

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Machine Id

## **MOFFETT 1352**

#### Component Diesel Engine

Fluid DIESEL ENGINE OIL SAE 15W40 (--- 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.

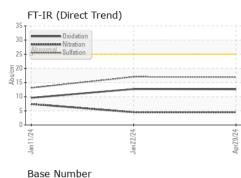
## Fluid Condition

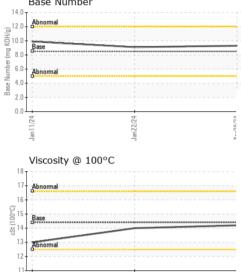
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0909284	WC0878777	WC0878724
Sample Date		Client Info		29 Apr 2024	22 Jan 2024	11 Jan 2024
Machine Age	hrs	Client Info		0	0	223
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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	0	2	6
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	0	<1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 0	history1 8	history2 87
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	250	0	8	87 0 58
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	0 0	8	87 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	0 0 57	8 0 58	87 0 58
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	0 0 57 0	8 0 58 <1	87 0 58 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	0 0 57 0 985	8 0 58 <1 920	87 0 58 <1 956
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	0 0 57 0 985 1098	8 0 58 <1 920 1044	87 0 58 <1 956 1295 811 911
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 ASTM D5185m	250 10 100 450 3000 1150	0 0 57 0 985 1098 1096	8 0 58 <1 920 1044 1045	87 0 58 <1 956 1295 811
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	0 0 57 0 985 1098 1096 1268	8 0 58 <1 920 1044 1045 1220	87 0 58 <1 956 1295 811 911
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	0 0 57 0 985 1098 1096 1268 3774	8 0 58 <1 920 1044 1045 1220 2997	87 0 58 <1 956 1295 811 911 2248
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250	0 0 57 0 985 1098 1096 1268 3774 <b>current</b> 5 < 1	8 0 58 <1 920 1044 1045 1220 2997 history1	87 0 58 <1 956 1295 811 911 2248 history2 5 1
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 <b>method</b>	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	0 0 57 0 985 1098 1096 1268 3774 <u>current</u> 5	8 0 58 <1 920 1044 1045 1220 2997 history1 7	87 0 58 <1 956 1295 811 911 2248 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 <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158	0 0 57 0 985 1098 1096 1268 3774 <b>current</b> 5 < 1	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <1	87 0 58 <1 956 1295 811 911 2248 history2 5 1
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 >158 >20	0 0 57 0 985 1098 1096 1268 3774 current 5 < <1 0	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <1 0 history1 0.1	87 0 58 <1 956 1295 811 911 2248 history2 5 1 1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	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> >25 >158 >20 <b>Imit/base</b> >3	0 0 57 0 985 1098 1096 1268 3774 <i>current</i> 5 <1 0	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <1 0 history1	87 0 58 <1 956 1295 811 911 2248 history2 5 1 1 1 history2
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	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >158 >20 <b>Imit/base</b> >3	0 0 57 0 985 1098 1096 1268 3774 <i>current</i> 5 <1 0 <i>current</i>	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <1 0 history1 0.1	87 0 58 <1 956 1295 811 911 2248 history2 5 1 1 1 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	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 >158 >20 <b>Iimit/base</b> >3 >20	0 0 57 0 985 1098 1096 1268 3774 <i>current</i> 5 <1 0 <i>current</i> 0.1 4.5	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <1 0 history1 0.1 4.5	87 0 58 <1 956 1295 811 911 2248 history2 5 1 1 1 history2 0.1 7.4
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> >25 >158 >20 <b>imit/base</b> >3 >20 >3 >20	0 0 57 0 985 1098 1096 1268 3774 <u>current</u> 5 <1 0 0 <u>current</u> 0.1 4.5 16.9	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <1 0 history1 0.1 4.5 17.0	87 0 58 <1 956 1295 811 911 2248 history2 5 1 1 1 <i>history2</i> 0.1 7.4 13.1
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 D7844	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >158 >20 <b>Iimit/base</b> >3 >20 >30	0 0 57 0 985 1098 1096 1268 3774 <i>current</i> 5 <1 0 <i>current</i> 0.1 4.5 16.9	8 0 58 <1 920 1044 1045 1220 2997 history1 7 <10 0 history1 0.1 4.5 17.0 history1	87 0 58 <1 956 1295 811 911 2248 history2 5 1 1 1 history2 0.1 7.4 13.1 history2



# **OIL ANALYSIS REPORT**





Jan 22/24

Jan 11/24

	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	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPER	TIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	14.4	14.2	14.0	13.0
	GRAPHS						
	Iron (ppm)			10	Lead (ppm)		
	200 Severe	1		10	Severe		
	150						
-	Abnormal			ud 4	Abnormal		
	50			2			
	0				0		
	Jan 11/24	Jan 22/24		Apr29/24	lan 1 1/24	Jan 22/24	
		Jar		Ap	7		
	Aluminum (ppm)			50	Chromium (p	ipm)	
	40 - Severe				0 Severe		
	= 30 -			3	0-		
	20 - Abnormal			21	0 - Abnormal		
	10-			10	0-		
	0	4		4			
	Jan 11/24	Jan 22/24		Apr29/24	Jan 1 1/2 4	Jan 22/24	
	,	Jai		Ap	,	-	
	Copper (ppm)			81	Silicon (ppm)		
	Approximat						
	300 -			61			
	톱 200			Ed 40	0 - Abnormal		
	100-			2	0-		
	Jan 11/24	Jan 22/24		Apr29/24	Jan 1 1/2 4	Jan 22/24	
				Ap	-	-	
	Viscosity @ 100°C			Base Number	r 		
	Abnormal			(0)HOX Base Number (mg KOH(0)	Abnormal		
	D Base				Base		
	Base 14 Abnormal	1			Abnormal		
	12			N S.			
	10			0.0	0		
	Jan 11/24	Jan 22/24		Apr29/24	Jan 1 1/24	Jan 22/24	
	E	all		<u>a</u> .	5	E	

#### Diagnosed : 03 Jun 2024 - Wes Davis

Unique Number : 11059374 Test Package : MOB 1 (Additional Tests: TBN)

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: CONFAY [WUSCAR] 06197251 (Generated: 06/03/2024 17:31:47) Rev: 1

Certificate 12367

Contact/Location: BRYAN VANNIMAN - CONFAY

Page 2 of 2

F:

US 28301

T: (800)326-9198

Contact: BRYAN VANNIMAN

bryanvanniman@fayblock.com