

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

MCCLOSKEY 5588

Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 40 (--- 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.

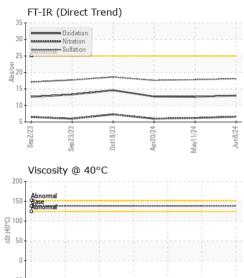
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0941213	WC0912306	WC0744154
Sample Date		Client Info		08 Jun 2024	11 May 2024	20 Apr 2024
Machine Age	hrs	Client Info		4909	4630	4357
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	5	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	2	0
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	1	4
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
a						
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base 250	-	-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current 6	history1 7	history2 11
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	250 10	current 6 0	history1 7 0	history2 11 <1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 6 0 55	history1 7 0 53	history2 11 <1 54
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 6 0 55 0	history1 7 0 53 0	history2 11 <1 54 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	current 6 0 555 0 852	history1 7 0 53 0 796	history2 11 <1 54 2 845
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	Current 6 0 55 0 852 1156	history1 7 0 53 0 796 1094	history2 11 <1 54 2 845 1215
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	Current 6 0 55 0 852 1156 1101	history1 7 0 53 0 796 1094 1050	history2 11 <1 54 2 845 1215 1041
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350	current 6 0 55 0 852 1156 1101 1266	history1 7 0 53 0 796 1094 1050 1154	history2 11 <1 54 2 845 1215 1041 1245
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	Current 6 0 55 0 852 1156 1101 1266 3400	history1 7 0 53 0 796 1094 1050 1154 3244	history2 11 <1 54 2 845 1215 1041 1245 3666
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	current 6 0 555 0 852 1156 1101 1266 3400 current	history1 7 0 53 0 796 1094 1050 1154 3244 history1	history2 11 <1 54 2 845 1215 1041 1245 3666 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	current 6 0 555 0 852 1156 1101 1266 3400 current 4	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	current 6 0 555 0 852 1156 1101 1266 3400 current 4 0	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4 2	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	current 6 0 55 0 852 1156 1101 1266 3400 current 4 0 3 current 0.3	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4 2 3 history1 0.2	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3 1 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >216 >20 Imit/base	current 6 0 55 0 852 1156 1101 1266 3400 current 4 0 3 current	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4 2 3 history1	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3 1 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >216 >20 Iimit/base >3	current 6 0 55 0 852 1156 1101 1266 3400 current 4 0 3 current 0.3	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4 2 3 history1 0.2	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3 1 0 history2 0.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >216 >20 i mit/base >3 >20	current 6 0 555 0 852 1156 1101 1266 3400 current 4 0 3 current 0.3 6.6	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4 2 3 history1 0.2 6.2	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3 1 0 history2 0.2 6.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >216 >216 >20 imit/base >3 >20 >30	current 6 0 555 0 852 1156 1101 1266 3400 current 4 0 3 current 0.3 6.6 18.1	history1 7 0 53 0 796 1094 1050 1154 3244 history1 4 2 3 history1 0.2 6.2 17.8	history2 11 <1 54 2 845 1215 1041 1245 3666 history2 3 1 0 history2 0.2 6.0 17.6

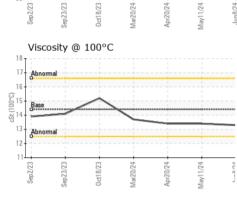


Sep2/23

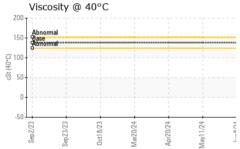
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OIL ANALYSIS REPORT





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		VISUA	AL.		met	hod	limit/ba	ise	currer	nt	history	'1	histo	ory2
		White N	letal	scalar	*Visu	al	NONE		NONE		NONE		NONE	
	-	Yellow M	Metal	scalar	*Visu	al	NONE		NONE		NONE		NONE	
		Precipita	ate	scalar	*Visu	al	NONE		NONE		NONE		NONE	
1		Silt		scalar	*Visu	al	NONE		NONE		NONE		NONE	
		Debris		scalar	*Visu	al	NONE		NONE		NONE		NONE	
	-	Sand/Di	irt	scalar	*Visu	al	NONE		NONE		NONE		NONE	
May11/24	Jun8/24	Appeara	ance	scalar	*Visu	al	NORML	-	NORML	-	NORML		NORN	1L
May	Ju	Odor		scalar	*Visu	al	NORML	-	NORML	-	NORML		NORM	1L
		Emulsifi	ed Water	scalar	*Visu	al	>0.2		NEG		NEG		NEG	
		Free Wa	ater	scalar	*Visu	al			NEG		NEG		NEG	
		FLUID	PROPER	TIES	met	hod	limit/ba	se	currer	nt	history	'1	histo	ry2
		Visc @	100°C	cSt	ASTM	D445	14.4		13.3		13.4		13.4	
		GRAF												
	2	Iron (ppm)					100 T	Lead (pp	m)				
/24	+5Z/	00 Severe						80-	Severe					
May11/24 -	2 2/2 m 1 m	50-						e 60.						
5		00 - Abnorma	L					a 40	Abnormal					
		50-						20	•					
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		Sep 2/23	Sep23/23 0ct18/23	Mar20/24	Apr20/24	May11/24	Jun8/24		Sep2/23 Sep23/23	0ct18/23	Mar20/24	Apr20/24	May11/24	Jun8/24
		Alumii	num (ppm)			-			Chromiu	m (ppm	ı)		-	
		50						50						
		40 - Severe						40-	Severe					
4	Mdq	30 20 Abnorma						ط ³⁰	Abnormal					
May11/24	-													
W		10-						10-						
		0	3/23 +	1/24	1/24	/24	8/24	01	2/23	3/23 -)/24	1/24	/24.	3/24
		Sep2/23	Sep23/23 0ct18/23	Mar20/24	Apr20/24	May11/24	Jun8/24 .		Sep2/23	0ct18/23	Mar20/24	Apr20/24	May11/24.	Jun8/24
		er (ppm)						Silicon (p	pm)					
	400 Severe							80	Severe					
		00-						60-						
	Md 2	00						튭 40 -	Abnormal					
	1	00						20-	Abnormal					
May11/24	0	0						0		_				_
Ma	-	Sep 2/23	Sep 23/23 Oct 18/23	Mar20/24	Apr20/24	May11/24	Jun8/24		Sep 2/23 Sep 23/23	0ct18/23	Mar20/24	Apr20/24	May11/24	Jun8/24 .
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		Abnorma	l					g/H0X	Abnormal					
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		Sep 2/23	Sep23/23 0ct18/23	Mar20/24	Apr20/24	May11/24	Jun8/24		Sep2/23 Sep23/23	0ct18/23	Mar20/24	Apr20/24	May11/24	Jun8/24
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Sample N		NC09412		Rece			3 Jun 202			110) EVERG		NAVE, E	



Lab Number : 06208427 Tested : 14 Jun 2024 NEWARK, NJ Unique Number : 11075888 Diagnosed : 14 Jun 2024 - Angela Borella Test Package : MOB 1 (Additional Tests: KV40, TBN) Contact: Robert Witynski Certificate 12367 RWitynski@interstatewaste.com 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)

Report Id: INT110NEW [WUSCAR] 06208427 (Generated: 06/15/2024 12:11:16) Rev: 1

Contact/Location: Robert Witynski - INT110NEW

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