

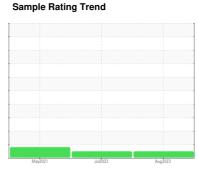
## **OIL ANALYSIS REPORT**



# CONSTRUCTORS, INC CATERPILLAR 131708

Component **Rear Right Final Drive** 

MOBIL DELVAC 1 SYNTHETIC GEAR SAE 75W90 (--- GAL)





### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

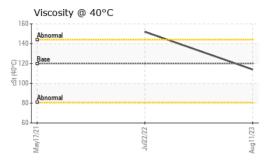
### **Fluid Condition**

The condition of the oil is acceptable for the time in service.

Sample Number   Client Info   SBP0004747   SBP0001460   SBP391680   Sample Date   Client Info   11 Aug 2023   22 Jul 2022   17 May 202   Machine Age   hrs   Client Info   1114   573   564   Client Info   1114   573   564   Client Info   Client Info   NI/A   Changed   Changed   Changed   Changed   Changed   NORMAL   SEVERE   Sample Status   NORMAL   SEVERE   NORMAL   SEVERE   Sample Status   Sample Status   Sample Status   Sample Status   Sample Status   Severe   Sample Status   Sample	GEAR SAE /5W90 (	GAL)	Ma	y2021	Jul2022 Aug20	23	
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   2831   1717   564	Sample Number		Client Info		SBP0004747	SBP0001460	SBP39168008
Dil Age	Sample Date		Client Info		11 Aug 2023	22 Jul 2022	17 May 2021
Cilient Info	Machine Age	hrs	Client Info		2831	1717	564
NORMAL   NORMAL   SEVERE	Oil Age	hrs	Client Info		1114	573	564
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >800         153         95         112           Chromium         ppm         ASTM D5185m         >10         1         -1         1           Nickel         ppm         ASTM D5185m         >5         <1	Oil Changed		Client Info		N/A	Changed	Changed
Chromium	Sample Status				NORMAL	NORMAL	SEVERE
Chromium         ppm         ASTM D5185m         >10         1         <1         1           Nickel         ppm         ASTM D5185m         >5         <1         0         0           Titianium         ppm         ASTM D5185m         >5         <1         <1         0           Siliver         ppm         ASTM D5185m         >2         <1         <1         0           Aluminum         ppm         ASTM D5185m         >2         <1         <1         0           Aluminum         ppm         ASTM D5185m         >75         24         24         34           Lead         ppm         ASTM D5185m         >8         1         1         3           Lead         ppm         ASTM D5185m         >8         1         1         3           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         66         143         27           Barium         ppm         ASTM D5185m         66         143         27           Barium         ppm         ASTM D5185m         1         1         1         1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>800	153	95	112
Titanium	Chromium	ppm	ASTM D5185m	>10	1	<1	1
Silver	Nickel	ppm	ASTM D5185m	>5	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>15	<1	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	<1	<1	0
Copper	Aluminum	ppm	ASTM D5185m	>75	2	1	3
Description	Lead		ASTM D5185m	>10	<1	<1	0
Tin	Copper		ASTM D5185m	>75	24	24	34
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         66         143         27           Barium         ppm         ASTM D5185m         0         0         4           Molybdenum         ppm         ASTM D5185m         -1         <1         1           Manganese         ppm         ASTM D5185m         3         2         0           Magnesium         ppm         ASTM D5185m         12         7         6           Calcium         ppm         ASTM D5185m         31         15         27           Phosphorus         ppm         ASTM D5185m         42         17         22           Sulfur         ppm         ASTM D5185m         222220         19467            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         20         7         6	Tin						
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         66         143         27           Barium         ppm         ASTM D5185m         0         0         4           Molybdenum         ppm         ASTM D5185m         -1         <1							
Boron   ppm   ASTM D5185m   66	Cadmium						
Boron   ppm   ASTM D5185m   66	ADDITIVES		method	limit/base	current	historv1	historv2
Barium		ppm					
Molybdenum         ppm         ASTM D5185m         <1         <1         1           Manganese         ppm         ASTM D5185m         3         2         0           Magnesium         ppm         ASTM D5185m         12         7         6           Calcium         ppm         ASTM D5185m         31         15         27           Phosphorus         ppm         ASTM D5185m         1153         708         362           Zinc         ppm         ASTM D5185m         42         17         22           Sulfur         ppm         ASTM D5185m         22220         19467            Sulfur         ppm         ASTM D5185m         22         1         history1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         7         6         15           Sodium         ppm         ASTM D5185m         >20         1         <1							
Manganese         ppm         ASTM D5185m         12         7         6           Calcium         ppm         ASTM D5185m         12         7         6           Calcium         ppm         ASTM D5185m         31         15         27           Phosphorus         ppm         ASTM D5185m         1153         708         362           Zinc         ppm         ASTM D5185m         42         17         22           Sulfur         ppm         ASTM D5185m         22220         19467            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >400         7         6         15           Sodium         ppm         ASTM D5185m         20         1         <1         2           Chlorine         ppm         ASTM D5185m         >20         1         <1         2           Chlorine         ppm         ASTM D5185m         >20         1         <1         2           Chlorine         ppm         ASTM D5185m         >20         1         <1         2           Chlorine         ppm <th< td=""><td></td><td></td><td></td><td></td><th>-</th><td></td><td></td></th<>					-		
