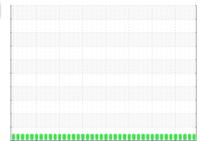


# **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id

# 69K-2B (S/N X22XG504)

Component Compressor

HP R&O ISO 100 (--- GAL)

### 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		HPL0005005	HPL0004522	HPL0004511
Sample Date		Client Info		15 Apr 2024	13 Mar 2024	15 Feb 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	12	11	13
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	2	2
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm	ASTM D5185m	>50	4	2	3
Tin	ppm	ASTM D5185m	>15	2	2	<1
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		0	0	0
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		1	<1	0
Magnesium	ppm	ASTM D5185m		2	0	<1
Calcium	ppm	ASTM D5185m		25	20	20
Phosphorus	ppm	ASTM D5185m		203	205	223
Zinc	ppm	ASTM D5185m		5	0	4
Sulfur	ppm	ASTM D5185m		15659	15048	13551
CONTAMINANTS	;	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	6	8
Sodium	ppm	ASTM D5185m		3	2	0
Potassium	ppm	ASTM D5185m	>20	0	1	1
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
		4 OT1 4 D 00 :-				

0.38

Acid Number (AN)

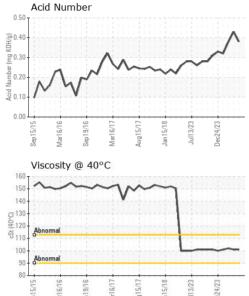
mg KOH/g ASTM D8045

0.43

0.38



## **OIL ANALYSIS REPORT**



	UAL				m	ethoc	l	limit/ba	ase	(	curre	nt	h	iistory	1	hi	story2
White	Metal		S	calar	*Vi	sual	١	NONE		NO	ONE		NC	ONE		NO	NE
Yellov	w Meta	<u>l</u>	S	calar	*Vi	sual	1	NONE		NO	ONE		NC	ONE		NO	NE
Precip	pitate		S	calar	*Vi	sual	1	NONE		NO	ONE		NC	ONE		NO	NE
Silt			S	calar	*Vi	isual NONE			NONE			NONE			NONE		
Debri	S		S	calar	*Vi	sual	١	NONE		NO	ONE		NC	ONE		NO	NE
Sand	/Dirt		S	calar	*Vi	sual	١	NONE		NONE			NONE			NONE	
Appe	arance		S	calar	*Vi	*Visual		NORML		NORML			NORML			NORML	
Odor			S	calar	*Visual		1	NORML		NORML			NORML			NORML	
Emulsified Water		S	scalar *		*Visual	>	>0.1		NEG			NEG			NEG		
Free '	Water		S	calar	*Vi	sual				NE	EG		NE	G		NE	G
FLU	JID PR	OPEF	RTIE	S	m	ethoc	l	limit/ba	ase	(	curre	nt	h	istory	1	hi	story2
Visc (	@ 40°C		C	St	AS	ΓM D4	45			10	1		10	1		102	2
SAI	MPLE	IMAGI	ES		m	ethoc	l	limit/ba	ase	(	curre	nt	h	istory	1	hi	story2
Color									no	imag	е	no	image	)	no	image	
Bottom									no image		e	no image		no image			
	APHS n (ppm	)								Laa	d (pp	m)					
0 -		, [[]]]]]]							100			111)					
Sever									E 50	Sever							
Autio	rmal									Abno	rmal						
Sep15/15	Mar16/16	Sep19/16	Mar16/17	5/17	81	23	23	_	0	1							
Se	Ma			_	-5	13/	24/			15/15	16/1	19/16	r16/17	115/17	15/18	113/23	24/23
				Aug15/17	Jan15/18	Jul13/23	Dec24/23			Sep15/15	Mar16/16	Sep19/16	Mar16/17	Aug15/17	Jan15/18	Jul13/23	Dec24/23
