CONSTRUCTION EQUIPMENT
CATERPILLAR D8T JKPZ03752 - DIESEL ENGINE

Sample No: VCP431637
Oil Type: CAT DEO ULS 15W40
Job No:

COVANTA ENERGY
141 CRANBERRY HWY
WEST WAREHAM, MA
US 02576
Contact: SAWYER
ssawyer@woodcomachinery.com
T:
F:

SAMPLE INFORMATION

Sample Number		**VCP431637**	VCP404567	VCP355259	VCP350980
Sample Date		**15 Jan 2024**	19 Dec 2023	09 Jan 2023	26 Sep 2022
Machine Hours		**0**	10487	9733	9437
Oil Hours		**25**	459	296	298
Oil Changed		**Changed**	Changed	Changed	Changed
Sample Status		**SEVERE**	SEVERE	ABNORMAL	ABNORMAL

OIL CONDITION

Visc @ 100°C	cSt	**15.8**	14.5	13.1	12.7
Base Number (BN)	mg KOH/g	**10.6**	15.3	9.6	10.3
Oxidation (PA)	%	**40**	51	75	78

CONTAMINATION

Water	%	**NEG**	NEG	NEG	NEG
Soot %	%	**0**	0.2	0.4	0.5
Nitration (PA)	%	**53**	74	58	63
Sulfation (PA)	%	**44**	48	61	66
Glycol	%	**0.10**	0.20	NEG	NEG
Fuel	%	**<1.0**	<1.0	<1.0	<1.0
Silicon	ppm	**7**	21	32	33
Sodium	ppm	**140**	200	2	1
Potassium	ppm	**671**	1211	<1	0

WEAR METALS

Iron	ppm	**7**	27	16	18
Copper	ppm	**566**	445	5	8
Lead	ppm	**8**	14	1	1
Tin	ppm	**<1**	<1	<1	1
Aluminum	ppm	**2**	2	2	1
Chromium	ppm	**0**	<1	<1	<1
Molybdenum	ppm	**103**	212	46	40
Nickel	ppm	**0**	<1	<1	0
Titanium	ppm	**<1**	<1	0	0
Silver	ppm	**0**	0	0	0
Manganese	ppm	**<1**	1	<1	<1
Vanadium	ppm	**<1**	<1	0	0

ADDITIVES

Calcium	ppm	**1987**	1657	1802	1797
Magnesium	ppm	**96**	192	466	413
Zinc	ppm	**1098**	1046	1154	1117
Phosphorus	ppm	**955**	877	946	893
Barium	ppm	**<1**	0	0	0
Boron	ppm	**9**	22	57	58

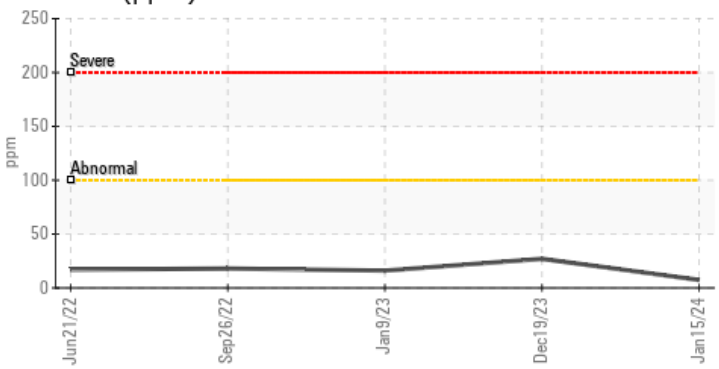
Diagnosis

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.The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

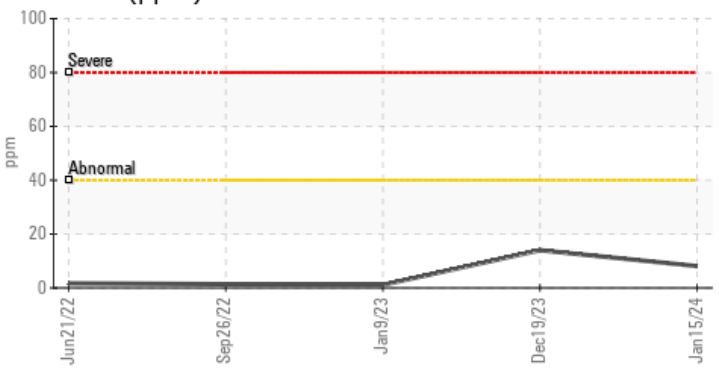
Depot: COVWES
Unique No: 10836664
Signed: Angela Borella
Report Date: 23 Jan 2024

