

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# WESTCHESTER 240 NORTH DEPT OF HEALTH A050739876

**Diesel Engine** 

**DIESEL ENGINE OIL SAE 15W40 (6 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number   Client Info   WC0921686   WC0349533   WC01394   Sample Date   Client Info   20 May 2024   13 May 2019   05 Jun 20   16   16   16   16   16   16   16   1			Ju	2018	May2019 May20	024	
Sample Number   Client Info   WC0921686   WC0349533   WC0M1384   Sample Date   Client Info   20 May 2024   13 May 2019   05 Jun 20   06 Jun 20   16   16   16   16   16   16   16   1	CAMPLE INCOM	44 TION		11 11 11			
Sample Date   Client Info   20 May 2024   13 May 2019   05 Jun 20   Machine Age   hrs   Client Info   0   16   16   16   16   16   16   16	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         0         16         16           Oil Age         hrs         Client Info         0         12         0           Oil Changed         Client Info         N/A         Changed         Changed           Sample Status         Contract         NoRMAL         NORMAL         NORMAL           CONTAMINATION         method         Imitibase         current         history1         history1           Fuel         WC Method         >5         <1.0         <1.0         <1.0           Water         WC Method         NEG         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >0.0         2         2         6           Chromium         ppm         ASTM D5185m         >20         -1         -1         1         0           Chromium         ppm         ASTM D5185m         >20         -1         -1         1         0           Silver         ppm         ASTM D5185m         >20         -1         -1         1         0           Silver	Sample Number		Client Info				WCM138414
Oil Age         hrs         Client Info         N/A         Changed         Changed Changed           Sample Status         Client Info         N/A         Changed Changed         Changed Changed           Sample Status         NORMAL         NORMAL         NORMAL         NORMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         history1           Fuel         WC Method         Search         NEG         NEG         NEG           Water         WC Method         NEG         NEG         NEG           Wear METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >100         2         2         6           Chromium         ppm         ASTM D5185m         >20         -1         -1         0         0           Mickel         ppm         ASTM D5185m         >3         -1         1         0         0           Chromium         ppm         ASTM D5185m         >3         -1         1         0         0           Malumium         ppm         ASTM D5185m         >30         -1         -1	Sample Date		Client Info		20 May 2024	13 May 2019	05 Jun 2018
Contament   Changed   Changed   Normal   Norma	Machine Age	hrs	Client Info		0	16	
NORMAL   NORMAL   NORMAL   NORMAL	Oil Age	hrs	Client Info		0	12	0
CONTAMINATION	Oil Changed		Client Info		N/A	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol         WC Method WC Method         >0.2         NEG NEG         NEG NEG         NEG NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >100         2         2         6           Chromium         ppm         ASTM D5185m         >20         <1	CONTAMINATION	1	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Concord   Conc	Glycol		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >20         <1         <1         0           Nickel         ppm         ASTM D5185m         >4         0         0         0           Titanium         ppm         ASTM D5185m         >3         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	2	2	6
Nickel	Chromium		ASTM D5185m	>20	<1	<1	0
Titanium	Nickel		ASTM D5185m	>4	0	0	0
Silver	Titanium		ASTM D5185m		<1	1	0
Aluminum	Silver		ASTM D5185m	>3		0	0
Lead	Aluminum		ASTM D5185m	>20			<1
Copper         ppm         ASTM D5185m         >330         <1         <1         3           Tin         ppm         ASTM D5185m         >15         <1	l ead		ASTM D5185m	>40			
Tin			ASTM D5185m				
Antimony	•						
Vanadium         ppm         ASTM D5185m         <1         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         250         9         12         51           Barium         ppm         ASTM D5185m         10         0         0         <1           Molybdenum         ppm         ASTM D5185m         100         54         54         28           Manganese         ppm         ASTM D5185m         100         54         54         28           Manganesium         ppm         ASTM D5185m         450         764         792         233           Calcium         ppm         ASTM D5185m         3000         1188         1264         2833           Phosphorus         ppm         ASTM D5185m         150         1088         997         879           Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         225         3         3							
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         250         9         12         51           Barium         ppm         ASTM D5185m         10         0         0         <1	•						
ADDITIVES							
Boron	ADDITIVES		method	limit/base	current	history1	history2
Barium	Boron	ppm	ASTM D5185m	250	9	12	
Molybdenum         ppm         ASTM D5185m         100         54         54         28           Manganese         ppm         ASTM D5185m         0         <1         1           Magnesium         ppm         ASTM D5185m         450         764         792         233           Calcium         ppm         ASTM D5185m         3000         1188         1264         2833           Phosphorus         ppm         ASTM D5185m         1150         1088         997         879           Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base	Barium		ASTM D5185m	10	0	0	<1
