

OIL ANALYSIS REPORT

Area KEMP QUARRIES / RIVER VALLEY BACKBONE WL079

Diesel Engine Fluid MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

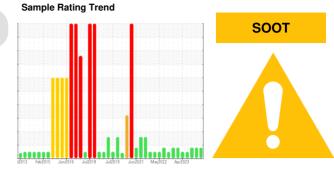
All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition

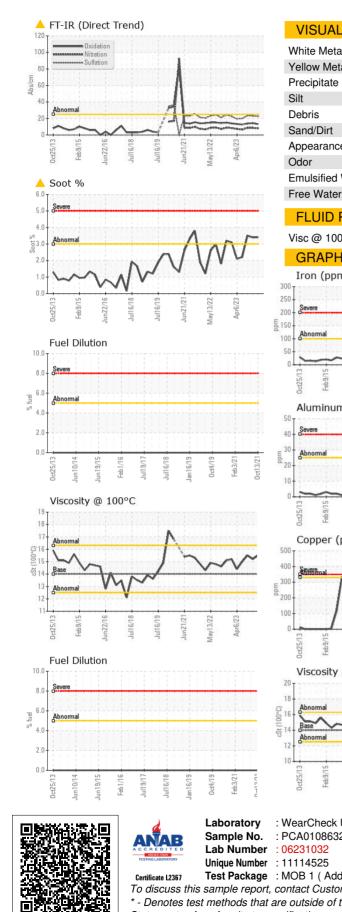
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



Sample Number Sample Date	IATION	method	limit/base	current	history1	history2
Sample Date		Client Info		PCA0108632	PCA0084794	PCA0085844
		Client Info		28 Jun 2024	28 Dec 2023	13 Oct 2023
Machine Age	hrs	Client Info		49459	48609	48226
Oil Age	hrs	Client Info		300	383	341
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
CONTAMINATIO	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	3	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	30	44	44
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m		2	2	<1
Lead	ppm	ASTM D5185m	>40	2	2	2
Copper	ppm	ASTM D5185m		3	5	4
Tin	ppm	ASTM D5185m	>15	0	1	<1
	ppm	ASTM D5185m	210	0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
	ppin	AOTIN DOTOSIII		v		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<1	<1	0
Barium	ppm	ASTM D5185m	0	0	8	0
Molybdenum	ppm	ASTM D5185m	0	60	62	59
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	1021	953	955
Calcium	ppm	ASTM D5185m		1218	1104	1013
Phosphorus	ppm	ASTM D5185m		1101	930	1003
Zinc	ppm	ASTM D5185m		1337	1221	1239
Sulfur	ppm	ASTM D5185m		3727	2996	2962
CONTAMINANT	S	method	limit/base	current	history1	history2
CONTAMINANT	ppm	ASTM D5185m		current 4	history1 4	history2 4
CONTAMINANT Silicon						
CONTAMINANT Silicon Sodium	ppm	ASTM D5185m	>25	4	4	4
CONTAMINANT Silicon Sodium Potassium	ppm ppm	ASTM D5185m ASTM D5185m	>25 >20	4 1	4	4
CONTAMINANT Silicon Sodium Potassium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20	4 1 <1	4 0 1	4 2 3
CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	>25 >20 >5	4 1 <1 <1.0	4 0 1 <1.0	4 2 3 <1.0
CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844	>25 >20 >5 limit/base >3	4 1 <1 <1.0 current 3.4	4 0 1 <1.0 history1 ▲ 3.4	4 2 3 <1.0 history2 ▲ 3.5
CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method	>25 >20 >5 limit/base >3 >20	4 1 <1 <1.0 current	4 0 1 <1.0 history1	4 2 3 <1.0 history2
CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624	>25 >20 >5 limit/base >3 >20	4 1 <1 <1.0 current 3.4 8.0	4 0 1 <1.0 history1 ▲ 3.4 8.5	4 2 3 <1.0 history2 ▲ 3.5 8.5
CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD.	ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D3524 ASTM D3524 *ASTM D7844 *ASTM D7844 *ASTM D7624	>25 >20 >5 limit/base >3 >20 >30 limit/base	4 1 <1 <1.0 current 3.4 8.0 22.7	4 0 1 <1.0 history1 ▲ 3.4 8.5 23.1	4 2 3 <1.0 history2 ▲ 3.5 8.5 23.5



