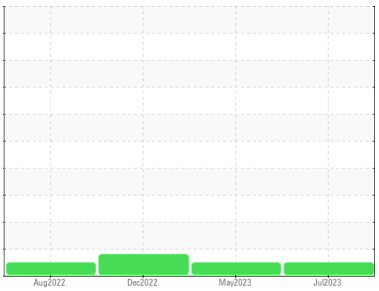
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
L-441
Component
Diesel Engine
Fluid
PHILLIPS 66 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0828519**	WC0780403	WC0703771
Sample Date		Client Info		**18 Jul 2023**	09 May 2023	19 Dec 2022
Machine Age	hrs	Client Info		**1121**	809	540
Oil Age	hrs	Client Info		**312**	264	540
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**NORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**8**	8	21
Chromium	ppm	ASTM D5185m	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	1	<1
Titanium	ppm	ASTM D5185m		**7**	64	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	0	3
Lead	ppm	ASTM D5185m	>40	**0**	<1	9
Copper	ppm	ASTM D5185m	>330	**5**	42	▲ 582
Tin	ppm	ASTM D5185m	>15	**<1**	1	2
Vanadium	ppm	ASTM D5185m		**<1**	1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**85**	117	203
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**92**	34	195
Manganese	ppm	ASTM D5185m		**<1**	<1	4
Magnesium	ppm	ASTM D5185m		**62**	357	761
Calcium	ppm	ASTM D5185m		**2426**	1826	1400
Phosphorus	ppm	ASTM D5185m		**1106**	1022	948
Zinc	ppm	ASTM D5185m		**1295**	1250	977
Sulfur	ppm	ASTM D5185m		**4677**	4659	2860

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	5	10
Sodium	ppm	ASTM D5185m		**4**	3	5
Potassium	ppm	ASTM D5185m	>20	**0**	4	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**9.2**	8.8	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.3**	19.8	23.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.0**	15.8	17.5
Base Number (BN)	mg KOH/g	ASTM D2896		**7.4**	7.8	9.3

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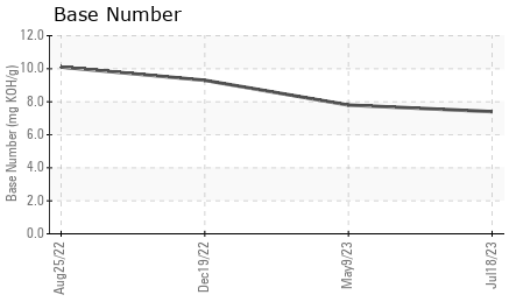
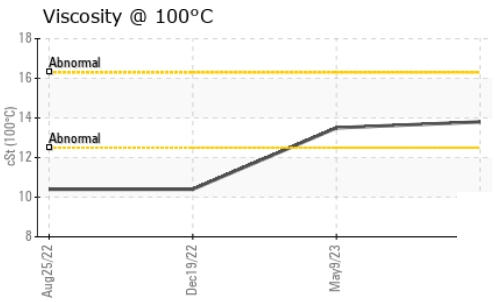
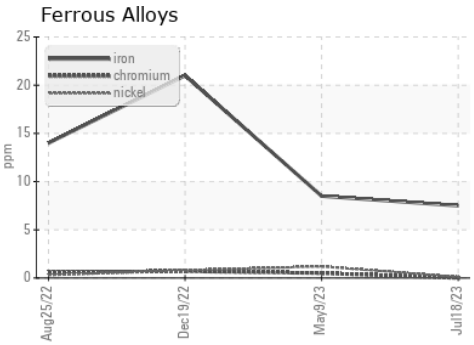


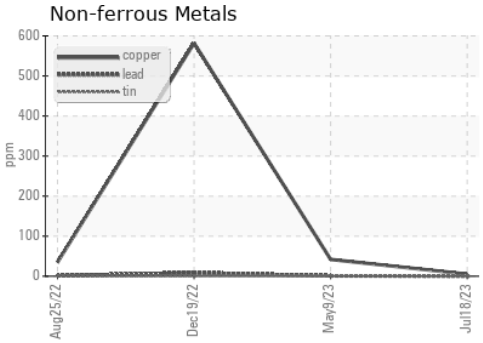


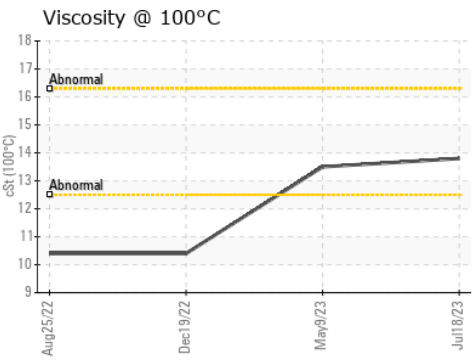
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

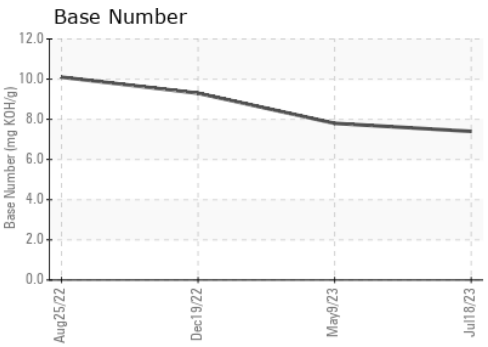
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**13.8**	13.5	10.4

GRAPHS









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0828519 **Received** : 19 Jul 2023
Lab Number : 05902084 **Diagnosed** : 20 Jul 2023
Unique Number : 10563440 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

Certificate L2367

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)

DUKE LAZZARA
4201 FAYETTEVILLE RD
RALEIGH, NC
US 27603
Contact: NICK DIXON
NICK.DIXON@DUKELAZZAM.COM
T: (919)760-7797
F: