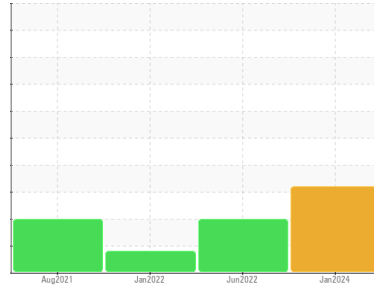




Machine Id
JOHN DEERE 500-205
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (12 GAL)



DIAGNOSIS

Recommendation
 We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter 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
 Sodium and/or potassium levels are high. Light fuel dilution occurring.

Fluid Condition
 The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0089564	PCA0060040	PCA0050366
Sample Date	Client Info	08 Jan 2024	07 Jun 2022	04 Jan 2022
Machine Age	hrs	2834	1500	1000
Oil Age	hrs	500	500	500
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	SEVERE	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.21	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >51	37	24	28
Chromium	ppm ASTM D5185m >11	<1	<1	<1
Nickel	ppm ASTM D5185m >5	<1	0	0
Titanium	ppm ASTM D5185m	0	<1	<1
Silver	ppm ASTM D5185m >3	0	<1	0
Aluminum	ppm ASTM D5185m >31	2	3	6
Lead	ppm ASTM D5185m >26	13	4	6
Copper	ppm ASTM D5185m >26	10	16	34
Tin	ppm ASTM D5185m >4	2	3	4
Antimony	ppm ASTM D5185m	---	---	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	2	3	4
Barium	ppm ASTM D5185m 0	2	0	0
Molybdenum	ppm ASTM D5185m 60	68	64	66
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	977	883	912
Calcium	ppm ASTM D5185m 1070	1050	1185	1094
Phosphorus	ppm ASTM D5185m 1150	923	1009	922
Zinc	ppm ASTM D5185m 1270	1222	1227	1154
Sulfur	ppm ASTM D5185m 2060	2649	3005	2476

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >22	5	4	4
Sodium	ppm ASTM D5185m >31	▲ 152	<1	3
Potassium	ppm ASTM D5185m >20	▲ 65	6	16
Fuel	% ASTM D3524 >2.1	▲ 3.5	4.8	▲ 4.5
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

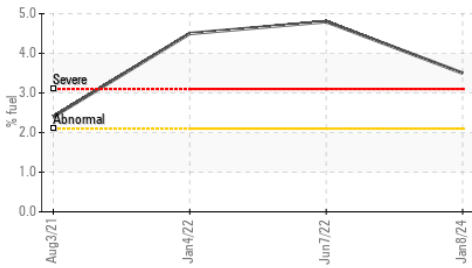
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.7	0.6	0.6
Nitration	Abs/cm *ASTM D7624 >20	13.0	11.4	11.2
Sulfation	Abs/.1mm *ASTM D7415 >30	25.4	22.0	23.1

FLUID DEGRADATION

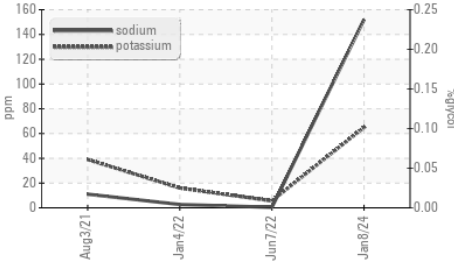
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	22.4	18.8	19.9
Base Number (BN)	mg KOH/g ASTM D2896 9.8	6.7	8.0	7.5