OIL ANALYSIS REPORT



	VISUAL			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	
Am	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
and have and	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Jun21/21 May13/22 Apr6/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Jun21/21 May13/22 Apr6/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2	
APT	Visc @ 100°C	cSt	ASTM D445	14	15.5	15.2	15.5	
ANN	GRAPHS							
VV	Iron (ppm)			10	Lead (ppm)			
3 7 3	300			80	Sminn			
Jun21/21 May13/22 Apr6/23	200 - Severe					eta por tenet l		
nu Ma	톮 150		0	E 61				
	100 - Abnormal	0	Λ_{α}		Λ			
	50V	~	" ~~	~ 21				
	0ct25/13 - Feb9/15 - Jun22/16 -	Jul16/19	Jun21/21- May13/22 -		0ct25/13 Feb9/15	Jul16/18 - Jul16/19 - Jul12/19 -	lay 13/22 - Apr6/23 -	
	Oct2 Feb Jun2 Jul1	llul	Jun21/21 May13/22		0ct2 Feb Jun2	Jul16/18 Jul16/19 Jun21/21	May13/22 Apr6/23	
	Aluminum (ppm)				Chromium (p	pm)		
	50			50				
	40 - Severe			4				
8 6 5 5	Abnormal			899999 문 ³⁰ 문	Abnomal			
Jul16/18 Jan 16/19 Oct4/19 Feb3/21 Oct13/21	^a 20			21	Abnormal			
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	13 13 0	65	22			119	22	
	0ct25/13 Feb9/15 Jun22/16 Jul16/18	Jul16/19	Jun21/21 May13/22		0ct25/13 Feb9/15 Jun22/16	Jul16/18 Jul16/19	May13/22 Apr6/23	
Ν	Copper (ppm)	1	- ×		Silicon (ppm)		2	
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1 ww	400 - A							
				100 Ed	Severe	A		
	^a 200			읍 51		Λ		
22	100-		1		Abnormal	1 Lan		
Jun21/21 May13/22 Apr6/23			27				3 5	
	0ct25/13 Feb9/15 Jun22/16	Jul16/19	Jun21/21 May13/22 Anr6/23		0ct25/13 Feb9/15 Jun22/16	Jul16/18 Jul16/19 Jun21/21	May13/22 Apr6/23	
		Ju	Mar	5		S2 (0. 2010	Ma	
	Viscosity @ 100°C			12.0	Base Number			
	18			。 定 注10.0	Base		-	
		1		(b)HOX Bw) as 6.1 Bwn 4.1 822.1)		h	
	Abnormal Base		~~~	ا.6 مالي مالي الم	0-		V	
	Abnormal M	~		uny a	0			
	10			0.0) +			
8 6 6		Jul16/19 -	lun21/21- lav13/22 - Anr6/23 -	0.1	0ct25/13 Feb9/15 - Jun22/16	Jul16/18 - Jul16/19 -	lay13/22 - Apr6/23 -	
Jui16/18 Jan 16/19 Oct4/19 Feb3/21	0ct25/13 Feb9/15 Jun22/16	IInC	Jun21/21 May13/22	i.	Oct2 Feb Jun2.	Jul16/18 Jul16/19 Jun21/21	May13/22 Apr6/23	
Laboratory	: WearCheck USA - 501	Madiso Rece i		v, NC 27513 3 Jul 2024	Kemp G	uarries - River V		
Sample No. Lab Number	: PCA0108632		600 S Hwy 25 Huntington, A					
Unique Number	0							
	: MOB 1 (Additional Te						US 7294 Contac	
	contact Customer Servi				back	kbone@rivervall		
notes test methods that a								

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