

# **OIL ANALYSIS REPORT**

Sample Rating Trend







Machine Id Miltk48
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 ( GAL)

#### DIAGNOSIS

### Recommendation

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

# Wear

All component wear rates are normal.

# Contamination

There is no indication of any contamination in the oil.

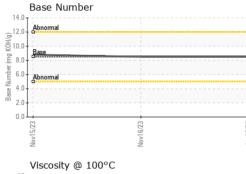
### Fluid Condition

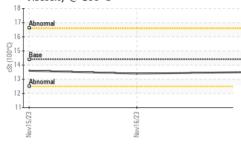
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0006180	SBP0006289	SBP0006185
Sample Date		Client Info		12 Jan 2024	16 Nov 2023	15 Nov 2023
Machine Age	hrs	Client Info		350	0	0
Oil Age	hrs	Client Info		350	0	0
-	1115					0 N/A
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	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	13	15	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	3	13	4
Lead	ppm	ASTM D5185m	>40	2	<1	1
Copper	ppm	ASTM D5185m	>330	1	5	2
Tin	ppm	ASTM D5185m	>15	1	1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	1-1-					
ADDITIVES		method	limit/base	current	historv1	historv2
ADDITIVES Boron	maa	method ASTM D5185m	limit/base	current	history1 7	history2 2
Boron	ppm	ASTM D5185m	250	<1	7	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	<1 0	7 0	2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	<1 0 60	7 0 55	2 0 50
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	<1 0 60 <1	7 0 55 1	2 0 50 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	<1 0 60 <1 919	7 0 55 1 952	2 0 50 0 928
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	<1 0 60 <1 919 1016	7 0 55 1 952 1079	2 0 50 0 928 1038
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	<1 0 60 <1 919 1016 1019	7 0 55 1 952 1079 1017	2 0 50 0 928 1038 943
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	<1 0 60 <1 919 1016 1019 1178	7 0 55 1 952 1079 1017 1241	2 0 50 0 928 1038 943 1206
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	<1 0 60 <1 919 1016 1019 1178 2915	7 0 55 1 952 1079 1017 1241 3040	2 0 50 0 928 1038 943 1206 2542
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	<1 0 60 <1 919 1016 1019 1178	7 0 55 1 952 1079 1017 1241	2 0 50 0 928 1038 943 1206 2542 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	<1 0 60 <1 919 1016 1019 1178 2915	7 0 55 1 952 1079 1017 1241 3040	2 0 50 0 928 1038 943 1206 2542
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b>	<1 0 60 <1 919 1016 1019 1178 2915 current	7 0 55 1 952 1079 1017 1241 3040 history1	2 0 50 0 928 1038 943 1206 2542 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b>	<1 0 60 <1 919 1016 1019 1178 2915 current 4	7 0 55 1 952 1079 1017 1241 3040 history1 11	2 0 50 0 928 1038 943 1206 2542 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216	<1 0 60 <1 919 1016 1019 1178 2915 current 4 2	7 0 55 1 952 1079 1017 1241 3040 history1 11 3	2 0 50 0 928 1038 943 1206 2542 <b>history2</b> 5 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	<1 0 60 <1 919 1016 1019 1178 2915 current 4 2 5	7 0 55 1 952 1079 1017 1241 3040 history1 11 3 41	2 0 50 0 928 1038 943 1206 2542 history2 5 2 2 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >216 >216 >20 <b>Iimit/base</b>	<1 0 60 <1 919 1016 1019 1178 2915 current 4 2 5 5 current	7 0 55 1 952 1079 1017 1241 3040 history1 11 3 41 history1	2 0 50 0 928 1038 943 1206 2542 <b>history2</b> 5 2 2 10 <b>history2</b>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >216 >216 >20 <b>Iimit/base</b>	<1 0 60 <1 919 1016 1019 1178 2915 current 4 2 5 current 0.4	7 0 55 1 952 1079 1017 1241 3040 history1 11 3 41 history1 0.3	2 0 50 0 928 1038 943 1206 2542 history2 5 2 10 history2 0.3
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	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >216 >216 >20 <b>Imit/base</b> >3 >20 >30	<1 0 60 <1 919 1016 1019 1178 2915 <u>current</u> 4 2 5 <u>current</u> 0.4 6.6 18.9	7 0 55 1 952 1079 1017 1241 3040 history1 11 3 41 0.3 6.8 19.0	2 0 50 0 928 1038 943 1206 2542 <b>history2</b> 5 2 10 <b>history2</b> 0.3 6.1 18.3
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	ASTM D5185m ASTM D7844 *ASTM D7624	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >216 >20 <b>imit/base</b> >3 >20 >30	<1 0 60 41 919 1016 1019 1178 2915 Current 4 2 5 Current 0.4 6.6 18.9 Current	7 0 55 1 952 1079 1017 1241 3040 history1 11 3 41 0.3 6.8 19.0 history1	2 0 50 0 928 1038 943 1206 2542 <b>history2</b> 5 2 2 10 <b>history2</b> 0.3 6.1 18.3 <b>history2</b>
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	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >216 >216 >20 <b>Imit/base</b> >3 >20 >30	<1 0 60 <1 919 1016 1019 1178 2915 <u>current</u> 4 2 5 <u>current</u> 0.4 6.6 18.9	7 0 55 1 952 1079 1017 1241 3040 history1 11 3 41 0.3 6.8 19.0	2 0 50 0 928 1038 943 1206 2542 <b>history2</b> 5 2 10 <b>history2</b> 0.3 6.1 18.3



# **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	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
/23		scalar	*Visual	NORML	NORML	NORML	NORML
Nov16/23	Appearance Odor	scalar	*Visual	NORML	NORML	NORML	NORML
En.	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	FLUID PROPER			limit/booo			
			method	limit/base	current	history1	history2
	Visc @ 100°C GRAPHS	cSt	ASTM D445	14.4	13.5	13.4	13.6
	Ferrous Alloys						
3/23	14 - iron						
Nov16/23	12- nickel						
_	10-						
	Hd 8						
	6 -						
	4						
	2-						
	Nov15/23	Vov16/23		Jan 12/24			
	Nov	Nov		Jan			
	Non-ferrous Meta	als					
	10 copper ]						
	8 accesses lead						
	sessesses tin						
	6						
	6- Ed	$\sim$					
	6	$\frown$					
	ца 4 2						
	4						
	4 2 0			-			
	4 2 0	v16/23		n1224			
	4 2 0 5 7 7 1 0 9	Novi 6/23		Jan12/24			
	4 2 0	~		<b>۔</b>	Base Numbe	r	
	Viscosity @ 100°	~			Base Numbe	r	
	Viscosity @ 100°	~			T	r	
	Viscosity @ 100°	~			T	r	
	Viscosity @ 100°	~			Abnormal Base	r	
	Viscosity @ 100°	~			T	r	
	Viscosity @ 100° Abnormal Base Base Abnormal	~		14.0 12.0 (0) 10.0 HOX But 300 8.0 300 4.0 8.0 4.0	Abnormal Base	r	
	Viscosity @ 100°	~		14.0 12.0 (%)10.0 000 8.0 000 8.0 00000 8.0 000 8.0 0000 8.0 000 8.0 0000 8.0 0000000000	Abnormal Base	r	
	Viscosity @ 100°	C		14.0 12.0 (0) 10.0 HOY But age 6.0 2.0 2.0 0.0	Abnormal Base Abnormal		
	Viscosity @ 100°	C		14.0 12.0 (0) 10.0 HOY But age 6.0 2.0 2.0 0.0	Abnormal Base Abnormal		
	Viscosity @ 100° Abnormal Base Base Abnormal	~		14.0 12.0 (%)10.0 000 8.0 000 8.0 00000 8.0 000 8.0 0000 8.0 000 8.0 0000 8.0 0000000000	Abnormal Base	r Mov16/23	
Laboratory	Viscosity @ 100° Viscosity @ 100° Abnomal Base Abnomal City Signature Base City C	C		14.0 12.0 10.0	Abnormal Base Abnormal		
Sample No	Viscosity @ 100° Viscosity @ 100° Abnomal Abnomal Base Abnomal City Cit	C Ezgguagy 501 Madia Recieved	d :01 l	14.0 12.0 10.0	Abnormal Base Abnormal	Nov16/23	26741 NE-9
Sample No Lab Numbe	Viscosity @ 100° Viscosity @ 100° Abnormal Abnormal Abnormal Ciscosity @ 100° Base Abnormal Ciscosity @ 100° Base Ciscosity @ 100° Base Ciscosity @ 100° Base Ciscosity @ 100° Base Ciscosity @ 100° Ciscosity @ 10	501 Madia Recieved Diagnos	d :01 l ed :02 l	ry, NC 27513 Feb 2024 Feb 2024	Abnormal Base Abnormal	Nov16/23	26741 NE-9 Humphrey, N
Sample No Lab Numbe Unique Num	Viscosity @ 100° Viscosity @ 100° Abnormal	C Ezgguagy 501 Madia Recieved	d :01 l ed :02 l	14.0 12.0 10.0	Abnormal Base Abnormal	EZgynow Pillen Family F	26741 NE-9 Humphrey, N US 6139
Sample No Lab Number Unique Num ate 12367 Test Packa	Viscosity @ 100° Viscosity @ 100° Abnormal	501 Madi Recieved Diagnos	d : 01   ed : 02   tician : We	14.0 12.0 10.0	Abnormal Base Abnormal	EZgynow Pillen Family F	26741 NE- Humphrey, N US 613 act: Troy Rung