OIL ANALYSIS REPORT

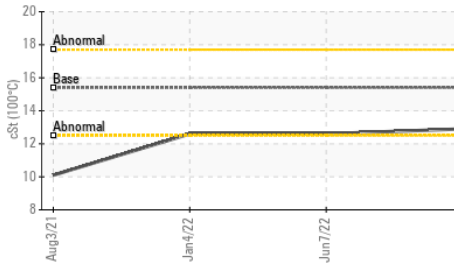
Fuel Dilution



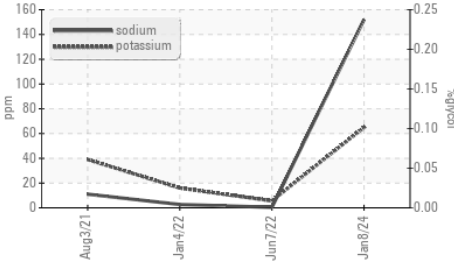
Glycol Contamination



Viscosity @ 100°C



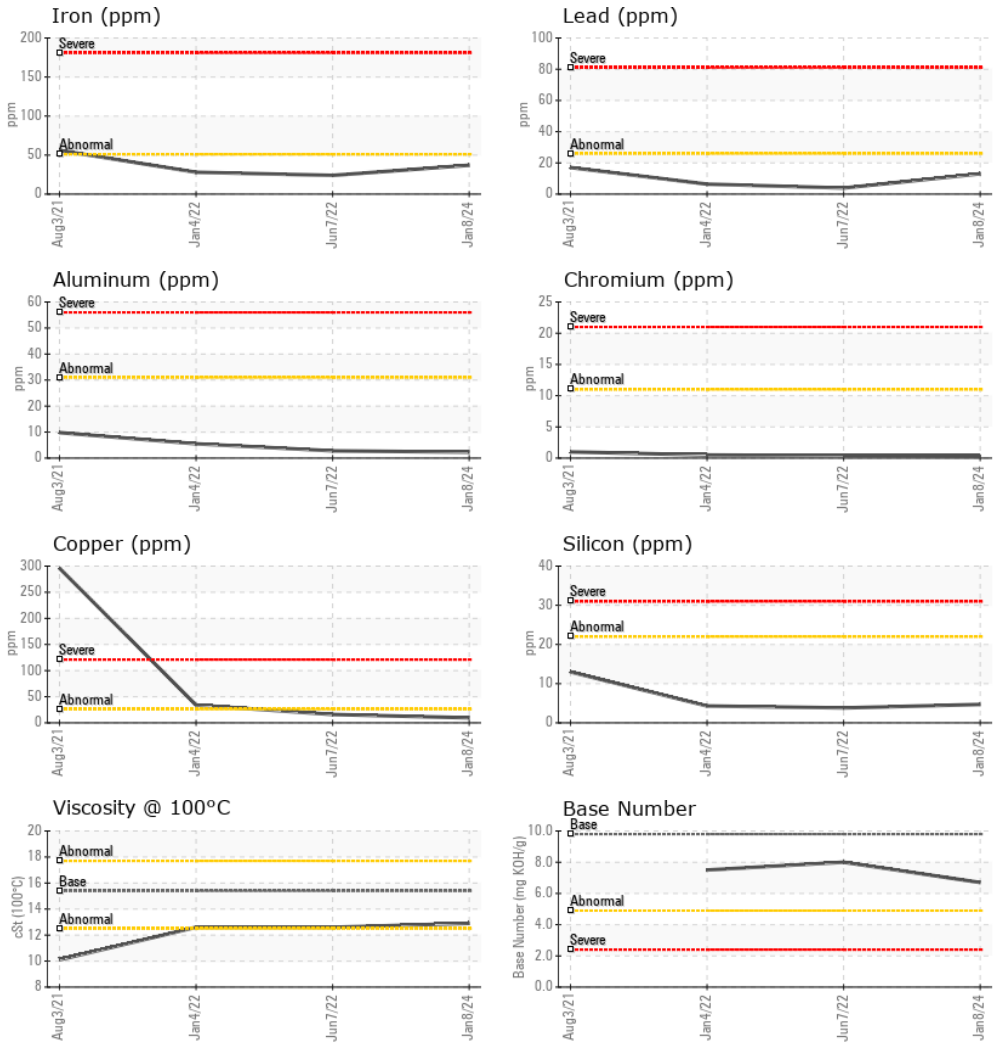
Glycol Contamination



PARAMETER	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

PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	12.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0089564 **Received** : 07 Feb 2024
Lab Number : 06082219 **Tested** : 09 Feb 2024
Unique Number : 10869664 **Diagnosed** : 09 Feb 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel, TBN)

GE MARSHALL EXCAVATION
 1351 JOLIET RD
 VALPARAISO, IN
 US 46385
 Contact: MARK STEFFEL
 mark.steffel@gemarshall.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: