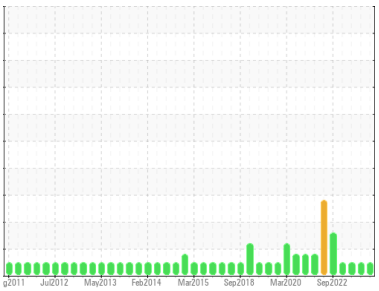
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
CATERPILLAR RIG 51-B GEN 3-A (S/N 030951)
Component
Diesel Engine
Fluid
CHEVRON URSA SUPER PLUS EC 15W40 (80 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

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		**RP0037493**	RP0037490	RP0031850
Sample Date		Client Info		**23 Apr 2024**	20 Mar 2024	21 Nov 2023
Machine Age	hrs	Client Info		**44936**	807	43951
Oil Age	hrs	Client Info		**176**	807	796
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

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	**2**	2	1
Chromium	ppm	ASTM D5185m	>20	**0**	<1	0
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	2	4
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**<1**	2	4
Tin	ppm	ASTM D5185m	>15	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**467**	382	302
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**142**	92	114
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**755**	455	614
Calcium	ppm	ASTM D5185m		**1846**	1405	1467
Phosphorus	ppm	ASTM D5185m	1200	**934**	1038	798
Zinc	ppm	ASTM D5185m	1300	**1120**	1194	953

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	4	4
Sodium	ppm	ASTM D5185m		**2**	9	6
Potassium	ppm	ASTM D5185m	>20	**8**	23	19
Water	%	ASTM D6304	>0.2	**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**6.9**	6.8	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.9**	20.8	22.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.0**	15.3	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	**10.66**	7.41	9.64

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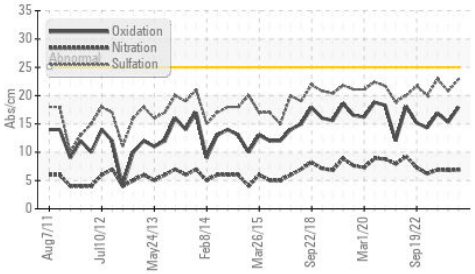
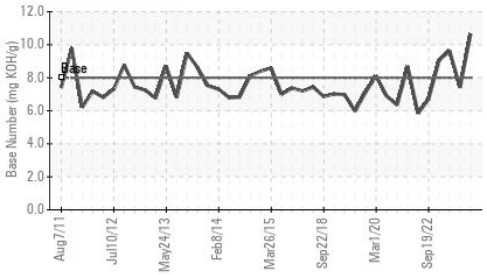
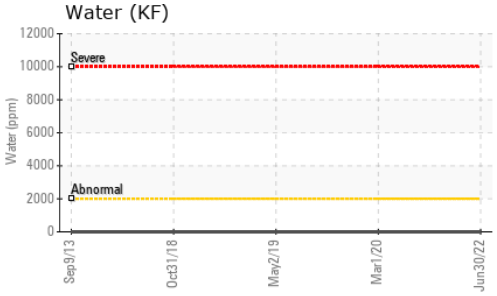
FT-IR (Direct Trend)



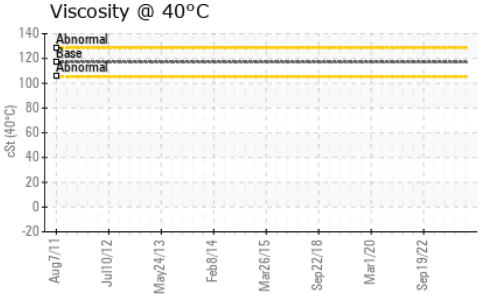
Base Number



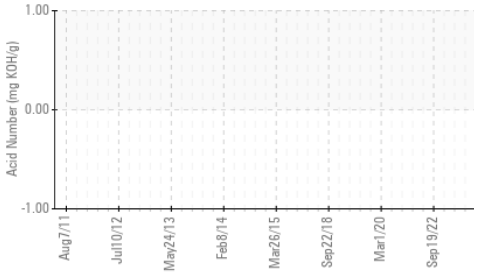
Water (KF)



Viscosity @ 40°C



Acid Number

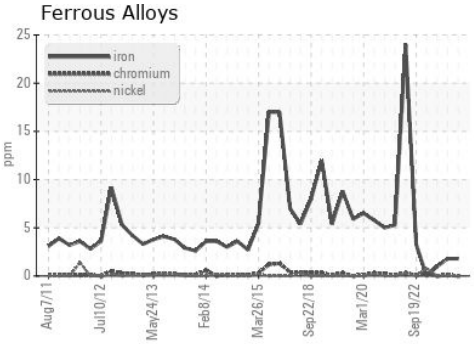


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

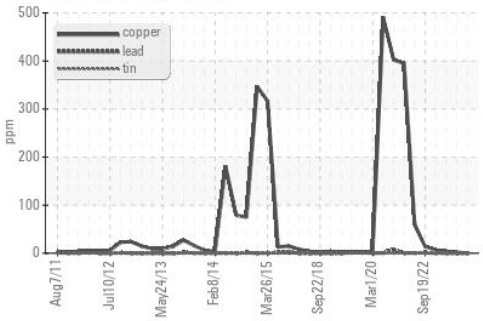
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.3**	13.19	13.0

GRAPHS

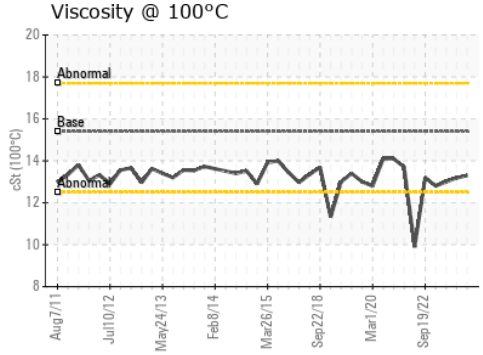
Ferrous Alloys



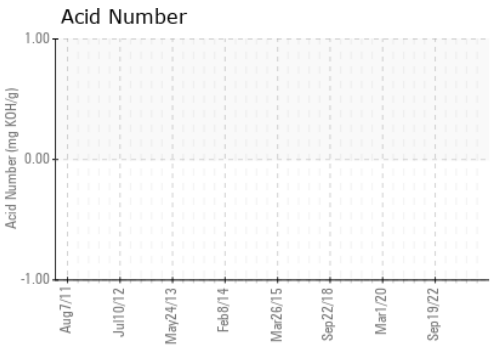
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0037493 **Received** : 06 Jun 2024
Lab Number : 06201662 **Tested** : 09 Jun 2024
Unique Number : 11063785 **Diagnosed** : 09 Jun 2024 - Don Baldridge
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

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)

PARKER WELLBORE
1110 UNIFAB RD
NEW IBERIA, LA
US 70560
Contact: BRENT CARLINE
brent.carline@parkerwellbore.com
T: (337)364-3122
F: (337)364-0232

Report Id: PARNEWLA [WUSCAR] 06201662 (Generated: 06/09/2024 16:17:26) Rev: 1

Contact/Location: BRENT CARLINE - PARNEWLA