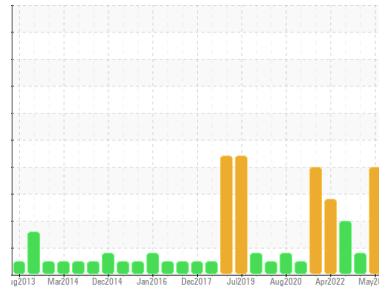




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
24
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (40 QTS)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of fuel present in the oil. There is a light concentration of water present in the oil. The amount and size of particulates present in the system are acceptable.

▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0857784	WC0779708	WC0723249
Sample Date	Client Info		21 May 2024	16 Feb 2023	09 Sep 2022
Machine Age	mls	Client Info	629230	596547	596547
Oil Age	mls	Client Info	1000	10000	39525
Oil Changed	Client Info		Changed	Filtered	Not Changd
Sample Status			SEVERE	MARGINAL	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	54	7	28
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >5	0	0	0
Titanium	ppm	ASTM D5185m >2	<1	1	12
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	3	2	3
Lead	ppm	ASTM D5185m >40	6	2	7
Copper	ppm	ASTM D5185m >330	12	2	8
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	155	397	144
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	83	95	95
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 450	522	475	535
Calcium	ppm	ASTM D5185m 3000	1612	1401	1489
Phosphorus	ppm	ASTM D5185m 1150	982	824	685
Zinc	ppm	ASTM D5185m 1350	1145	1001	861
Sulfur	ppm	ASTM D5185m 4250	3580	3454	2851

CONTAMINANTS

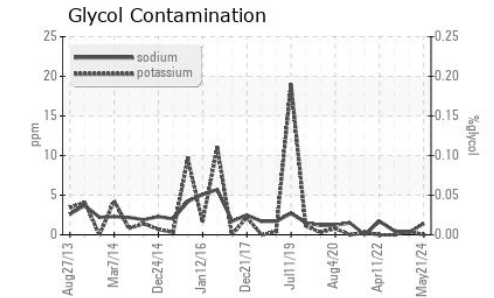
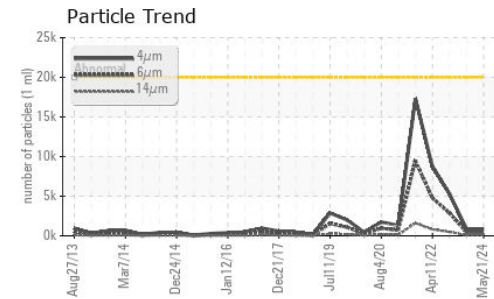
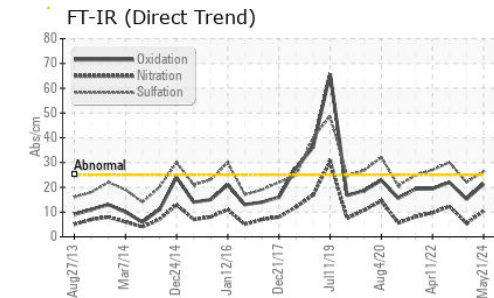
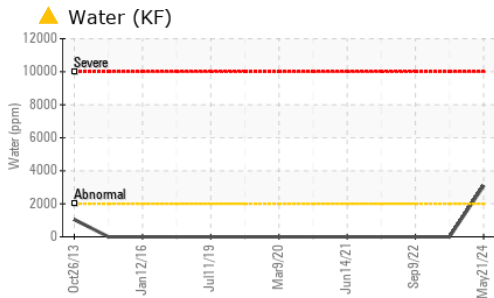
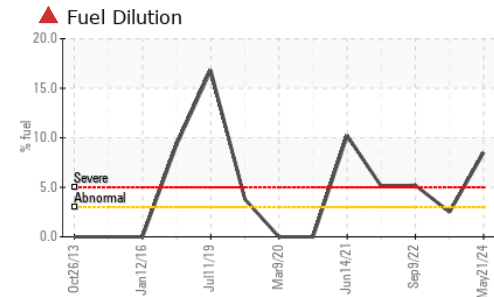
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	4	6
Sodium	ppm	ASTM D5185m >158	1	<1	<1
Potassium	ppm	ASTM D5185m >20	0	<1	0
Fuel	%	ASTM D3524 >3.0	▲ 8.5	▲ 2.5	▲ 5.2
Water	%	ASTM D6304 >0.2	▲ 0.309	---	---
ppm Water	ppm	ASTM D6304 >2000	▲ 3090	---	---
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	2.2	0.6	3.4
Nitration	Abs/cm	*ASTM D7624 >20	10.4	5.5	12.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	26.4	22.0	30.0