Manganese         ppm         ASTM D5185m         0         <1         1           Magnesium         ppm         ASTM D5185m         450         764         792         233           Calcium         ppm         ASTM D5185m         3000         1188         1264         2833           Phosphorus         ppm         ASTM D5185m         1150         1088         997         879           Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon          ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base         current         history1         history1           Soot %         % ASTM D7624         >20         6.4	Molybdenum		ASTM D5185m	100	54	54	28
Magnesium         ppm         ASTM D5185m         450         764         792         233           Calcium         ppm         ASTM D5185m         3000         1188         1264         2833           Phosphorus         ppm         ASTM D5185m         1150         1088         997         879           Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13         13           Potassium         ppm         ASTM D5185m         >20         2         <1	•		ASTM D5185m		0	<1	1
Calcium         ppm         ASTM D5185m         3000         1188         1264         2833           Phosphorus         ppm         ASTM D5185m         1150         1088         997         879           Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1         history1           Silicon         ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1	-		ASTM D5185m	450	764	792	233
Phosphorus         ppm         ASTM D5185m         1150         1088         997         879           Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >3         0.1         0.1         0           Nitration         Abs/:nm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/:nm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method			ASTM D5185m	3000	1188	1264	2833
Zinc         ppm         ASTM D5185m         1350         1165         1084         1155           Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base         current         history1         history           Soot %         %         *ASTM D7844         >3         0.1         0.1         0           Nitration         Abs/cm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method         limit/base         current         history1         history1           Oxidation         Abs/.1mm         *					1088		
Sulfur         ppm         ASTM D5185m         4250         3398         3168         3983           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1	•		ASTM D5185m	1350			
Silicon         ppm         ASTM D5185m         >25         3         3         3           Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >3         0.1         0.1         0           Nitration         Abs/cm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method         limit/base         current         history1         history           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.2         12.6         11.	-						
Sodium         ppm         ASTM D5185m         >158         2         17         13           Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >3         0.1         0.1         0           Nitration         Abs/cm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method         limit/base         current         history1         history           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.2         12.6         11.	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         2         <1         3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.1         0.1         0           Nitration         Abs/cm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method         limit/base         current         history1         history           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.2         12.6         11.	Silicon	ppm	ASTM D5185m	>25	3	3	3
INFRA-RED	Sodium	ppm	ASTM D5185m	>158	2	17	13
Soot %         %         *ASTM D7844         >3         0.1         0.1         0           Nitration         Abs/cm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method         limit/base         current         history1         history           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.2         12.6         11.	Potassium	ppm	ASTM D5185m	>20	2	<1	3
Nitration         Abs/cm         *ASTM D7624         >20         6.4         4.8         5.           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION method limit/base current         history1         history1         history1           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.2         12.6         11.	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8         17.1         16.           FLUID DEGRADATION         method         limit/base         current         history1         history           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.2         12.6         11.	Soot %	%	*ASTM D7844	>3	0.1	0.1	0
FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 20.2 12.6 11.	Nitration	Abs/cm	*ASTM D7624	>20	6.4	4.8	5.
Oxidation Abs/.1mm *ASTM D7414 >25 <b>20.2</b> 12.6 11.	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	17.1	16.
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g   ASTM D2896   8.5   9.9	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.2	12.6	11.
, , , , , , , , , , , , , , , , , , , ,	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.9		



## **OIL ANALYSIS REPORT**







Certificate 12367

Sample No. Lab Number

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

: WC0921686 : 06185555 Unique Number: 11036881

Diagnosed Test Package : MOB 1 ( Additional Tests: TBN ) To discuss this sample report, contact Customer Service at 1-800-237-1369.

 $^st$  - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

**GEN TECH LTD** 

3017 RT 9W NEW WINDSOR, NY US 12553

Contact: JOE SAYEGH joe@gentechltd.com T: (845)568-0500

F: (845)568-3073

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Received

**Tested** 

: 22 May 2024 - Wes Davis

: 20 May 2024

: 22 May 2024

Submitted By: CHRIS HALVORSEN