Magnesium         ppm         ASTM D5185m         12         7         6           Calcium         ppm         ASTM D5185m         31         15         27           Phosphorus         ppm         ASTM D5185m         1153         708         362           Zinc         ppm         ASTM D5185m         42         17         22           Sulfur         ppm         ASTM D5185m         22220         19467            CONTAMINANTS         method         limit/base         current         history1         history3           Silicon         ppm         ASTM D5185m         >400         7         6         15           Sodium         ppm         ASTM D5185m         >20         1         <1	•						
Calcium         ppm         ASTM D5185m         31         15         27           Phosphorus         ppm         ASTM D5185m         1153         708         362           Zinc         ppm         ASTM D5185m         42         17         22           Sulfur         ppm         ASTM D5185m         22220         19467            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         7         6         15           Sodium         ppm         ASTM D5185m         20         1         -1         2           Chlorine         ppm         ASTM D5185m         >20         1         -1         2           Chlorine         ppm         ASTM D5185m           0           VISUAL         method         limit/base         current         history1           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar </td <td>-</td> <td></td> <td></td> <td></td> <th>_</th> <td></td> <td></td>	-				_		
Phosphorus         ppm         ASTM D5185m         1153         708         362           Zinc         ppm         ASTM D5185m         42         17         22           Sulfur         ppm         ASTM D5185m         22220         19467            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         2         1         1           Sodium         ppm         ASTM D5185m         2         1         1           Potassium         ppm         ASTM D5185m         >20         1         <1							
Zinc					-		
Sulfur         ppm         ASTM D5185m         22220         19467            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         7         6         15           Sodium         ppm         ASTM D5185m         2         1         1           Potassium         ppm         ASTM D5185m           0           Chlorine         ppm         ASTM D5185m           0           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            De							
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         7         6         15           Sodium         ppm         ASTM D5185m         2         1         1           Potassium         ppm         ASTM D5185m           0           Chlorine         ppm         ASTM D5185m           0           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE							
Silicon				Para It /la a a a			
Sodium						•	
Potassium         ppm         ASTM D5185m         >20         1         <1         2           Chlorine         ppm         ASTM D5185m           0           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NORM         NORML         NORML         NORML           Appearance         scalar         *Visual         NORML         NORML         NORML         NORML           Bemulsified Water         scalar         *Visual         >0.2         NEG         NEG				>400			
Chlorine ppm ASTM D5185m 0  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  Sand/Dirt scalar *Visual NONE NONE NONE  Appearance scalar *Visual NORML NORML NORML  Appearance scalar *Visual NORML NORML NORML  Emulsified Water scalar *Visual >0.2 NEG NEG				0.0			
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML COdor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG				>20	1	<1	
White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NONE         NONE         NONE            Appearance         scalar         *Visual         NORML         NORML         NORML            Odor         scalar         *Visual         NORML         NORML         NORML            Emulsified Water         scalar         *Visual         >0.2         NEG         NEG	Chlorine	ppm	ASTM D5185m				
Yellow Metal     scalar     *Visual     NONE     NONE     NONE       Precipitate     scalar     *Visual     NONE     NONE     NONE       Silt     scalar     *Visual     NONE     NONE     NONE       Debris     scalar     *Visual     NONE     NONE     NONE       Sand/Dirt     scalar     *Visual     NONE     NONE     NONE       Appearance     scalar     *Visual     NORML     NORML     NORML       Odor     scalar     *Visual     NORML     NORML     NORML       Emulsified Water     scalar     *Visual     >0.2     NEG     NEG	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG	White Metal						
Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG							
Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NONE         NONE         NONE            Appearance         scalar         *Visual         NORML         NORML         NORML         NORML            Odor         scalar         *Visual         NORML         NORML         NORML            Emulsified Water         scalar         *Visual         >0.2         NEG         NEG	Precipitate						
Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG	Silt						
Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG							
Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG	Sand/Dirt	scalar		NONE	NONE		
Emulsified Water scalar *Visual >0.2 NEG NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
Free Water scalar *Visual NEG NEG	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	

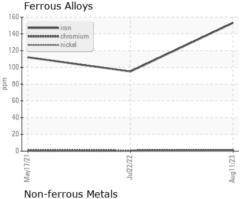


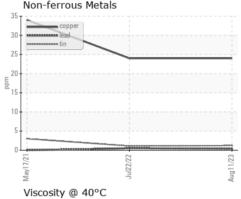
## **OIL ANALYSIS REPORT**

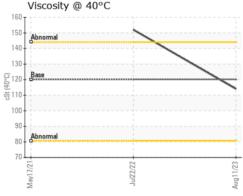




## **GRAPHS**









Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10604485 Test Package : FLEET

: SBP0004747 : 05924538

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 Aug 2023 Diagnosed : 15 Aug 2023

Diagnostician : Sean Felton

US 68508 Contact: Jack Linhart

Constructors Inc. - 603659

jackl@constructorslincoln.com

T: (402)434-2157

\* - 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)

F:

1815 Y Street

Lincoln, NE