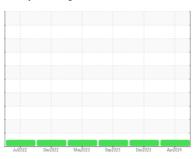


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
E-169
Component
Left Final Drive
Fluid
PHILLIPS 80W90 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

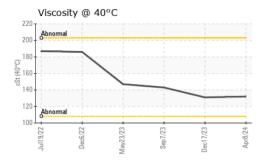
Fluid Condition

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

Sample Number Client Info WC0828448 WC0878677 WC0828465 Sample Date Client Info 08 Apr 2024 17 Dec 2023 07 Sep 2023 Machine Age hrs Client Info 08 Apr 2024 17 Dec 2023 07 Sep 2023 3367 2795 2226 226 1201 1141 5569 1201 1141 5569 1201 1141 5569 1201 1141 5569 1201 1141 1401			Jul2022	Dec2022 May2023	Sep2023 Dec2023	Apr2024	
Sample Number Client Info WC0828448 WC0878677 WC0828465 Sample Date Client Info OB Apr 2024 17 Dec 2023 07 Sep 2023 Machine Age hrs Client Info 1141 569 1201 Client Info Client Info Changed Not Changed Changed NoRMAL N	CAMPLE INFORM	IATION		li.ee:4/le.ee.e		المستحدث الم	٠٠٠ سوماه
Sample Date		IATION		limit/base		· ·	
Machine Age hrs Client Info 3367 2795 2226 Oil Age hrs Client Info 1141 569 1201 Oil Changed Client Info Changed NoRMAL NORMAL NORMAL Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/bass current history1 history2 Water WC Method >0.2 NEG NEG NEG Iron ppm ASTM05185m >50.0 48 38 154 Chromium ppm ASTM05185m >10 1 <1 2 Nickel ppm ASTM05185m >10 1 <1 2 Nickel ppm ASTM05185m 0 0 0 <1 Aluminum ppm ASTM05185m 25 2 2 <1 Capper ppm ASTM05185m >25 <1 0 0							
Oil Changed	•				•	17 Dec 2023	
Oil Changed Sample Status	Machine Age	hrs	Client Info		3367	2795	2226
NORMAL NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		1141		1201
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >500 48 38 154 Chromium ppm ASTM D5185m >10 1 <1	Oil Changed		Client Info			Not Changd	Changed
Water	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS	CONTAMINATION	J	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium ppm ASTM D5185m >10 1 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>500	48	38	154
Titanium	Chromium	ppm	ASTM D5185m	>10	1	<1	2
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 2 2 <1	Nickel	ppm	ASTM D5185m	>10	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	<1
Aluminum	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >50 1 0 0 Tin ppm ASTM D5185m >10 1 0 0 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 220 226 12 Barium ppm ASTM D5185m <1 0 0 Molybdenum ppm ASTM D5185m 2 <1 0 Manganese ppm ASTM D5185m 2 <1 3 Magnesium ppm ASTM D5185m 25 21 39 Phosphorus ppm ASTM D5185m 917 794 341 Zinc ppm ASTM D5185m 20 1 13 Sulfur ppm ASTM D5185m 20 1 13	Aluminum	ppm	ASTM D5185m	>25	2	2	<1
Copper ppm ASTM D5185m >50 1 0 0 Tin ppm ASTM D5185m >10 1 0 0 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 220 226 12 Barium ppm ASTM D5185m <1 0 0 Molybdenum ppm ASTM D5185m 2 <1 0 0 Manganese ppm ASTM D5185m 2 <1 3 3 9 Magnesium ppm ASTM D5185m 25 21 39 9 Phosphorus ppm ASTM D5185m 25 21 39 9 Phosphorus ppm ASTM D5185m 20 1 13 3 1	Lead		ASTM D5185m	>25	<1	0	0
Vanadium ppm ASTM D5185m <1	Copper		ASTM D5185m	>50	1	0	0
Vanadium ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>10	1	0	0
Cadmium ppm ASTM D5185m <1	Vanadium		ASTM D5185m		<1	0	0
Boron			ASTM D5185m		<1		0
Boron	ADDITIVES	•••	method	limit/hase	current	history1	history2
Barium ppm ASTM D5185m <1				mmusacc		•	•
Molybdenum ppm ASTM D5185m 2 <1							
Manganese ppm ASTM D5185m 2 <1							
Magnesium ppm ASTM D5185m 5 7 Calcium ppm ASTM D5185m 25 21 39 Phosphorus ppm ASTM D5185m 917 794 341 Zinc ppm ASTM D5185m 20 1 13 Sulfur ppm ASTM D5185m 22627 19314 19535 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >20 2 1 <1 Potassium ppm ASTM D5185m >20 2 1 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visua							
