

# **OIL ANALYSIS REPORT**

# Sample Rating Trend





# CATERPILLAR D6 LGP 10040 (S/N KEW01159)

Hydraulic System
Fluid

{not provided} (--- GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

## Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

## **Fluid Condition**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION   method   limit/base   current   history1   history2	L)		Sep 2023	Oct2023 Dec2023	Jan2024 Apr2024 Jun2024	Jul2024	
Sample Date   Client Info   Q4 Jul 2024   04 Jun 2024   10 Apr 2024   Machine Age   hrs   Client Info   4248   3706   3050   3	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         4248         3706         3050           Oil Age         hrs         Client Info         4248         3706         3050           Oil Changed         Client Info         Not Changd         Not Changd         Not Changd           Sample Status         Image: Client Info         NoRMAL         NORMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         16         13         8           Chromium         ppm         ASTM D5185m         >10         4         3         2           Nickel         ppm         ASTM D5185m         >10         4         3         2           Silver         ppm         ASTM D5185m         >10         6         4         3         1           Copper         ppm         ASTM D5185m         >10         4         3         1         0	Sample Number		Client Info		WC0899164	WC0888097	WC0888010
Oil Age	Sample Date		Client Info		04 Jul 2024	04 Jun 2024	10 Apr 2024
Oil Changed Sample Status         Client Info         Not Changd NORMAL         Not Changd NORMAL         Not Changd NORMAL           CONTAMINATION         method         limit/bass         current         history1         history2           Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/bass         current         history1         history2           Iron         ppm         ASTM D5185m         >20         16         13         8           Chromium         ppm         ASTM D5185m         >10         4         3         2           Nickel         ppm         ASTM D5185m         >10         4         3         2           Nickel         ppm         ASTM D5185m         >10         4         3         2           Nickel         ppm         ASTM D5185m         >10         6         4         3         1           Aluminum         ppm         ASTM D5185m         >10         4         3         1         0           Aluminum         ppm         ASTM D5185m         >10         <1         <1         0         0           Vanadium         ppm         ASTM D	Machine Age	hrs	Client Info		4248	3706	3050
Sample Status	Oil Age	hrs	Client Info		4248	3706	3050
CONTAMINATION   method   limit/base   current   history1   history2	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         16         13         8           Chromium         ppm         ASTM D5185m         >10         4         3         2           Nickel         ppm         ASTM D5185m         >10         <1	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS	CONTAMINATION	V	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >10         4         3         2           Nickel         ppm         ASTM D5185m         >10         <1         0         0           Titanium         ppm         ASTM D5185m         <1         <1         0         0           Aluminum         ppm         ASTM D5185m         >10         6         4         3         1           Lead         ppm         ASTM D5185m         >10         4         3         1         1         0         0           Lead         ppm         ASTM D5185m         >10         4         3         1         0 <th>WEAR METALS</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>20	16	13	8
Titanium         ppm         ASTM D5185m         <1	Chromium	ppm	ASTM D5185m	>10	4	3	2
Silver         ppm         ASTM D5185m         <1	Nickel	ppm	ASTM D5185m	>10	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead         ppm         ASTM D5185m         >10         4         3         1           Copper         ppm         ASTM D5185m         >75         27         25         16           Tin         ppm         ASTM D5185m         >10         <1	Silver	ppm	ASTM D5185m		<1	0	0
Copper         ppm         ASTM D5185m         >75         27         25         16           Tin         ppm         ASTM D5185m         >10         <1         <1         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         3         1         0         0           Barium         ppm         ASTM D5185m         0	Aluminum	ppm	ASTM D5185m	>10	6	4	3
Tin	Lead	ppm	ASTM D5185m	>10	4	3	1
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         <1	Copper	ppm	ASTM D5185m	>75	27	25	16
Cadmium         ppm         ASTM D5185m         <1	Tin	ppm	ASTM D5185m	>10	<1	<1	0
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         3         1         0           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         <1         <1         0           Manganese         ppm         ASTM D5185m         <1         <1         <1           Magnesium         ppm         ASTM D5185m         5         4         0           Calcium         ppm         ASTM D5185m         355         354         225           Phosphorus         ppm         ASTM D5185m         739         725         621           Zinc         ppm         ASTM D5185m         968         945         754           Sulfur         ppm         ASTM D5185m         1835         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20	Vanadium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         3         1         0           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         <1	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         <1         <1         0           Manganese         ppm         ASTM D5185m         <1         <1         <1           Magnesium         ppm         ASTM D5185m         5         4         0           Calcium         ppm         ASTM D5185m         355         354         225           Phosphorus         ppm         ASTM D5185m         739         725         621           Zinc         ppm         ASTM D5185m         968         945         754           Sulfur         ppm         ASTM D5185m         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000 <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         <1	Boron	ppm	ASTM D5185m		3	1	0
