

## **OIL ANALYSIS REPORT**

#### **Sample Rating Trend**

# NORMAL

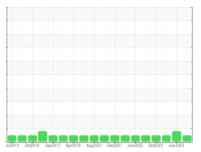


## CATERPILLAR RIG 55-B GENERATOR 3 059022

Component

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (85 GAL)





### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Moor

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil

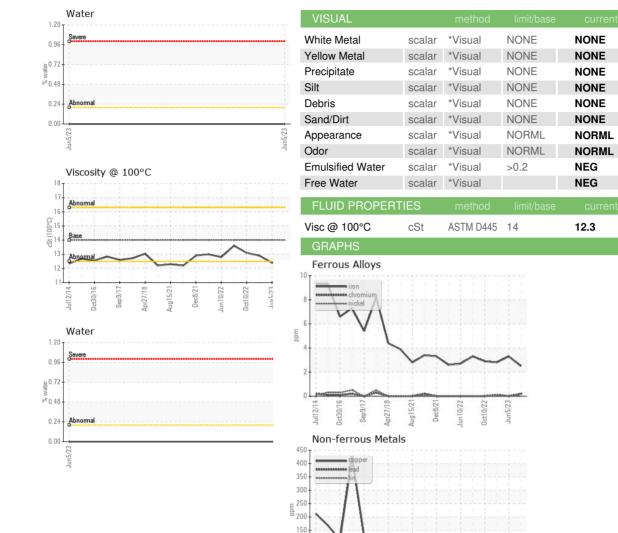
#### **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Machine Age         hrs         Client Info         14462         13643         12802           Oil Age         hrs         Client Info         819         838         802           Oil Changed         Client Info         Changed         Changed         Changed           Sample Status         NORMAL         MARGINAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         history1           Fuel         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         2         3         3           Chromium         ppm         ASTM D5185m         >20         <1         0         <1           Nickel         ppm         ASTM D5185m         >20         0         0         0           Silver         ppm         ASTM D5185m         >2         0         0         0           Lead         ppm         ASTM D5185m         >40         <1         <1         0           Copper         ppm         ASTM D5185m         0 <th>OPER 13W40 (6:</th> <th>GAL)</th> <th>lul2014 Oct20</th> <th>16 Sep2017 Apr2018 Au</th> <th>g2021 Dec2021 Jun2022 Oct2022</th> <th>Jun2023</th> <th></th>	OPER 13W40 (6:	GAL)	lul2014 Oct20	16 Sep2017 Apr2018 Au	g2021 Dec2021 Jun2022 Oct2022	Jun2023	
Sample Date   Client Info   01 Aug 2023   05 Jun 2023   14 Mar 2023   Machine Age   hrs   Client Info   14462   13643   12802   2016   Aug 2023   Machine Age   hrs   Client Info   819   838   802   2016   Changed   Changed	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date   Client Info   01 Aug 2023   05 Jun 2023   14 Mar 2023   Machine Age   hrs   Client Info   14462   13643   12802   136043   12802   136043   12802   136043   12802   136043   12802   136043   12802   136043   12802   136043   12802   136043   12802   136043   12802   136043   13602   136043   13602   13602   13603	Sample Number		Client Info		RP0031775	RP0027773	RP0027772
Machine Age         hrs         Client Info         14462         13643         12802           Oil Age         hrs         Client Info         819         838         802           Oil Changed         Client Info         Changed         Changed         Changed           Sample Status         NORMAL         MARGINAL         NORMAL           CONTAMINATION         method         Imilibase         current         history1         history2           Fuel         WC Method         NEG         NEG         NEG         NEG           WEAR METALS         method         Imilibase         current         history1         history2           Iron         ppm         ASTM D5185m         >100         2         3         3           Chromium         ppm         ASTM D5185m         >20         <1	Sample Date		Client Info		01 Aug 2023	05 Jun 2023	14 Mar 2023
Oil Age         hrs         Client Info         819         838         802           Oil Changed Status         Client Info         Changed Changed Changed Changed Changed NORMAL NORMAL         Changed NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL           CONTAMINATION         method         limit/base         current current         history1         history2           Fuel         WC Method         NEG         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         2         3         3           Chromium         ppm         ASTM D5185m         >20         <1         0         <1           Inickel         ppm         ASTM D5185m         >20         <1         0         <1           Silver         ppm         ASTM D5185m         >2         0         0         0           Silver         ppm         ASTM D5185m         >2         0         0         0           Copper         ppm         ASTM D5185m         >2         0         0         0           Copper         ppm         ASTM D5185m         0         <1 <td>•</td> <td>hrs</td> <td>Client Info</td> <td></td> <th>•</th> <td>13643</td> <td>12802</td>	•	hrs	Client Info		•	13643	12802
Content   Con	Oil Age	hrs	Client Info		819	838	802
NORMAL   MARGINAL   NORMAL	-		Client Info		Changed	Changed	Changed
Fuel	Sample Status				_		NORMAL
WEAR METALS	CONTAMINATIO	N	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	▲ 2.1	<1.0
	Glycol		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >20         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	2	3	3
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	0	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper         ppm         ASTM D5185m         >330         <1         2         <1           Tin         ppm         ASTM D5185m         >15         0         <1	Aluminum	ppm	ASTM D5185m	>25	1	0	2
Copper         ppm         ASTM D5185m         >330         <1         2         <1           Tin         ppm         ASTM D5185m         >15         0         <1	Lead	ppm	ASTM D5185m	>40	<1	<1	0
Tin	Copper		ASTM D5185m	>330	<1	2	<1
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         6         53         351           Barium         ppm         ASTM D5185m         0         0         <1         0           Molybdenum         ppm         ASTM D5185m         0         57         69         101           Manganese         ppm         ASTM D5185m         0         931         874         548           Calcium         ppm         ASTM D5185m         0         931         874         548           Calcium         ppm         ASTM D5185m         1110         1201         1598           Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Solicon			ASTM D5185m	>15		<1	0
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         6         53         351           Barium         ppm         ASTM D5185m         0         0         <1	Vanadium						0
Boron	Cadmium						0
Barium         ppm         ASTM D5185m         0         0         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         57         69         101           Manganese         ppm         ASTM D5185m         <1         <1         <1           Magnesium         ppm         ASTM D5185m         0         931         874         548           Calcium         ppm         ASTM D5185m         1110         1201         1598           Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         >20         0         <1         2           Potassium         ppm         ASTM D5185m         >20         0         <1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1     <	Boron	ppm	ASTM D5185m	0	6	53	351
Manganese         ppm         ASTM D5185m         <1         <1         <1           Magnesium         ppm         ASTM D5185m         0         931         874         548           Calcium         ppm         ASTM D5185m         1110         1201         1598           Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         0         <1	Barium	ppm	ASTM D5185m	0	0	<1	0
Magnesium         ppm         ASTM D5185m         0         931         874         548           Calcium         ppm         ASTM D5185m         1110         1201         1598           Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         0         <1	Molybdenum	ppm	ASTM D5185m	0	57	69	101
Magnesium         ppm         ASTM D5185m         0         931         874         548           Calcium         ppm         ASTM D5185m         1110         1201         1598           Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         >0         <1	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         0         <1         2           Potassium         ppm         ASTM D5185m         >20         0         <1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.6         7.0         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6 <th< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><th>931</th><td>874</td><td>548</td></th<>	Magnesium	ppm	ASTM D5185m	0	931	874	548
Phosphorus         ppm         ASTM D5185m         1005         1040         858           Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         0         <1         2           Potassium         ppm         ASTM D5185m         >20         0         <1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.6         7.0         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6 <th< td=""><td>Calcium</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>1110</th><td>1201</td><td>1598</td></th<>	Calcium	ppm	ASTM D5185m		1110	1201	1598
Zinc         ppm         ASTM D5185m         1234         1190         1058           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         0         <1	Phosphorus	ppm	ASTM D5185m		1005	1040	858
Silicon         ppm         ASTM D5185m         >25         2         3         4           Sodium         ppm         ASTM D5185m         0         <1         2           Potassium         ppm         ASTM D5185m         >20         0         <1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.6         7.0         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6         16.7         15.9	Zinc	ppm	ASTM D5185m		1234	1190	1058
Sodium         ppm         ASTM D5185m         0         <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         0         <1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.6         7.0         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6         16.7         15.9	Silicon	ppm	ASTM D5185m	>25	2	3	4
INFRA-RED	Sodium	ppm	ASTM D5185m		0	<1	2
Soot %         %         *ASTM D7844 >3         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624 >20         6.6         7.0         6.8           Sulfation         Abs/.1mm         *ASTM D7415 >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         14.6         16.7         15.9	Potassium	ppm	ASTM D5185m	>20	0	<1	<1
Nitration         Abs/cm         *ASTM D7624         >20         6.6         7.0         6.8           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6         16.7         15.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6         16.7         15.9	Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.3         20.7         21.6           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.6         16.7         15.9	Nitration	Abs/cm	*ASTM D7624	>20	6.6	7.0	6.8
Oxidation Abs/.1mm *ASTM D7414 >25 <b>14.6</b> 16.7 15.9	Sulfation						21.6
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	16.7	15.9
	Base Number (BN)	mg KOH/g	ASTM D2896	9.4	10.28	10.31	10.16

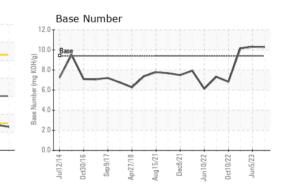


### **OIL ANALYSIS REPORT**



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Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** 

: RP0031775 : 05927463 : 10607410

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 17 Aug 2023 Diagnosed

: 21 Aug 2023 Diagnostician : Jonathan Hester

Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

Viscosity @ 100°C

\* - 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

NONE

NONE

NONE

NONE

NONE

NONE

**NORML** 

NORML

NEG

NEG

12.9

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

12.4

Contact: BRENT CARLINE brent.carline@parkerwellbore.com

T: (337)364-3122

F: (337)364-0232 Contact/Location: BRENT CARLINE - PARNEWLA