Calcium ppm ASTM D5185m 25 21 39 Phosphorus ppm ASTM D5185m 917 794 341 Zinc ppm ASTM D5185m 20 1 13 Sulfur ppm ASTM D5185m 22627 19314 19535 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >75 4 3 9 VISUAL method limit/base current history1 history2	•						
Phosphorus ppm ASTM D5185m 917 794 341 Zinc ppm ASTM D5185m 20 1 13 Sulfur ppm ASTM D5185m 22627 19314 19535 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >20 2 1 <1 Potassium ppm ASTM D5185m >20 2 1 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Ville Metal scalar *Visual NONE NONE NONE Ville Metal scalar *Visual NONE NONE NONE Ville Meta							
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Sulfur ppm ASTM D5185m 22627 19314 19535 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >20 2 1 <1 Potassium ppm ASTM D5185m >20 2 1 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Vellow 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 *Vi	·				-		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m >75 4 0 <1 0 <1 Potassium ppm ASTM D5185m >20 2 1 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Codor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Zinc	ppm	ASTM D5185m		20		
Silicon ppm ASTM D5185m >75 4 3 9 Sodium ppm ASTM D5185m <1	Sulfur	ppm	ASTM D5185m		22627	19314	19535
Sodium ppm ASTM D5185m <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 1 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE 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	Silicon	ppm	ASTM D5185m	>75	4	3	9
White Metal scalar *Visual NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE 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 Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG NEG NEG	Sodium	ppm	ASTM D5185m		<1	0	<1
White Metal scalar *Visual NONE NONE NONE LIGHT 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	Potassium	ppm	ASTM D5185m	>20	2	1	<1
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGFree Waterscalar*VisualNEGNEGNEG	VISUAL		method	limit/base	current	history1	history2
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 Free Water scalar *Visual NEG NEG NEG	White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
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	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar *Visual NONE 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	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGFree Waterscalar*VisualNEGNEGNEG	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGFree Waterscalar*VisualNEGNEGNEG	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Waterscalar*Visual>0.2NEGNEGNEGFree Waterscalar*VisualNEGNEGNEG	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG		scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water				NEG		NEG
	2:34:53) Rev: 1					cation: NICK DI	XON - DUKRAL

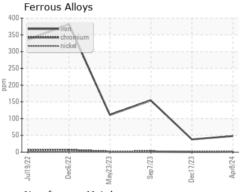


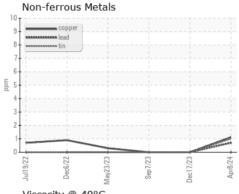
OIL ANALYSIS REPORT

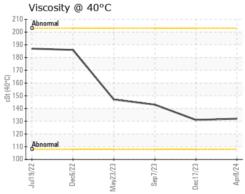


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		132	131	143
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image

GRAPHS









Certificate 12367

Sample No. : WC0828448 Lab Number : 06143444 Unique Number : 10968252

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

Received : 09 Apr 2024 Tested : 10 Apr 2024 Diagnosed

: 10 Apr 2024 - Wes Davis

DUKE LAZZARA 4201 FAYETTEVILLE RD RALEIGH, NC

US 27603 Contact: NICK DIXON NICK.DIXON@DUKELAZZAM.COM

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.

T: (919)760-7797 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: DUKRAL [WUSCAR] 06143444 (Generated: 04/10/2024 12:34:53) Rev: 1

Test Package : CONST

Contact/Location: NICK DIXON - DUKRAL