



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
LOADERSKID
Machine Id
CATERPILLAR 232D 05-02080-006 (S/N DPR00527)
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0000018	WC0721573	WC0721544
Sample Date		Client Info		04 Jan 2024	02 May 2023	15 Aug 2022
Machine Age	hrs	Client Info		4359	3628	2852
Oil Age	hrs	Client Info		322	776	322
Filter Age	hrs	Client Info		0	0	322
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	13	15	7
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	1	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	6	23	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

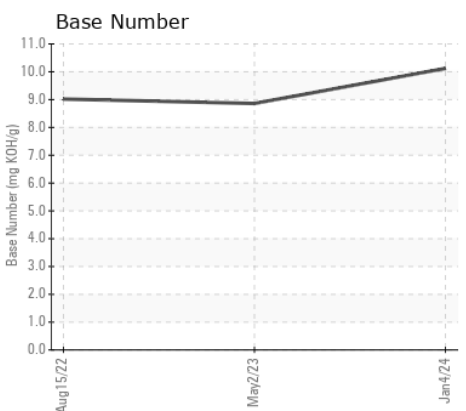
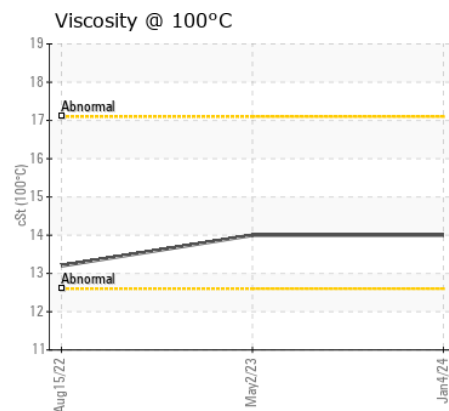
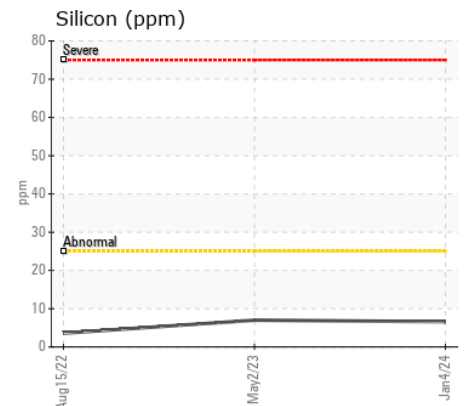
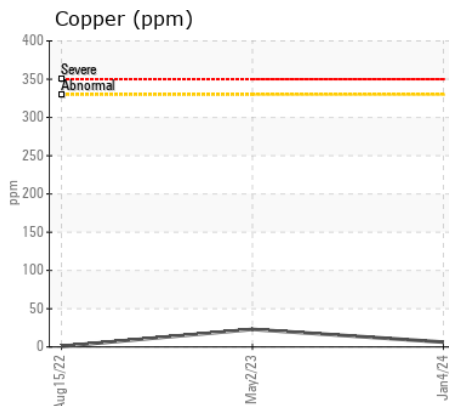
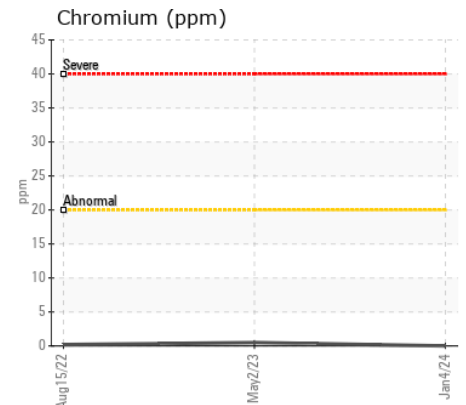
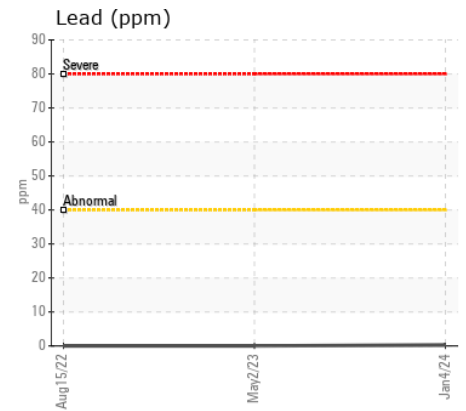
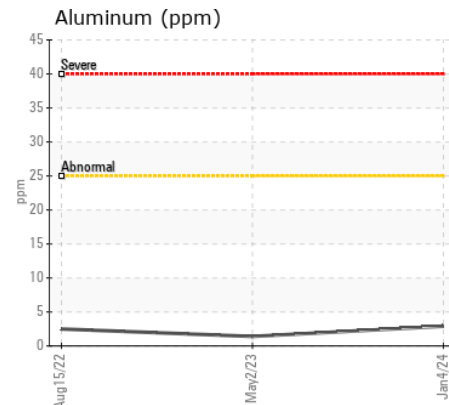
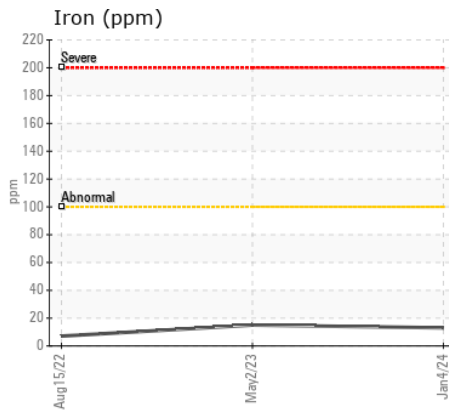
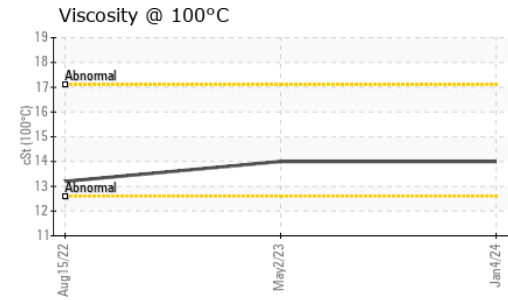
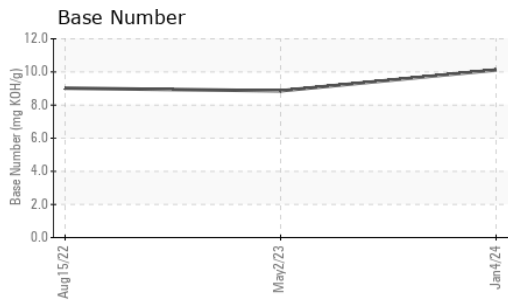
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	7	4
Potassium	ppm	ASTM D5185m	>20	<1	14	0
Fuel		WC Method	>5	<1.0	0.2	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.8	8.6	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	18.0	20.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		1	0	1
Boron	ppm	ASTM D5185m		9	16	31
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		64	62	69
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		967	913	672
Calcium	ppm	ASTM D5185m		1177	1207	1474
Phosphorus	ppm	ASTM D5185m		1132	1046	1011
Zinc	ppm	ASTM D5185m		1344	1323	1171
Sulfur	ppm	ASTM D5185m		3086	3630	3276
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.3	16.2	16.6
Base Number (BN)	mg KOH/g	ASTM D2896		10.12	8.86	9.02
Visc @ 100°C	cSt	ASTM D445		14.0	14.0	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0000018 **Received** : 12 Jan 2024
Lab Number : 06060399 **Diagnosed** : 16 Jan 2024
Unique Number : 10831781 **Diagnostician** : Wes Davis
Test Package : MOB 2

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)

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