



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
6389
 Component
Diesel Engine
 Fluid
CASTROL VECTON 15W40 CK4 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0813395	WC0813373	WC0813354
Sample Date		Client Info		18 Jan 2024	17 Jan 2024	16 Oct 2023
Machine Age	hrs	Client Info		7946	7238	7641
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	12	9	14
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	4
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	<1	3	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

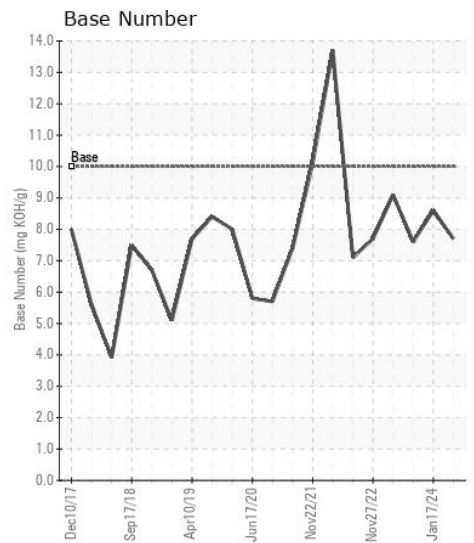
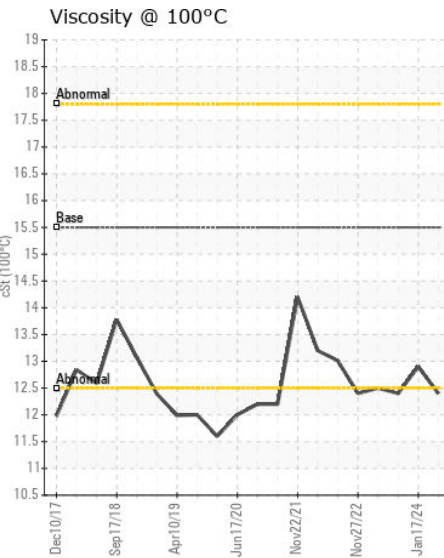
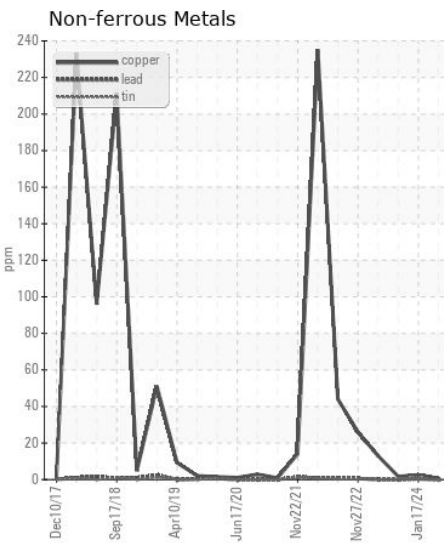
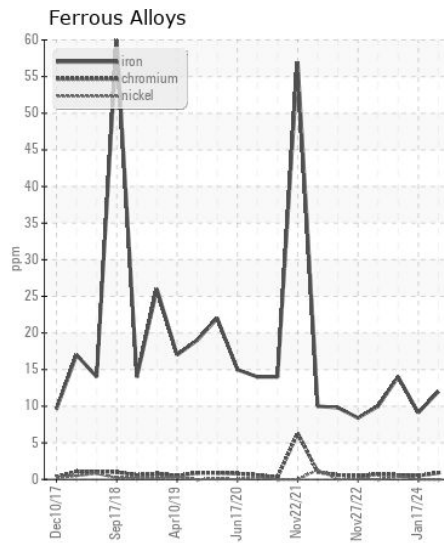
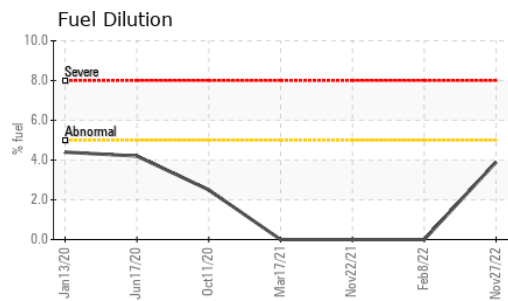
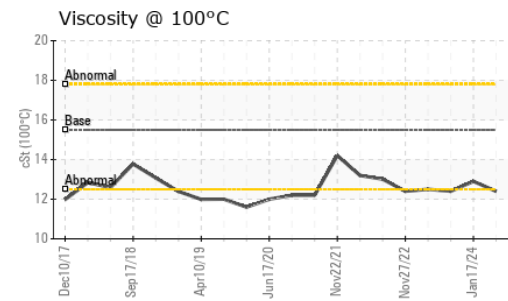
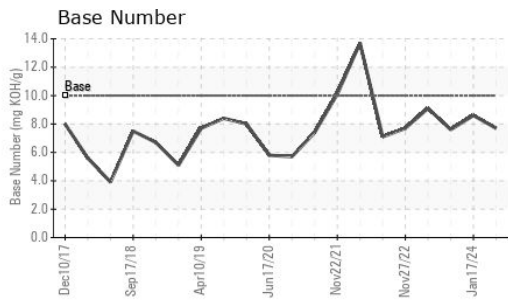
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	9	6	6
Potassium	ppm	ASTM D5185m	>20	4	8	8
Fuel	%	ASTM D3524	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	9.1	8.5	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	19.1	19.7
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		4	4	2
Boron	ppm	ASTM D5185m		27	32	27
Barium	ppm	ASTM D5185m		0	0	10
Molybdenum	ppm	ASTM D5185m		46	45	45
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		549	549	478
Calcium	ppm	ASTM D5185m		1402	1483	1373
Phosphorus	ppm	ASTM D5185m		753	766	683
Zinc	ppm	ASTM D5185m		921	906	844
Sulfur	ppm	ASTM D5185m		2345	2268	2325
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	16.3	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.7	8.6	7.6
Visc @ 100°C	cSt	ASTM D445	15.5	12.4	12.9	12.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0813395 **Received** : 18 Jan 2024
Lab Number : 06064760 **Diagnosed** : 19 Jan 2024
Unique Number : 10836142 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution)

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)

CITY OF BERKELEY
 1199 SECOND ST
 BERKELEY, CA
 US 94710
 Contact: BAL JOHAL
 bjohal@ci.berkeley.ca.us
 T: (510)981-6375
 F: (510)558-1330