



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
CAT 966D 107 (S/N 99Y4289)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (7 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RW0004734	RW0001281	RW0000253
Sample Date		Client Info		25 Jan 2024	07 Jan 2021	13 Jul 2019
Machine Age	hrs	Client Info		4221	3824	3519
Oil Age	hrs	Client Info		397	305	146
Filter Age	hrs	Client Info		397	305	146
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>105	63	50	31
Chromium	ppm	ASTM D5185m	>5	2	1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>10	3	8	2
Lead	ppm	ASTM D5185m	>15	15	12	6
Copper	ppm	ASTM D5185m	>140	4	5	5
Tin	ppm	ASTM D5185m	>4	<1	1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

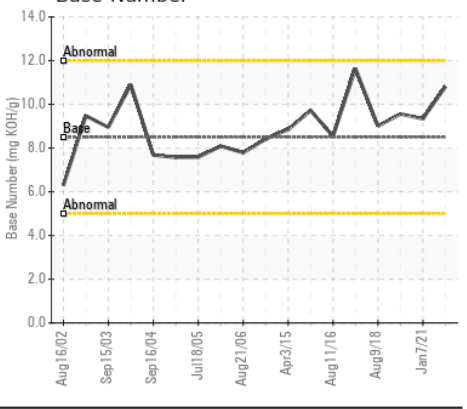
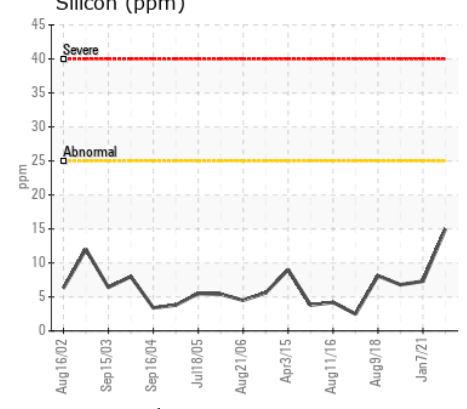
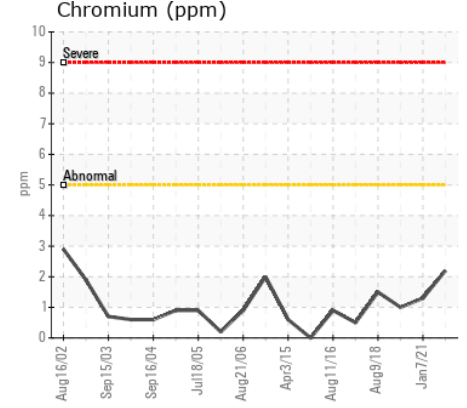
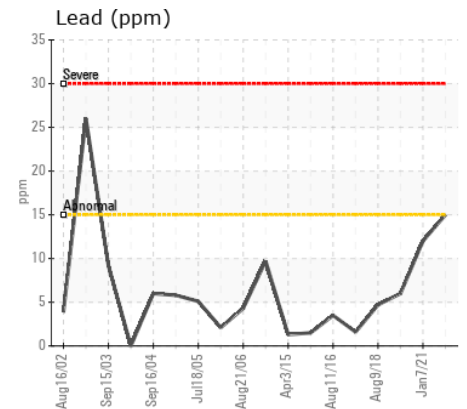
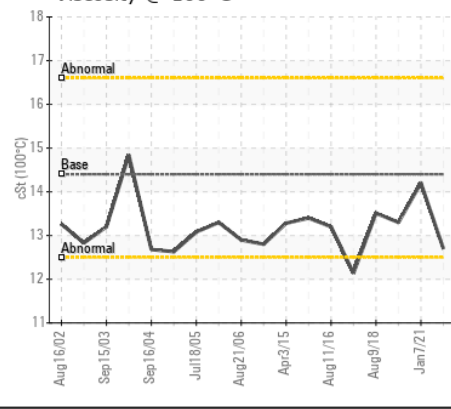
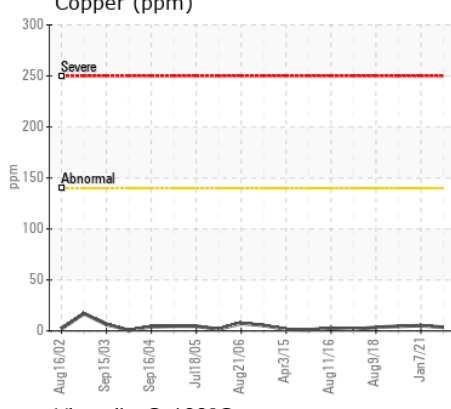
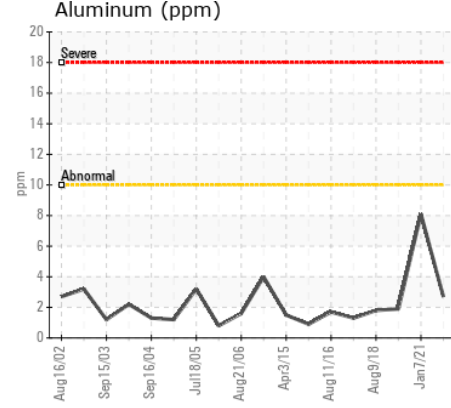
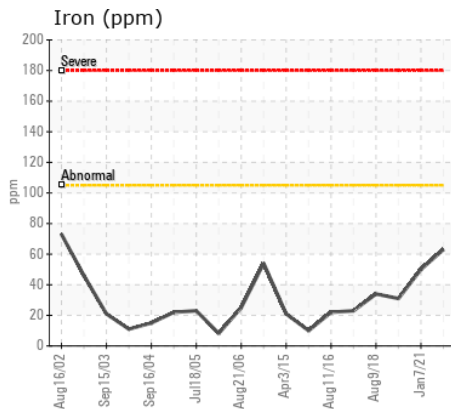
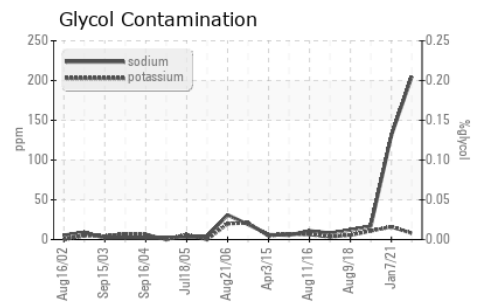
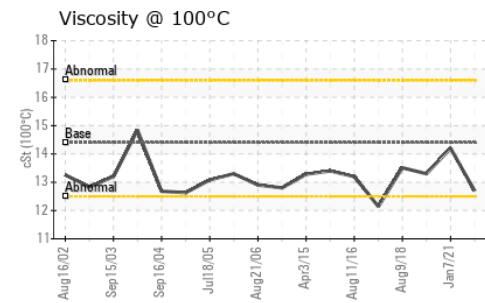
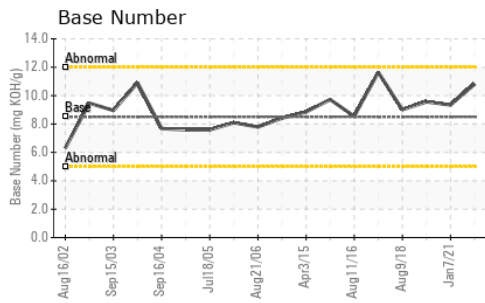
Sodium and/or potassium levels are high. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>25	15	7	7
Potassium	ppm	ASTM D5185m	>20	8	16	11
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.2	1.2	0.7
Nitration	Abs/cm	*ASTM D7624	>20	10.8	10.7	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	22	19.6
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>158	205	131	17
Boron	ppm	ASTM D5185m	250	6	25	10
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	80	71	67
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	450	726	648	948
Calcium	ppm	ASTM D5185m	3000	1285	1479	1266
Phosphorus	ppm	ASTM D5185m	1150	979	1023	1074
Zinc	ppm	ASTM D5185m	1350	1239	1170	1238
Sulfur	ppm	ASTM D5185m	4250	2944	2589	2670
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	16.1	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	10.81	9.34	9.56
Visc @ 100°C	cSt	ASTM D445	14.4	12.7	14.2	13.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0004734
Lab Number : 06101124
Unique Number : 10899354
Test Package : MOB 2 (Additional Tests: Glycol)

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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)