

# **OIL ANALYSIS REPORT**

### Sample Rating Trend

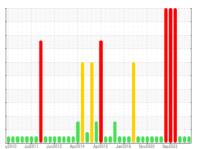
# **NORMAL**



# KEMP QUARRIES / RIVER VALLEY ARKOMA WL049

Component **Front Left Final Drive** 

MOBIL MOBILUBE HD PLUS 80W90 (--- GAL)





### DIAGNOSIS

#### 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

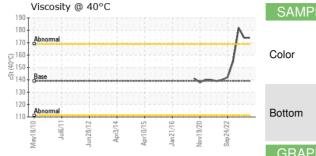
### **Fluid Condition**

The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		PCA0034675	PCA0070348	PCA0070375		
Sample Date		Client Info	04 Aug 2023		23 Mar 2023	02 Dec 2022		
Machine Age	hrs	Client Info			4603	1753		
Oil Age	hrs	Client Info		1000	4603	1753		
Oil Changed		Client Info			Not Changd	Not Changd		
Sample Status				NORMAL	NORMAL	NORMAL		
WEAR METALS	S	method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>800	395	384	272		
Chromium	ppm	ASTM D5185m	>10	1	<1	<1		
Nickel	ppm	ASTM D5185m	>5	<1	<1	0		
Titanium	ppm	ASTM D5185m	>15	<1	0	<1		
Silver	ppm	ASTM D5185m	>2	0	0	1		
Aluminum	ppm	ASTM D5185m	>75	12	10	9		
Lead	ppm	ASTM D5185m	>10	2	2	1		
Copper	ppm	ASTM D5185m	>75	43	37	27		
Tin	ppm	ASTM D5185m	>8	2	1	<1		
Vanadium	ppm	ASTM D5185m	70	<1	0	0		
Cadmium	ppm	ASTM D5185m		0	0	0		
ADDITIVES	рріп	method	limit/base	current	history1	history2		
	D 10 100		IIIIII/Dase			•		
Boron	ppm	ASTM D5185m		39	30	30		
Barium	ppm	ASTM D5185m		0	0	0		
Molybdenum	ppm	ASTM D5185m		<1	0	<1		
Manganese	ppm	ASTM D5185m		4	4	3		
Magnesium	ppm	ASTM D5185m		18	17	12		
Calcium	ppm	ASTM D5185m		3246	2785	2898		
Phosphorus	ppm	ASTM D5185m		1096	967	1033		
Zinc	ppm	ASTM D5185m		1193	1108	1137		
Sulfur	ppm	ASTM D5185m		7462	6983	7036		
CONTAMINAN	IS	method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>400	86	71	55		
Sodium	ppm	ASTM D5185m		2	0	0		
Potassium	ppm	ASTM D5185m	>20	2	<1	3		
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	0.2%		
Free Water	scalar	*Visual		NEG	NEG	NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2		
Visc @ 40°C	cSt	ASTM D445	139	174	174	182		



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SAMPLE IMAGES	method limit/base		current	history1	history2		
Color			no image	no image	no image		
Bottom			no image	no image	no image		

GRAPHS								
Iron (ppm)		Lead	(ppm)					
00 +		25 - Severe						
00 +		20-						
Abnormal		E 15		٨				
00-	1/-	10 - Abnor	nal	1	1			
	J '	0	IN	1			1	1
May18/10 Jun28/12 Apr3/14 Apr10/15 Jan21/16	Sep24/22	May18/10	Jul6/11-	Apr3/14	Apr10/15	Jan21/16	Nov19/20	Cm24.77
	Sep				Apr	Jan	Nov	Con
Aluminum (ppm)		Chro	mium (p	pm)				
Severe		25 - Severe						-
50 +		20-						
Abnormal		E 15						
50		10	1 1 1 1 1 1 1 1					
	1 _	0						1
May18/10 Jun28/12 Jun28/12 Apr3/14 Apr10/15 Jan21/16	Sep24/22.	May18/10	Jul6/11	Apr3/14	Apr10/15	Jan21/16	Nov19/20	00.00
2 7 7 2	Sep			Ā	Apı	Jan	Nov	c
Copper (ppm)		1000 T 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	on (ppm)		cccsti			
Severe 50 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		Severe 800						
		600	Hilli.					
Abnormal	$\Lambda$	400 Abnom	mal					
50	16	200						1
		0						1
May18/10 Jun28/12 Jun28/12 Apr3/14 Apr10/15 Jan21/16	Sep24/22	May18/10	Jul6/11 Jun28/12	Apr3/14	Apr10/15	Jan21/16	Nov19/20	Cm2472
Viscosity @ 40°C	S	≝ Addi		4	A	- P	No	Š
90		3500 T						
70 - Abnormal	^	3000 - 2500 -	calcium phosphoru	S				
30 +		2000	~~	V				
50 50 10 - <u>B</u> ass		1500						
30		500			~		and property to	-
Abnormal	7	0			4		-	Tion .
Jul6/11 Jun28/12 Jun28/14 Apr3/14 Apr10/15 Jan21/16	Sep24/22	May18/10	Jul6/11 Jun28/12	Apr3/14	Apr10/15	Jan21/16	Nov19/20	C018000





Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10592296 Test Package : MOB 1

: PCA0034675 : 05920382

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

Diagnosed Diagnostician : Sean Felton

: 09 Aug 2023 : 10 Aug 2023 Kemp Quarries - River Valley - Arkoma 12971 HWY 9a

Shawnee, OK US 74804 Contact:

arkomashop@kempquarries.net T:

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)

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