Manganese         ppm         ASTM D5185m         <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium         ppm         ASTM D5185m         5         4         0           Calcium         ppm         ASTM D5185m         355         354         225           Phosphorus         ppm         ASTM D5185m         739         725         621           Zinc         ppm         ASTM D5185m         968         945         754           Sulfur         ppm         ASTM D5185m         1835         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         708         701         2850           Particles >6µm         ASTM D7647         >1300         107         167         352           Particles >21µm         ASTM D7647         >40         3         3         8           Particles >71µm <th>Molybdenum</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>&lt;1</th> <th>&lt;1</th> <th>0</th>	Molybdenum	ppm	ASTM D5185m		<1	<1	0
Calcium         ppm         ASTM D5185m         355         354         225           Phosphorus         ppm         ASTM D5185m         739         725         621           Zinc         ppm         ASTM D5185m         968         945         754           Sulfur         ppm         ASTM D5185m         1835         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >40         3         3         8	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus         ppm         ASTM D5185m         739         725         621           Zinc         ppm         ASTM D5185m         968         945         754           Sulfur         ppm         ASTM D5185m         1835         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           Potassium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >10         0         0         1           Particle	Magnesium	ppm	ASTM D5185m		5	4	0
Zinc         ppm         ASTM D5185m         968         945         754           Sulfur         ppm         ASTM D5185m         1835         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >160         11         13         30           Particles >21μm         ASTM D7647         >40         3         3         8           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	Calcium	ppm	ASTM D5185m		355	354	225
Sulfur         ppm         ASTM D5185m         1835         2046         1778           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >160         11         13         30           Particles >21μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >10         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	Phosphorus	ppm	ASTM D5185m		739	725	621
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         15         11         7           Sodium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >160         11         13         30           Particles >21μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >10         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	Zinc	ppm	ASTM D5185m		968	945	754
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sulfur	ppm	ASTM D5185m		1835	2046	1778
Sodium         ppm         ASTM D5185m         <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         2         1         10           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >160         11         13         30           Particles >21μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >10         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	Silicon	ppm	ASTM D5185m	>20	15	11	7
FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >5000         708         701         2850           Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >160         11         13         30           Particles >21μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >10         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	Sodium	ppm	ASTM D5185m		<1	0	3
Particles >4μm       ASTM D7647       >5000       708       701       2850         Particles >6μm       ASTM D7647       >1300       107       167       352         Particles >14μm       ASTM D7647       >160       11       13       30         Particles >21μm       ASTM D7647       >40       3       3       8         Particles >38μm       ASTM D7647       >10       0       0       1         Particles >71μm       ASTM D7647       >3       0       0       0         Oil Cleanliness       ISO 4406 (c)       >19/17/14       17/14/11       17/15/11       19/16/12	Potassium	ppm	ASTM D5185m	>20	2	1	10
Particles >6μm         ASTM D7647         >1300         107         167         352           Particles >14μm         ASTM D7647         >160         11         13         30           Particles >21μm         ASTM D7647         >40         3         3         8           Particles >38μm         ASTM D7647         >10         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm       ASTM D7647       >160       11       13       30         Particles >21μm       ASTM D7647       >40       3       3       8         Particles >38μm       ASTM D7647       >10       0       0       1         Particles >71μm       ASTM D7647       >3       0       0       0         Oil Cleanliness       ISO 4406 (c)       >19/17/14       17/14/11       17/15/11       19/16/12	Particles >4µm		ASTM D7647	>5000	708	701	2850
Particles >21μm       ASTM D7647       >40       3       3       8         Particles >38μm       ASTM D7647       >10       0       0       1         Particles >71μm       ASTM D7647       >3       0       0       0         Oil Cleanliness       ISO 4406 (c)       >19/17/14       17/14/11       17/15/11       19/16/12	Particles >6µm		ASTM D7647	>1300	107	167	352
Particles >38μm       ASTM D7647       >10       0       0       1         Particles >71μm       ASTM D7647       >3       0       0       0         Oil Cleanliness       ISO 4406 (c)       >19/17/14       17/14/11       17/15/11       19/16/12	Particles >14µm		ASTM D7647	>160	11	13	30
Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >19/17/14         17/14/11         17/15/11         19/16/12	Particles >21µm		ASTM D7647	>40	3	3	8
Oil Cleanliness ISO 4406 (c) >19/17/14 <b>17/14/11</b> 17/15/11 19/16/12	Particles >38µm		ASTM D7647	>10	0	0	1
<u> </u>	Particles >71µm		ASTM D7647	>3	0	0	0
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/14/11	17/15/11	19/16/12
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2

