WEAR
CONTAMINATION
FLUID CONDITION

NORMAL

ABNORMAL

NORMAL

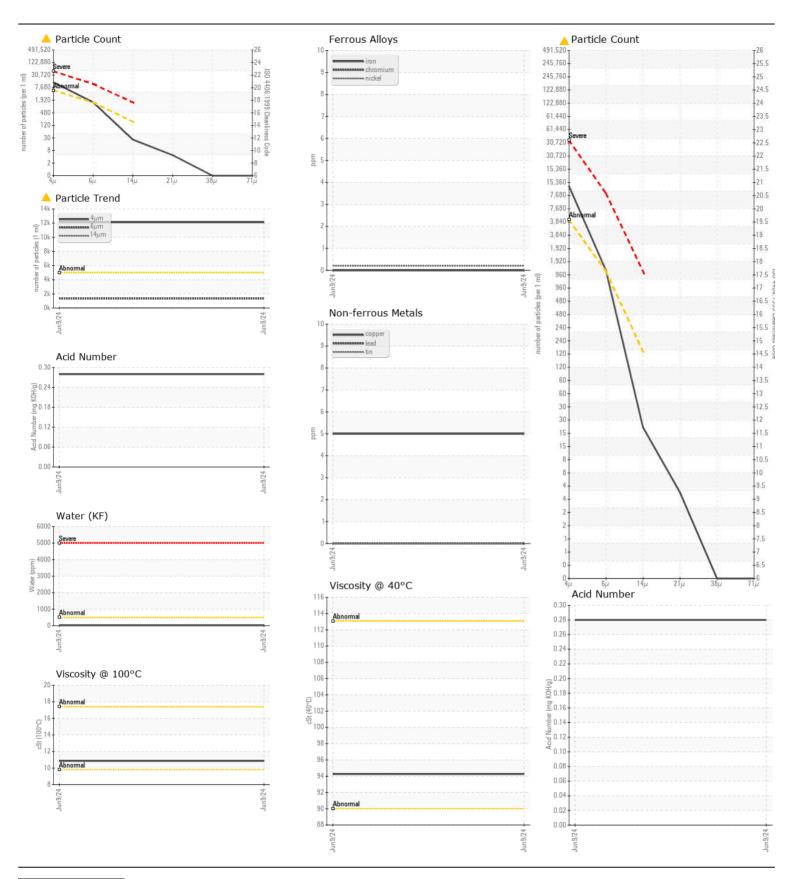
Machine Id

NORRIS A-3

Component Hydraulic System

BELRAY AW 100 (--- GAL)

No corrective action is recommended at this time. Resample at the next service interval to monitor. Sample Date Client Info Sample Date Client Info O O O O O O O O O	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Name	N			Client Info		TO20000256		
Oil Age	•					09 Jun 2024		
Filter Age OIL Client Info OIL OIL	next service interval to monitor.		hrs	Client Info		0		
Oil Changed Filter			hrs			0		
Filter Changed Sample Status Sample Status ABNOBINAL			hrs	Client Info		1		
Name		•						
Iron				Client Info		N/A		
All component wear rates are normal. Chromium ppm ASTM D5166m 20 0 0 0 0 0 0 0 0		Sample Status				ABNORMAL		
All component wear rates are normal. Chromium ppm ASTM D5166m 20 0 0 0 0 0 0 0 0	WEAR	Iron	ppm	ASTM D5185m	>20	0		
Nickel ppm ASTM D5185m 20		Chromium		ASTM D5185m	>20	0		
Titanium ppm ASTM D588m 0	All component wear rates are normal.	Nickel		ASTM D5185m	>20	<1		
Aluminum ppm ASTM 05185m >20 <1		Titanium		ASTM D5185m		0		
Aluminum ppm ASTM D58585 > 20		Silver	ppm	ASTM D5185m		0		
Copper		Aluminum		ASTM D5185m	>20	<1		
Copper		Lead	ppm	ASTM D5185m	>20	0		
Tin		Copper		ASTM D5185m	>20	5		
Vanadium ppm ASTM D5185m NONE NONE						0		
Yellow Metal Scalar "Visual NONE NONE CONTAMINATION There is a high amount of silt (particulates < 14 microns in size) Potassium ppm ASTM D5185m >2 2 Water % ASTM D5185m >0 2 Water % ASTM D5185m >0 0 0.002 Particles >4 µm ASTM D5185m >0 0.002 Particles >4 µm ASTM D6304 >0.05 0.002 Particles >4 µm ASTM D6304 >0.00 19 Particles >4 µm ASTM D7647 >0.00 4 12112 Particles >4 µm ASTM D7647 >0.00 4 12112 Particles >1 µm ASTM D7647 >4.00 4 Particles >3 µm ASTM D7647 >4.00 4 Particles >3 µm ASTM D7647 >4.00 4 Particles >7 µm ASTM D7647 >3 0 0 Particles >7 µm ASTM		Vanadium	ppm	ASTM D5185m		0		
Silicon Ppm ASTM D5185m >15 <1 Potassium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 0.002 ASTM D5185m >20 0.002 Ppm ASTM D5185m >20 0.002 -		White Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D588m >20 2		Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D588m >20 2								
Water % ASTM D6304 > 0.05 0.002	CONTAMINATION	Silicon	ppm			<1		
Particles > 4µm		Potassium	ppm	ASTM D5185m	>20	2		
Particles >4µm		Water	%	ASTM D6304	>0.05			
Particles > 6 m		ppm Water	ppm	ASTM D6304	>500	19		
Particles >14µm ASTM D7647 >160 22 Particles >21µm ASTM D7647 >40 4 Particles >71µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >1917/14 >21/18/12 Silt scalar *Visual NONE		Particles >4µm		ASTM D7647	>5000	12112		
Particles >21 µm				ASTM D7647	>1300	1331		
Particles > 38 µm		Particles >14µm		ASTM D7647	>160	22		
Particles >71 µm ASTM D7647 >3 0 Sid 406 (c) 51917/14 NONE NONE Silt Scalar *Visual NONE NONE NONE NONE Sand/Dirt Scalar *Visual NONE NONE NONE NONE Sand/Dirt Scalar *Visual NONE NONE NONE NONE Sand/Dirt Scalar *Visual NORM NORM NORM NORM Appearance Scalar *Visual NORM NORM NORM NORM Emulsified Water Scalar *Visual NORM NORM NORM Emulsified Water Scalar *Visual NORM NORM NORM Emulsified Water Scalar *Visual NORM NORM NORM The AN level is acceptable for this fluid. The condition of the oil is suitable for further service. Sodium ppm ASTM D5185m <1 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 3 2 Zinc ppm ASTM D5185m 3 3 2 Zinc ppm ASTM D5185m 3 3 3 Zinc ppm ASTM D5185m 3 3 Zin		•		ASTM D7647	>40			
Cil Cleanliness Silt Scalar *Visual NONE NONE						_		
Silt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE								
Debris Scalar *Visual NONE NONE NONE Sand/Dirt Scalar *Visual NONE NORML N				/				
Sand/Dirt Scalar *Visual NONE NORML NORML								
Appearance Odor Scalar *Visual NORML NORML NORML NOR								
Oddr Scalar *Visual NORML NORM								
Emulsified Water scalar *Visual >0.05 NEG								
Sodium ppm ASTM D5185m 1 Boron ppm ASTM D5185m 0 Suitable for further service.								
Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 53 Phosphorus ppm ASTM D5185m 322 Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C CSt ASTM D445 94.26 Visc @ 100°C CSt ASTM D445 10.86		Emuisitied water	scalar	"Visuai	>0.05	NEG		
Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 53 Phosphorus ppm ASTM D5185m 322 Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C CSt ASTM D445 94.26 Visc @ 100°C CSt ASTM D445 10.86	FLUID CONDITION	Sodium	ppm	ASTM D5185m		1		
suitable for further service. Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 53 Phosphorus ppm ASTM D5185m 274 Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg K0H/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86		Boron	ppm	ASTM D5185m		<1		
Manganese ppm ASTM D5185m <1	·	Barium	ppm	ASTM D5185m		0		
Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 53 Phosphorus ppm ASTM D5185m 274 Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86		Molybdenum	ppm	ASTM D5185m		0		
Calcium ppm ASTM D5185m 53 Phosphorus ppm ASTM D5185m 274 Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86		Manganese	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 274 Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86		•	ppm	ASTM D5185m				
Zinc ppm ASTM D5185m 322 Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86		Calcium	ppm					
Sulfur ppm ASTM D5185m 1033 Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86		Phosphorus	ppm					
Acid Number (AN) mg KOH/g ASTM D8045 0.28 Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86			ppm					
Visc @ 40°C cSt ASTM D445 94.26 Visc @ 100°C cSt ASTM D445 10.86								
Visc @ 100°C cSt ASTM D445 10.86		. ,						
Viscosity Index (VI) Scale ASTM D2270 98								
		Viscosity Index (VI)	Scale	ASTM D2270		98		





Certificate L2367

Laboratory Sample No. Lab Number

: 06219239 Unique Number: 11097436

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : TO20000256

Received **Tested** Diagnosed

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Test Package: IND 2 (Additional Tests: KF, KV100, VI)

: 26 Jun 2024

: 24 Jun 2024

: 26 Jun 2024 - Jonathan Hester

US 75653 Contact: AARON NILSSON awn.nilsson@icloud.com T: (903)807-9576

VELVIN OIL COMPANY

P.O. BOX 993

HENDERSON, TX

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.

Report Id: VELHEN [WUSCAR] 06219239 (Generated: 06/26/2024 14:13:49) Rev: 1

Contact/Location: AARON NILSSON - VELHEN

F: