

## **OIL ANALYSIS REPORT**

#### Area KEMP QUARRIES / HULBERT Machine Id OHT049

Component Rear Right Final Drive Fluid MOBIL MOBILTRANS HD 50 (--- GAL)

### DIAGNOSIS

#### A Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

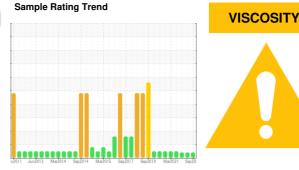
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

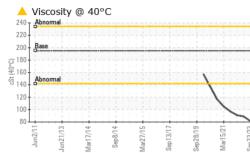
The oil viscosity is lower than normal. Confirm oil type.



Sample Number Sample Date Machine Age Oil Age Oil Changed Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info Client Info Astm D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>10	PCA0086128 23 Sep 2023 8820 0 Changed ATTENTION current 111	PCA0061809 09 Dec 2022 7760 0 Not Changd ATTENTION history1 128	PCA0048869 12 Mar 2022 6320 0 Changed ATTENTION history2
Machine Age Oil Age Oil Changed Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	hrs ppm ppm ppm ppm ppm ppm	Client Info Client Info Client Info Method ASTM D5185m ASTM D5185m ASTM D5185m	>800 >10	8820 0 Changed ATTENTION current	7760 0 Not Changd ATTENTION history1	6320 0 Changed ATTENTION
Oil Age Oil Changed Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	hrs ppm ppm ppm ppm ppm ppm	Client Info Client Info Method ASTM D5185m ASTM D5185m ASTM D5185m	>800 >10	0 Changed ATTENTION current	0 Not Changd ATTENTION history1	0 Changed ATTENTION
Oil Changed Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	S ppm ppm ppm ppm ppm ppm	Client Info method ASTM D5185m ASTM D5185m ASTM D5185m	>800 >10	Changed ATTENTION current	Not Changd ATTENTION history1	Changed ATTENTION
Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>800 >10	ATTENTION	ATTENTION history1	ATTENTION
WEAR METALS	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>800 >10	ATTENTION	history1	
Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>800 >10			history2
Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	>10	111	128	
Nickel Titanium Silver Aluminum Lead Copper Tin Antimony	ppm ppm ppm	ASTM D5185m ASTM D5185m				105
Titanium Silver Aluminum Lead Copper Tin Antimony	ppm ppm ppm	ASTM D5185m	~ 5	<1	1	<1
Silver Aluminum Lead Copper Tin Antimony	ppm ppm		>0	2	2	2
Aluminum Lead Copper Tin Antimony	ppm	ASTM D5185m	>15	<1	<1	<1
Lead Copper Tin Antimony			>2	0	0	0
Copper Tin Antimony		ASTM D5185m	>75	2	4	<1
Tin Antimony	ppm	ASTM D5185m	>10	4	4	2
Antimony	ppm	ASTM D5185m	>75	42	46	39
,	ppm	ASTM D5185m	>8	2	2	2
	ppm	ASTM D5185m	>50			
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		12	16	19
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		22	27	28
Manganese	ppm	ASTM D5185m		1	1	0
Magnesium	ppm	ASTM D5185m		347	416	296
Calcium	ppm	ASTM D5185m		1090	1430	1572
Phosphorus	ppm	ASTM D5185m		717	855	758
Zinc	ppm	ASTM D5185m		853	972	1007
Sulfur	ppm	ASTM D5185m		3789	5485	3555
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>400	22	24	25
Sodium	ppm	ASTM D5185m		2	3	0
Potassium	ppm	ASTM D5185m	>20	<1	1	0
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	MODER	MODER	MODER
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
Emulaified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Emulsified Water	scalar			NEG		NLG



# **OIL ANALYSIS REPORT**



	Visc @ 40°C	cSt	ASTM D445		▲ 81.0	▲ 88.6	▲ 90.8
	SAMPLE IMAG	GES	method	limit/base	e current	history1	history2
23	Color				no image	no image	no image
Mar15/21 Sep23/23	Bottom				no image	no image	no image
	GRAPHS					1	
	Iron (ppm)				Lead (ppm)		
	1500 - Severe				25 - Severe		
E					20-		
00	1000 - Abnormal			d	15 - 10 - Abnormal		
	500	. /			5-	- ^	
	2/11 2/11 3/14	V15	3/17	3/23	2/11 1/13	3/14 ×	3/19 5/21
	Jun2/11 Jun21/13 Mar17/14 Sep8/14	Mar27/15	Sep13/17 Sep28/19	Sep 23/23	Jun2/11 Jun21/13 Mar17/14	Sep 8/14 . Mar27/15 . Sep 13/17 .	Sep28/19 Mar15/21
	Aluminum (ppm)				Chromium (	ppm)	
	150 -				25 - Severe		
	E 100				20		
	Abnorma			id	10 Abnormal		
	50				5		
	Jun2/11	Mar27/15	Sep 13/17 - Sep 28/19 -	Sep 23/23	Jun2/11	Sep 8/14 -	Sep 28/19
	~ 2	Mar2	Sep 2	Sep 2	, 2	2 07	Sep 2 Mar
	Copper (ppm)			10	Silicon (ppm	) *	
	Severe			8	300 -		
	5 100 - Abaansi			E E	00		
	Abnormal 50 -				100 - Abnormal		
		$\sim$	$\checkmark$		200	~	
	Jun2/11- Jun21/13 - Mar17/14 -	Mar27/15 -	Sep 13/17. Sep 28/19.	Sep 23/23	Jun2/11- Jun21/13 . Mar17/14 .	Sep 8/14 . Mar27/15 . Sep 13/17 .	Sep28/19 . Mar15/21
	ੋ ੁੱੱ ੈੱ ੱ ▲ Viscosity @ 40°C	Ma	Ser Ser	Ser	ີ ຼື ≊ Additives	Se Ma	Ser
	<sup>250</sup> Abnormal						
	200 - Base				calcium phospho zinc		~^
00000	5 150 - Abnormal		X	<u>a</u> 20	7 1 / 1/ 2	<i>P</i> <b>V Y</b>	~
	3 100					an	-
	50			5	500		Concernance of the second seco
	Jun21/13 Mar17/14 Sep8/14	Mar27/15	Sep 13/17 Sep 28/19	Sep 23/23	Jun2/11 Jun21/13 Mar17/14	Sep 8/14 Mar27/15 Sep 13/17	Sep28/19 Mar15/21
boratory mple No. b Number que Number st Package	: WearCheck USA - : PCA0086128 : 05969901 : 10681851 : MOB 1	501 Mad Receive Diagnos Diagnos	lison Ave., C d : 04 sed : 09 stician : Se	ary, NC 275 Oct 2023 Oct 2023 ean Felton		Quarries - Kemp	o Stone - Hulb 17801 Hwy Hulbert, C US 744 Contac
	contact Customer Serv	vice at 1-	800-237-136	69. editation.		hulbert@	kempstone.co