0	minum			Augl	Jan15	Jul13/	Dec24/		30	Chr	omiu	m (pp		Aug15/17	Jan15/18	Jul13/23	Dec24/23
Seven	е			Augl	Jan15	Jul13/	Dec24/		30 E 20	Chr	omiu			Aug15/17	Jan15/18	Jul13/23	Dec24/23
Sever	е			Augl	Jan15	Juli 3/	Dec24/		md 20	Chr	omiu			Aug15/17	Jan15/18 J	Jul13/23	Dec24/23
Seven	e rmal	(ppm	)							Sever	omiu e mal	m (pp	om)				
Abno Abno	mal	(ppm)		Aug15/17 Aug1	Jan15/18 Jan15	Jul13/23 Jul13/	Dec24/23 Dec24/		md 20	Abno Abno	omiu e mal	m (pp		Aug15/17 Aug15/17	Jan15/18 Jan15/18 J	Jul13/23 Jul13/23	Dec24/23 Dec24/23
Abno Cop	pper (p	(ppm)	)						md 20	Abno	omiu e mal 91/91zw con (r	m (pp	om)				
Abnoo Cop	oper (p	(ppm)	)						20 10 0	Abno	omiu e mal son (p	m (pp	om)				
Abno Cop	oper (p	(ppm)	)						E 20 10 0	Abno	omiu e mal son (p	m (pp	om)				
Abno Sever	pper (p	(ppm)	Mar16/17	Aug15/17	Jan15/18	Jul13/23	Dec24/23		20 10 0	Abno Silic	omiu e eon (p	m (ppm)	om)	Aug15/17	Jan15/18	Juli 3/23	Dec24/23
Sever Cop Sever Abno	pper (p)	(ppm)	Mar16/17 Mar16/17						100 mdd 50	Chr Sever Abno	omiu e mal 91/91 Mar16/16 e mal	m (pp. 91/61das ppm)	om)				
Abno Sever  Abno Survey  Abno Survey  Abno Visc	pper (p	(ppm)	Mar16/17 Mar16/17	Aug15/17	Jan15/18	Jul13/23	Dec24/23		100 mdd 50	Chr Sever Abno	omiu e eon (p	m (pp. 91/61das ppm)	om)	Aug15/17	Jan15/18	Juli 3/23	Dec24/23
Abno Sever  Abno Survey  Abno Survey  Abno Visc	amal SUSTEM OPER (P	(ppm)	Mar16/17 Mar16/17	Aug15/17	Jan15/18	Jul13/23	Dec24/23		100 mdd 50	Chr Sever Abno	omiu e mal 91/91 Mar16/16 e mal	m (pp. 91/61das ppm)	om)	Aug15/17	Jan15/18	Juli 3/23	Dec24/23
Abno Sever  Abno Surgician Sever  Abno Visc	pper (pp	(ppm)	Mar16/17 Mar16/17	Aug15/17	Jan15/18	Jul13/23	Dec24/23		100 mdd 50	Chr Sever Abno	omiu e mal 91/91 Mar16/16 e mal	m (pp. 91/61das ppm)	om)	Aug15/17	Jan15/18	Juli 3/23	Dec24/23
Abno O Sever O O O O O O O O O O O O O O O O O O O	pper (p	(ppm)  9//sldes pm)  9//sldes 2000	Mar16/17 Mar16/17	Aug15/17	Jan15/18	Jul13/23	Dec24/23		20 10 0	Chr Sever Abno	omiu e mal 91/91 Mar16/16 e mal	m (pp. 91/61das ppm)	om)	Aug15/17	Jan15/18	Juli 3/23	Dec24/23





Sample No. : HPL0005005 Lab Number : 06156175 Unique Number : 10991598

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

Received : 22 Apr 2024 **Tested** : 23 Apr 2024 : 23 Apr 2024 - Wes Davis Diagnosed

MARATHON PETROLEUM CO. IL. REFININF DIVISION, 400 S MARATHON AVE ROBINSON, IL

US 62454 Contact: M.S. MANHART

Test Package : MOB 2 Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369.

mmanhart@marathonpetroleum.com T: (618)544-2121

\* - 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)

F: x: Contact/Location: M.S. MANHART - MARROB