Acid Number (AN)

mg KOH/g ASTM D8045

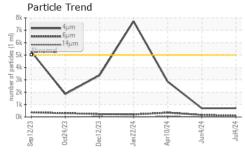
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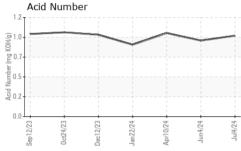
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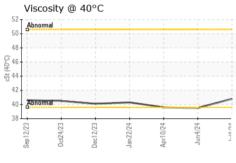
Contact/Location: MIKE WYATT - TRANEW

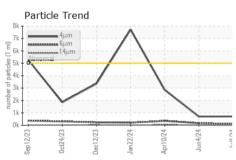


# **OIL ANALYSIS REPORT**









VISUAL		method				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	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPE	RIIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 40°C	cSt	ASTM D445		40.8	39.5	39.6

SAMPLE IMAGES	method	





Particle Count





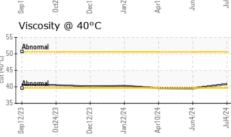


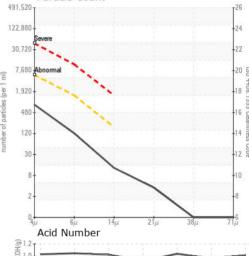
Color

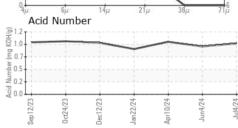
**Bottom** 

**GRAPHS** Ferrous Alloys

Non-ferrous Metals Viscosity @ 40°C











Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0899164 Lab Number : 06235839 Unique Number : 11124673 Test Package : CONST

Received : 15 Jul 2024 **Tested** Diagnosed

: 16 Jul 2024 : 16 Jul 2024 - Wes Davis

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

US 28563 Contact: MIKE WYATT mwyatt@traderconstruction.com T: (252)633-1399

TRADER CONSTRUCTION CO.

PO DRAWER 1578

NEW BERN, NC

F: (252)638-4871

\* - 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)

Report Id: TRANEW [WUSCAR] 06235839 (Generated: 07/16/2024 10:03:16) Rev: 1

Contact/Location: MIKE WYATT - TRANEW