



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

AMR-Cheyenne

Machine Id

439142 SENNEBOGEN 840E 840.0.2133

Component

Diesel Engine

Fluid

CHEVRON DELO 400 MULTIGRADE 15W40 (28 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0023966	DJJ0023248	DJJ0019104
Sample Date		Client Info		24 Jun 2024	13 Mar 2024	05 Dec 2023
Machine Age	hrs	Client Info		13360	12659	12141
Oil Age	hrs	Client Info		250	250	250
Filter Age	hrs	Client Info		250	250	250
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	8	7	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	4	3
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

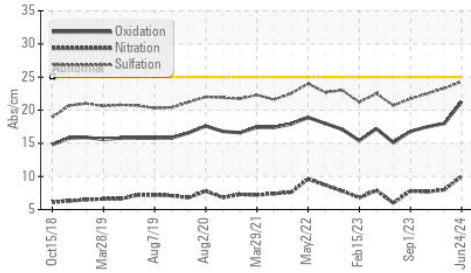
Silicon	ppm	ASTM D5185m	>25	7	7	5
Potassium	ppm	ASTM D5185m	>20	2	3	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.0	8.0	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.3	23.3	22.5
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

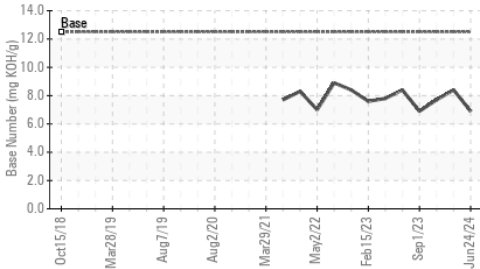
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	<1	1
Boron	ppm	ASTM D5185m	151	215	334	305
Barium	ppm	ASTM D5185m	0.4	0	<1	0
Molybdenum	ppm	ASTM D5185m	250	148	128	85
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m	0	702	611	400
Calcium	ppm	ASTM D5185m	2046	1857	1560	1588
Phosphorus	ppm	ASTM D5185m	1043	883	843	797
Zinc	ppm	ASTM D5185m	943	1076	951	1007
Sulfur	ppm	ASTM D5185m	5012	2753	2796	2920
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.3	18.0	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	6.9	8.4	7.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	13.1	13.3

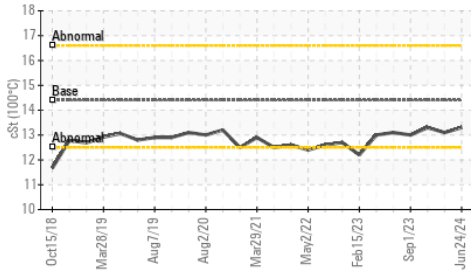
FT-IR (Direct Trend)



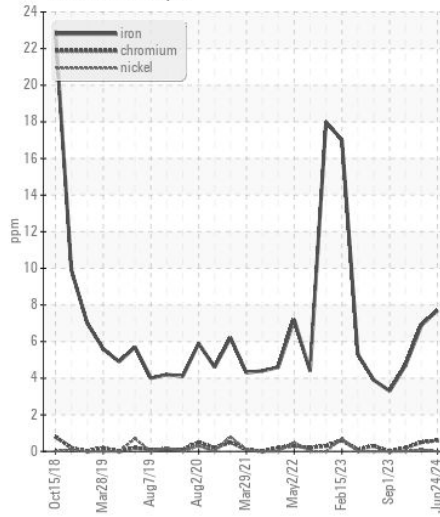
Base Number



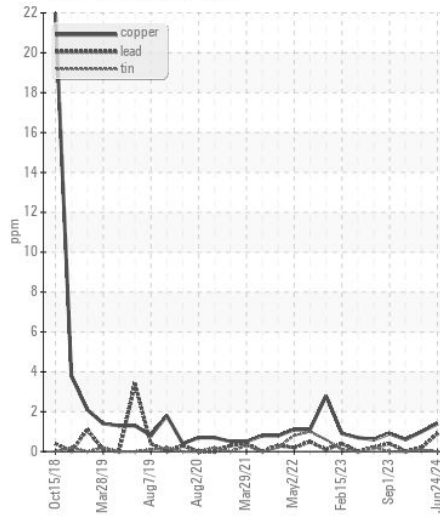
Viscosity @ 100°C



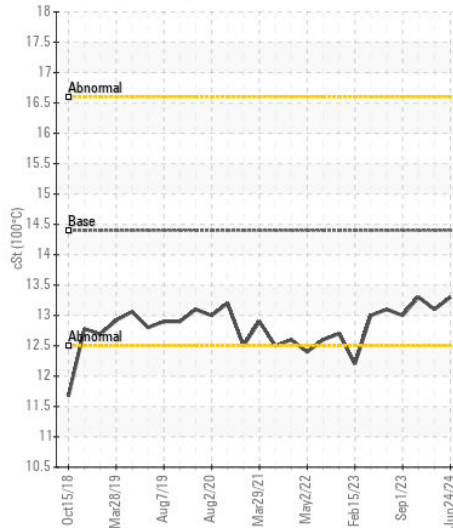
Ferrous Alloys



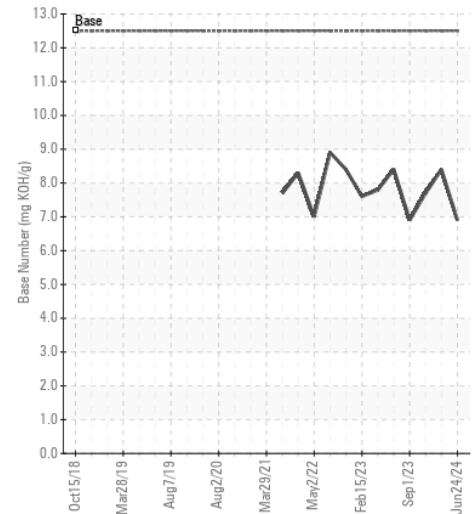
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : DJJ0023966

Lab Number : 06234557

Unique Number : 11123391

Test Package : CONST (Additional Tests: TBN)

Received : 12 Jul 2024

Tested : 12 Jul 2024

Diagnosed : 12 Jul 2024 - Wes Davis

ADVANTAGE METALS RECYCLING - CHEYENNE

1015 S. PACKARD ST

KANSAS CITY, KS

US 66105

Contact: BRIAN JACOBS

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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)