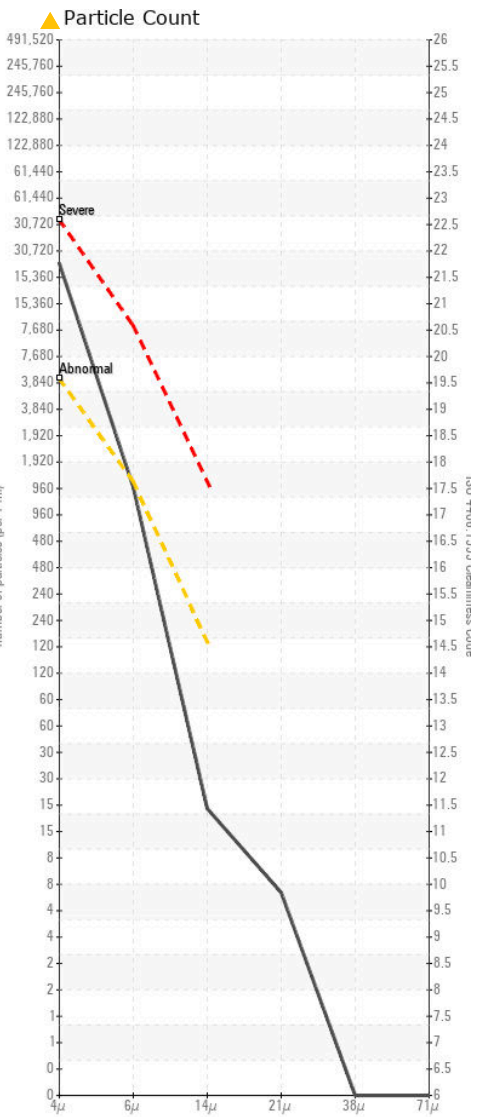
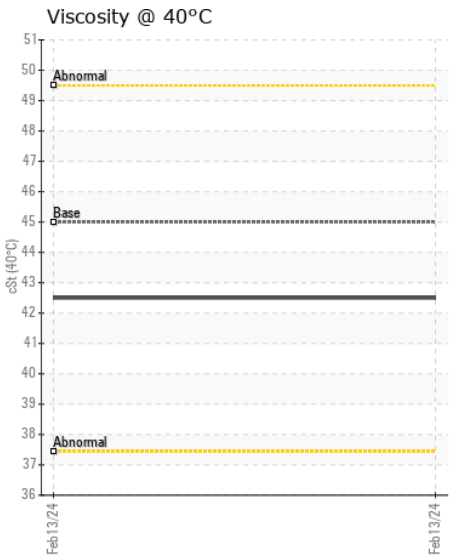
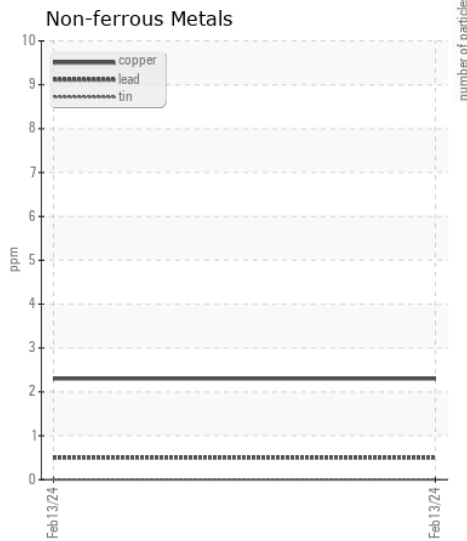
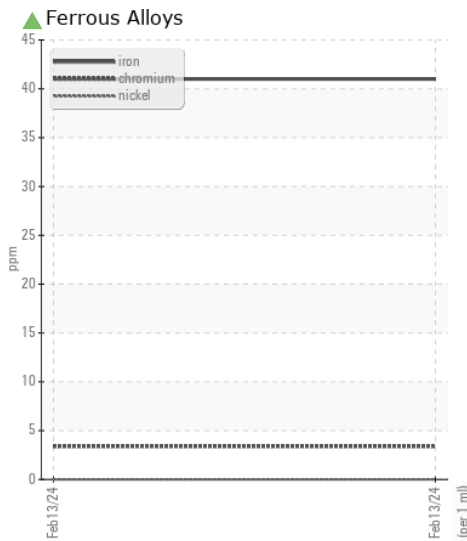
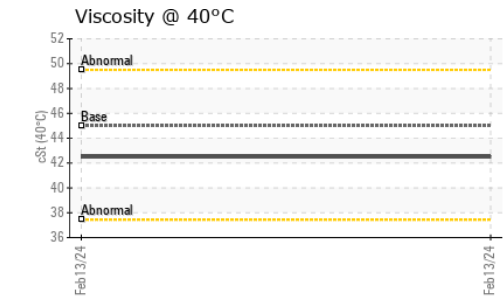
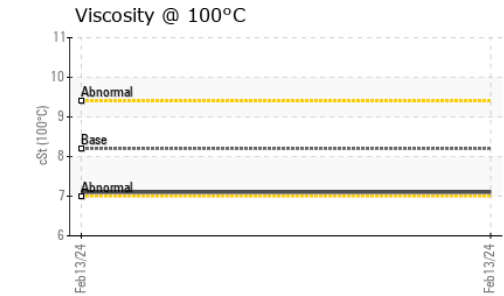
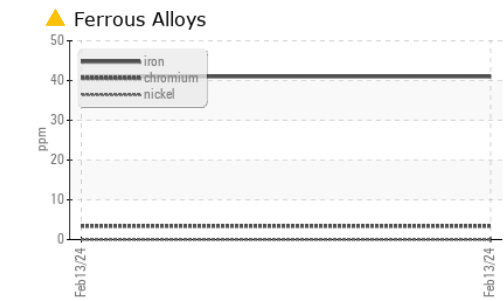
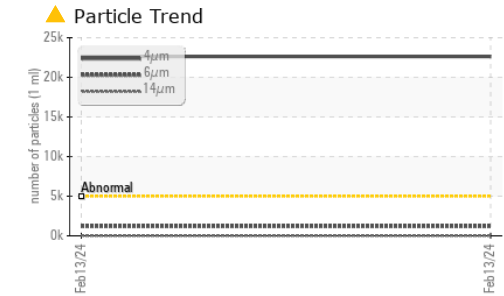
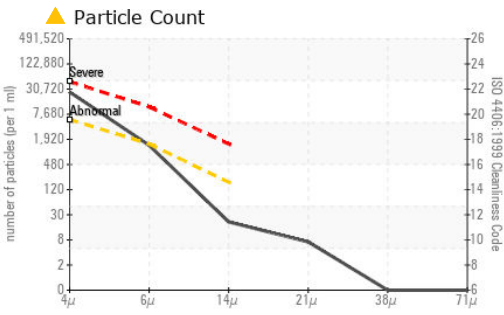
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	---	---
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	---	---
Water		WC Method	>0.1	<b>NEG</b>	---	---
Particles >4µm		ASTM D7647	>5000	<b>▲ 22624</b>	---	---
Particles >6µm		ASTM D7647	>1300	<b>1211</b>	---	---
Particles >14µm		ASTM D7647	>160	<b>18</b>	---	---
Particles >21µm		ASTM D7647	>40	<b>6</b>	---	---
Particles >38µm		ASTM D7647	>10	<b>0</b>	---	---
Particles >71µm		ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 22/17/11</b>	---	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	---	---

**FLUID CONDITION**

Additive levels indicate the addition of a different brand, or type of oil. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	---	---
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	---	---
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	---	---
Calcium	ppm	ASTM D5185(m)	0	<b>5</b>	---	---
Phosphorus	ppm	ASTM D5185(m)	650	<b>339</b>	---	---
Zinc	ppm	ASTM D5185(m)	0	<b>8</b>	---	---
Sulfur	ppm	ASTM D5185(m)	1420	<b>624</b>	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	45.0	<b>42.5</b>	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.2	<b>7.1</b>	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	158	<b>127</b>	---	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC337988 **Received** : 21 Feb 2024  
**Lab Number** : 02617134 **Tested** : 22 Feb 2024  
**Unique Number** : 5734244 **Diagnosed** : 23 Feb 2024 - Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: KV100, PQ, VI )

**DISTRIBUTION MARCEL ET FILS**  
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 CHICOUTIMI, QC  
 CA G7K 1E5  
 Contact: Service Manager  
 jeanpaul@distributionmarceletfils.com  
 T: (418)543-4858  
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.