

OIL ANALYSIS REPORT

Sample Rating Trend

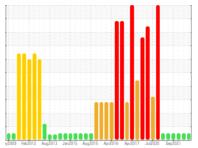




KEMP QUARRIES / HULBERT **WL043**

Component **Diesel Engine**

MOBIL DELVAC 1300 SUPER15W40 (--- 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

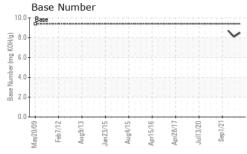
Fluid Condition

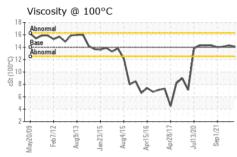
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOF	RMATIO <u>N</u>	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0085895	PCA0086180	PCA0048925
Sample Date		Client Info		08 Mar 2024	07 Jan 2023	12 Mar 2022
Machine Age	hrs	Client Info		27117	46167	45671
Oil Age	hrs	Client Info		0	0	0
Oil Changed	0	Client Info		Changed	Changed	Changed
Sample Status		Olioni illio		NORMAL	NORMAL	NORMAL
CONTAMINAT	TION	method	limit/base	current	history1	history2
Fuel	11011	WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
		WC Method	>0.2	NEG	NEG	NEG
Glycol				NEG		
WEAR METAL	_S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	60	83	65
Chromium	ppm	ASTM D5185m	>20	2	1	1
Nickel	ppm	ASTM D5185m	>2	2	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>40	8	9	11
Copper	ppm	ASTM D5185m	>330	9	11	11
Tin	ppm	ASTM D5185m	>15	2	2	2
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	9	<1	6
Barium	ppm	ASTM D5185m	0	1	0	0
Molybdenum	ppm	ASTM D5185m	0	67	65	67
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	0	912	881	1114
Calcium	ppm	ASTM D5185m		1105	1121	1236
Phosphorus	ppm	ASTM D5185m		971	1000	1228
Zinc	ppm	ASTM D5185m		1208	1202	1391
Sulfur	ppm	ASTM D5185m		2913	2658	3156
CONTAMINAN	NTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	6	5
Sodium	ppm	ASTM D5185m		25	29	20
Potassium	ppm	ASTM D5185m	>20	4	16	11
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.9	1.2	1
Nitration	Abs/cm	*ASTM D7624	>20	10.0	10.9	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	22.8	21.9
FLUID DEGRA	DATION		limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.9	20.0	18.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	8.5	8.1	8.7
Zado Hamber (DIV)	mg nong		5.1	0.0	0.1	0.7



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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 PROPI	ERHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	14	14.1	14.3	14.1

Visc @ 100°C	cSt	ASTM D445 14	14.1	14.3	14.1
GRAPHS					
Iron (ppm)			Lead (ppm)		
Severe		1	80 - Severe		
Abnormal		A A	Abnormal		
Abnormal		112112	Abnormal 40		
\-\-\		>V, A,	20	\wedge	_^~~
May20,09 - Feb7/12 - Aug9/13 - Jan23/15 -	Aug4/15 -	Apr28/17	May20/09 Feb7/12 Aug9/13	Jan23/15 Aug4/15 Apr15/16	Apr28/17 Jul13/20 Sep1/21
Aluminum (ppm)			Chromium (ppm)	
Severe			50 Severe		
Abnormal			1111111111		
	**************************************	$\Lambda \cdot \Lambda$	20 - Abnormal		
		JWL	10		$\Lambda_{\mu\Lambda}$
	Aug4/15 -	Apr28/17 -	Feb7/12	Jan23/15 Aug4/15 Apr15/16	Apr28/17 - Jul13/20 - Sep1/21 -
May20/09 Feb7/12 Aug9/13 Jan23/15	Aug	Apr2 Jul1 Sep	May20/09 Feb7/12 Aug9/13	Jan2 Aug Apr1	Apr2 Jul1 Sep
Copper (ppm)			Silicon (ppm)	
1000011000110000 4401 440 410 4 1001 1001 1001 1			100		
. 1		Λ	80 Severe		- 1 A -
- Assantal		. //	40 Abnormal		ΛH
11			20		726
May20,09 - Feb7/12 - Aug9/13 - Jan23/15 -	Aug4/15 -	Apr28/17	May20/09 + Feb7/12 - Aug9/13 - Aug9/13 - Feb7/12 - Feb7/13 - Feb7/	Jan23/15 - Aug4/15 -	Apr28/17- Jul13/20- Sep1/21-
M Y		Apri. Juli	Mayí Fet	Jani, Aug April	Apri
Viscosity @ 100°	С		Base Numbe	er	
Abnormal			(b)H0 8.0		
Base Abnormal	7		mper (mg KOH/g)		
1100000000	4	-~	ê 4.0		





Laboratory Sample No.

Lab Number : 06127466 Unique Number: 10941617

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0085895 Received : 25 Mar 2024

Tested : 26 Mar 2024 Diagnosed : 27 Mar 2024 - Don Baldridge

Kemp Quarries - Kemp Stone - Hulbert 17801 Hwy 80

Hulbert, OK US 74441 Contact:

Test Package : MOB 1 (Additional Tests: TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

hulbert@kempstone.com

* - 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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