GRAPHS

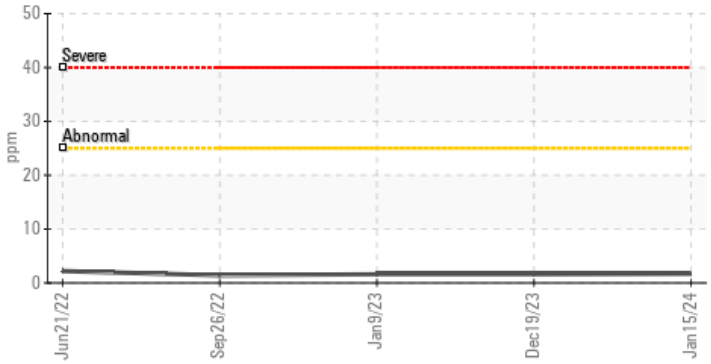
Iron (ppm)



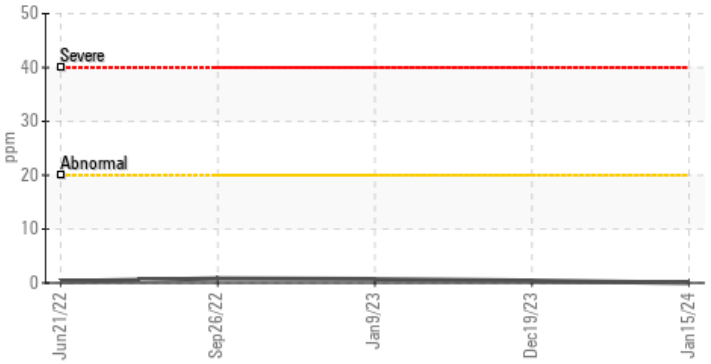
Lead (ppm)



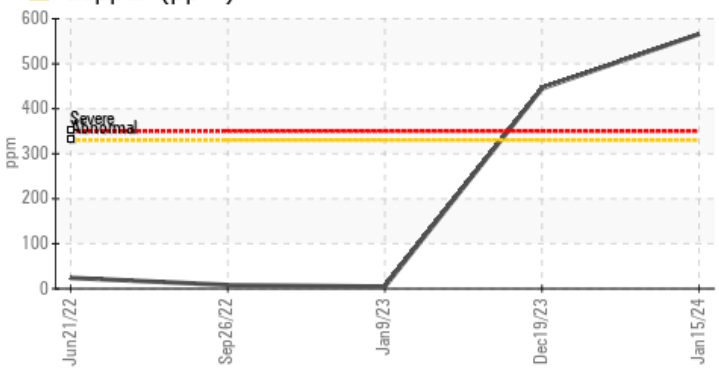
Aluminum (ppm)



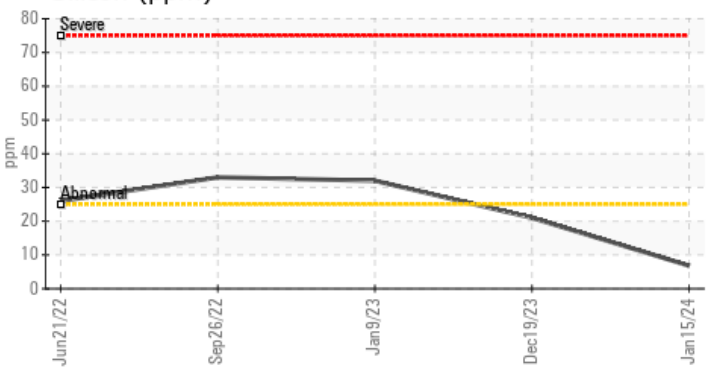
Chromium (ppm)



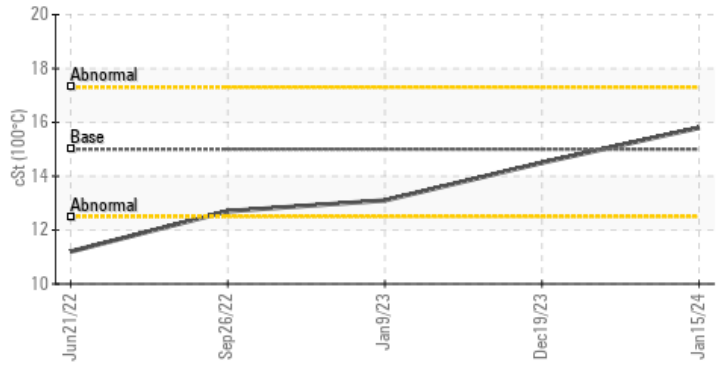
▲ Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number