



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Area
RIG 3
Machine Id
Component
R3-CHANGE SHACK-NKL
Fluid
Diesel Engine
CHEVRON 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014245	KL0014215	KL0013848
Sample Date		Client Info		14 May 2024	03 Apr 2024	23 Feb 2024
Machine Age	days	Client Info		45416	45375	45345
Oil Age	days	Client Info		0	0	0
Filter Age	days	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				ABNORMAL	NORMAL	NORMAL

WEAR

The lead level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	31	8	5
Chromium	ppm	ASTM D5185m	>20	1	0	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	1	0	0
Aluminum	ppm	ASTM D5185m	>20	6	3	3
Lead	ppm	ASTM D5185m	>40	▲ 44	9	1
Copper	ppm	ASTM D5185m	>330	41	16	11
Tin	ppm	ASTM D5185m	>15	3	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

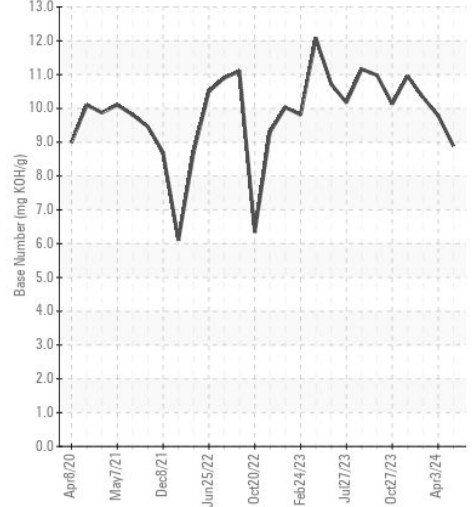
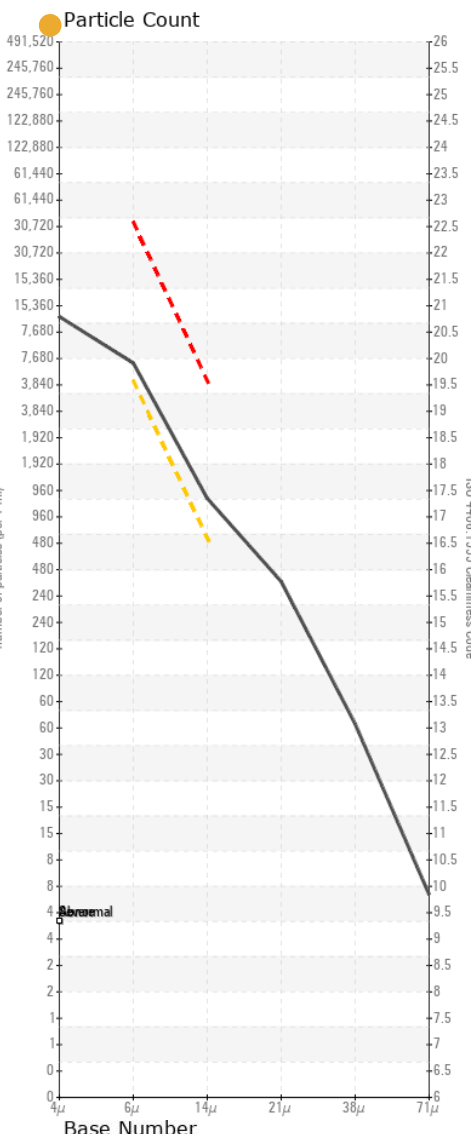
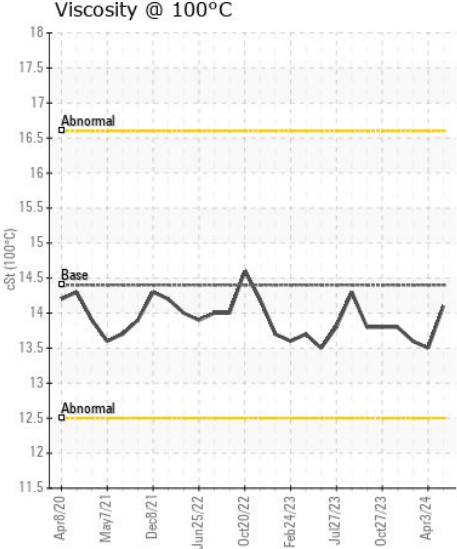
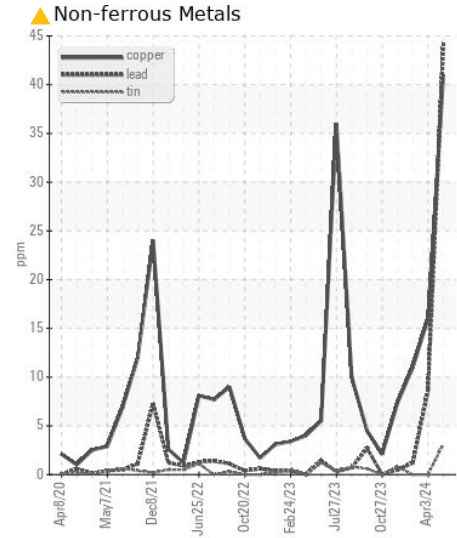
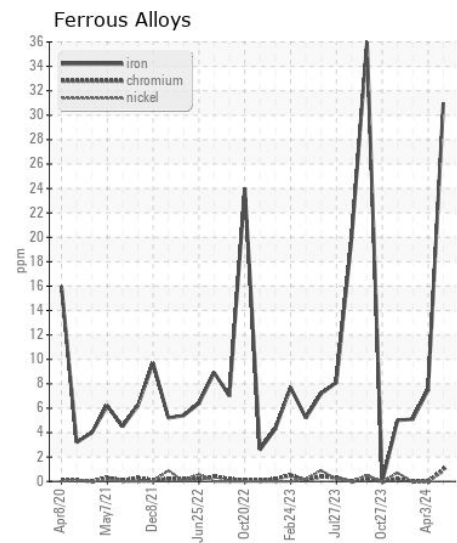
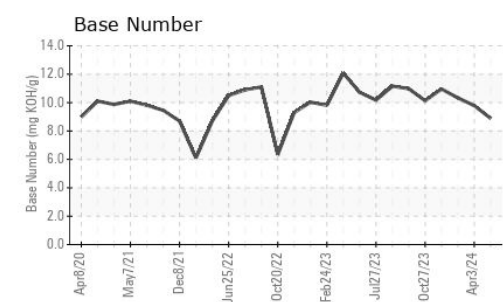
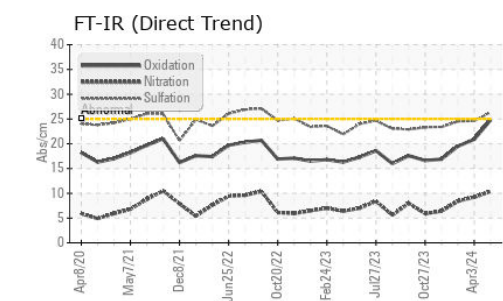
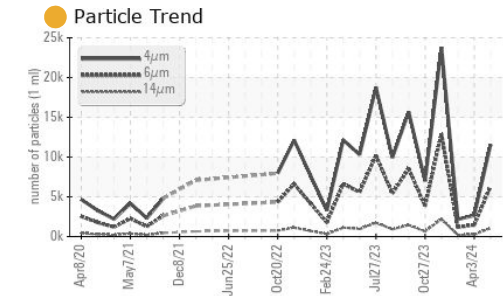
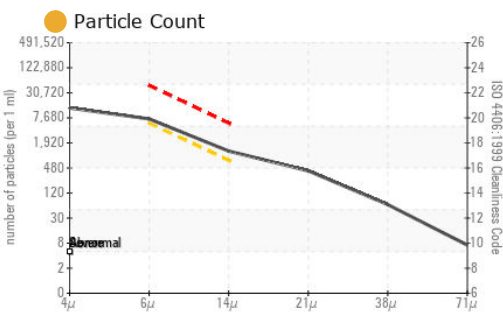
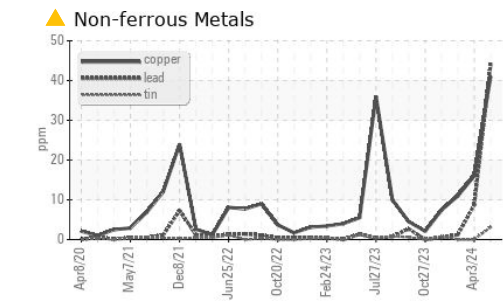
There is a moderate amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>25	12	6	6
Potassium	ppm	ASTM D5185m	>20	4	0	0
Fuel		WC Method	>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	0.6	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	10.4	9.2	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.4	24.6	24.5
Particles >4µm		ASTM D7647		11562	2662	2166
Particles >6µm		ASTM D7647	>5000	● 6298	1450	1180
Particles >14µm		ASTM D7647	>640	● 1072	247	201
Particles >21µm		ASTM D7647	>160	● 361	83	68
Particles >38µm		ASTM D7647	>40	56	13	10
Particles >71µm		ASTM D7647	>10	6	1	1
Oil Cleanliness		ISO 4406 (c)	>19/16	● 20/17	18/15	17/15
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	>50	5	2	2
Boron	ppm	ASTM D5185m		380	358	332
Barium	ppm	ASTM D5185m		3	<1	0
Molybdenum	ppm	ASTM D5185m		148	125	134
Manganese	ppm	ASTM D5185m		1	<1	0
Magnesium	ppm	ASTM D5185m		683	660	716
Calcium	ppm	ASTM D5185m		1561	1559	1751
Phosphorus	ppm	ASTM D5185m		676	684	766
Zinc	ppm	ASTM D5185m		879	791	880
Sulfur	ppm	ASTM D5185m		2853	2787	3032
Oxidation	Abs/.1mm	*ASTM D7414	>25	24.8	20.9	19.5
Base Number (BN)	mg KOH/g	ASTM D2896		8.89	9.79	10.33
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	13.5	13.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014245 **Received** : 24 May 2024
Lab Number : 06191211 **Tested** : 30 May 2024
Unique Number : 11047963 **Diagnosed** : 30 May 2024 - Angela Borella
Test Package : MOB 2 (Additional Tests: PrtCount)

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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)