



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
6361
Component
Natural Gas Engine
Fluid
CASTROL VECTON 15W40 CK4 (30 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0813306	WC0666194	WC0813350
Sample Date		Client Info		17 Jan 2024	16 Jan 2024	16 Oct 2023
Machine Age	hrs	Client Info		6862	6406	6705
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	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	3	3	4
Chromium	ppm	ASTM D5185m	>4	0	0	2
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	1	6
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>35	<1	<1	<1
Tin	ppm	ASTM D5185m	>4	0	0	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

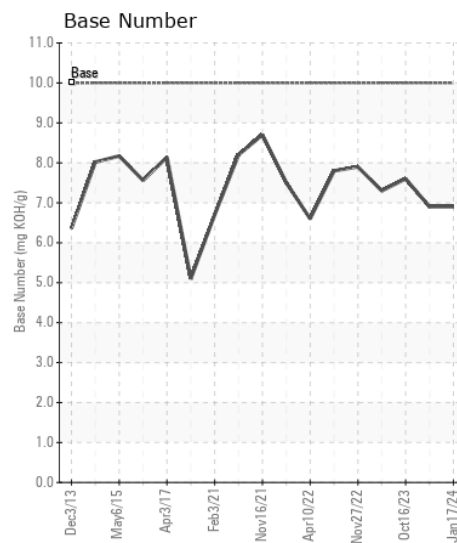
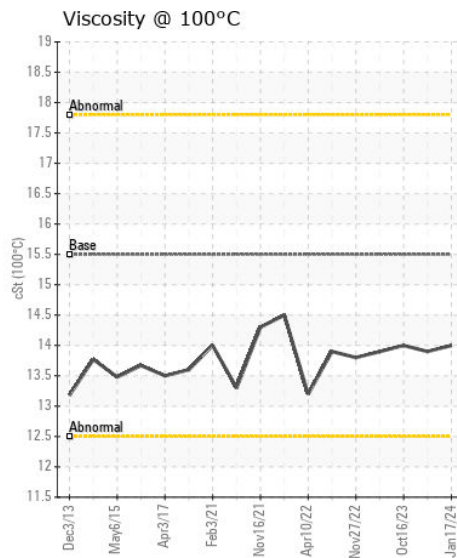
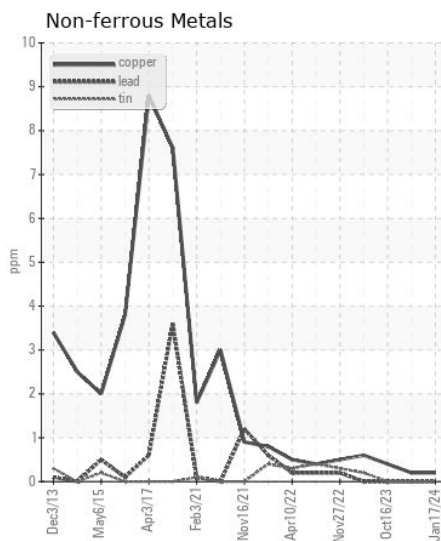
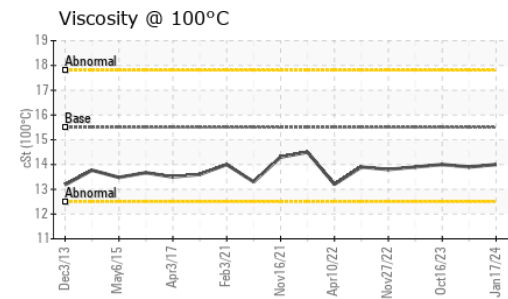
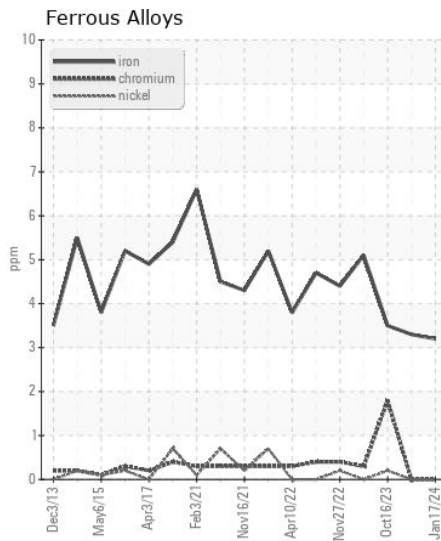
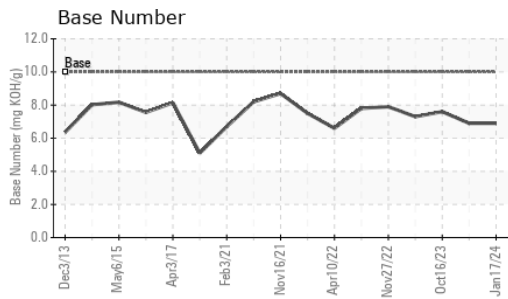
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>+100	4	4	3
Potassium	ppm	ASTM D5185m	>20	<1	2	2
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	7.6	9.4	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	18.7	18.7
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	>0.1	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		3	3	3
Boron	ppm	ASTM D5185m		40	27	29
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		48	46	47
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		576	559	521
Calcium	ppm	ASTM D5185m		1454	▲ 1457	1440
Phosphorus	ppm	ASTM D5185m		791	789	746
Zinc	ppm	ASTM D5185m		958	968	924
Sulfur	ppm	ASTM D5185m		2507	▲ 2469	2652
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.9	16.2	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	10	6.9	6.9	7.6
Visc @ 100°C	cSt	ASTM D445	15.5	14.0	13.9	14.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0813306 **Received** : 18 Jan 2024
Lab Number : 06064743 **Diagnosed** : 21 Jan 2024
Unique Number : 10836125 **Diagnostician** : Don Baldrige
Test Package : FLEET

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