OIL ANALYSIS REPORT



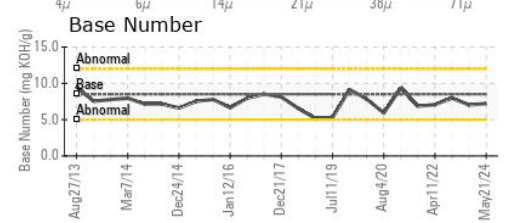
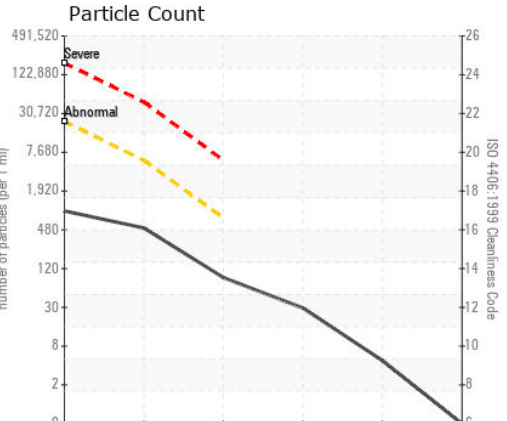
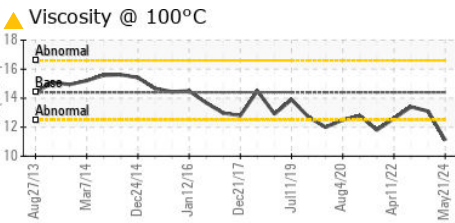
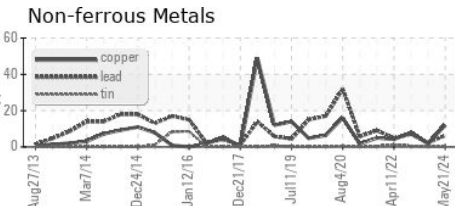
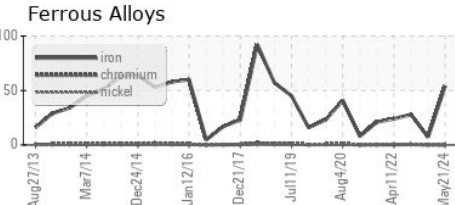
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	826	870	5281
Particles >6µm	ASTM D7647	>5000	450	474	2877
Particles >14µm	ASTM D7647	>640	77	81	490
Particles >21µm	ASTM D7647	>160	26	27	165
Particles >38µm	ASTM D7647	>40	4	4	25
Particles >71µm	ASTM D7647	>10	0	0	3
Oil Cleanliness	ISO 4406 (c)	>21/19/16	17/16/13	17/16/14	20/19/16

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	21.4	15.2	22.0
Base Number (BN)	mg KOH/g ASTM D2896	8.5	7.23	7.01	7.97

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar *Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar *Visual	NONE	NONE	NONE	NONE
Precipitate	scalar *Visual	NONE	NONE	NONE	NONE
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	▲ 0.2%	NEG	NEG
Free Water	scalar *Visual		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445	14.4	▲ 11.1	13.1	13.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0857784
Lab Number : **06203514**
Unique Number : 11070975

Received : 07 Jun 2024
Tested : 12 Jun 2024
Diagnosed : 12 Jun 2024 - Jonathan Hester

O & G ROCKS
 709 N GONZALES ST
 CUERO, TX
 US 77954

Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, KF, PercentFuel, PrtCount)
 To discuss this sample report, contact Customer Service at 1-800-237-1369. Contact: JOE ADAMS
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. og_rocks@yahoo.com;joe.adams@oandgrocks.com

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) T: (361)275-3424 F: