

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id DSI DSI HPU (S/N PG4045U08064) Component

Hydraulic System Fluid USPI FG HYD 46 (--- GAL)

DIAGNOSIS

Recommendation

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. The amount and size of particulates present in the system are acceptable.

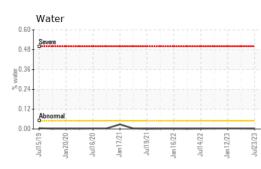
Fluid Condition

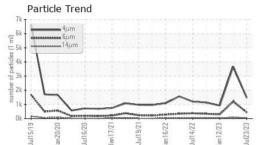
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

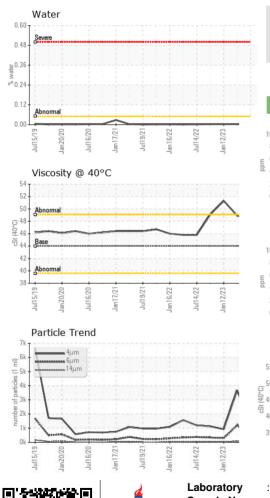
Sample Number Client Info USPM2902 USPM2803 USPM26124 Sample Date Client Info 23 Jul 2023 12 Jan 2023 12 Jan 2023 Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info N N/A N/A N/A Sample Status Imathine Imathine NORMAL NORMAL NORMAL NORMAL WEAR METALS method Imitbosis curont history1 history2 Iron ppm ASTM 05185m >20 2 1 1 Chromium ppm ASTM 05185m <1 0 0 0 Silver ppm ASTM 05185m <20 0 0 0 0 Silver ppm ASTM 05185m >20 0 0 0 0 Copper ppm ASTM 05185m >20 0 0 0 0 Cabrimum ppm ASTM 05185m 2	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
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 Imethod Imit/base current history1 history1 WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM 05185m >20 2 2 1 Nickel ppm ASTM 05185m >20 0 0 0 Sliver ppm ASTM 05185m >20 0 0 0 Lead ppm ASTM 05185m >20 0 0 0 Cadmium ppm ASTM 05185m >20 0 0 0 Cadmium ppm ASTM 05185m 0 0 0 0 Magnaese ppm ASTM 05185m 0 0 0 0 Barium ppm<	Sample Number		Client Info		USPM29022	USPM28593	USPM26124
Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Imitibase current history1 history2 Iron ppm ASTM D5185m >20 2 1 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Capper ppm ASTM D5185m >20 0 0 0 Cadmium ppm ASTM D5185m >20 0 0 0 Astm D5185m 0 0 0 0 0 0 Astm D5185m 0 -1 0 0 0 Mandelium ppm AS	Sample Date		Client Info		23 Jul 2023	12 Apr 2023	12 Jan 2023
Oil Changed Client Info N/A N/A N/A N/A Sample Status method imit/base current history1 history2 Iron ppm ASTM D5165m >20 <1	Machine Age	hrs	Client Info		0	0	0
Sample Status NORMAL NORMAL NORMAL NORMAL WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM 05185m >20 2 2 1 Chromium ppm ASTM 05185m >20 0 0 0 Nickel ppm ASTM 05185m >20 0 0 0 Titanium ppm ASTM 05185m >20 0 0 0 Aluminum ppm ASTM 05185m >20 0 0 0 Copper ppm ASTM 05185m >20 0 0 0 Cadmium ppm ASTM 05185m >20 0 0 0 Cadmium ppm ASTM 05185m 0 0 0 0 Boron ppm ASTM 05185m 0 0 0 0 Barium ppm ASTM 05185m 1 0 1 0	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >20 <1	Oil Changed		Client Info		N/A	N/A	N/A
Iron ppm ASTM D5185m >20 <1 <1 <1 Chromium ppm ASTM D5185m >20 2 2 1 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Cadmium ppm ASTM D5185m >20 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 <1	Sample Status				NORMAL	NORMAL	NORMAL
Ppm ASTM D5185m >20 2 2 1 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m -1 0 0 Sliver ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m >20 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 -1 0 0 Molybdenum ppm ASTM D5185m 0 -1 0 0 Magnese ppm ASTM D5185m 0 -1 0 0 Molybdenum ppm ASTM D5185m 0 -1 0 0	Iron	ppm	ASTM D5185m	>20	<1	<1	<1
Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>20	2	2	1
Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m <1	Nickel		ASTM D5185m	>20	0	0	0
Silver ppm ASTM D5185m <1 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 2 2 2 2 Tin ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method Imit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Titanium		ASTM D5185m		0	0	0
Aluminum ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 2 2 2 Tin ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 2 3 0 Phosphorus ppm ASTM D5185m 0 2 3 0 Sulfur ppm ASTM D5185m 725 444 456 483 Sulfur ppm ASTM D5185m 625 468 5777 636<					-		
Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 2 2 2 Tin ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Maganese ppm ASTM D5185m 0 <1				>20			
Copper ppm ASTM D5185m >20 2 2 2 2 Tin ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1					-		
Tin ppm ASTM D5185m >20 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Magnese ppm ASTM D5185m 0 -<1							
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	••				_		
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 -1 0 0 Molybdenum ppm ASTM D5185m 0 -1 0 0 Magnesium ppm ASTM D5185m 0 -1 0 0 2 3 Phosphorus ppm ASTM D5185m 0 -1 0 2 3 Sulfur ppm ASTM D5185m 725 4444 456 483 Sulfur ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 </td <td></td> <td></td> <td></td> <td>>20</td> <th>-</th> <td></td> <td></td>				>20	-		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1					-		
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m <1 0 0 Molybdenum ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m		<1	0	0
Magnesium ppm ASTM D5185m 0 <1 0 Calcium ppm ASTM D5185m 725 444 456 483 Phosphorus ppm ASTM D5185m 725 444 456 483 Zinc ppm ASTM D5185m 725 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 0 2 3 Phosphorus ppm ASTM D5185m 725 444 456 483 Zinc ppm ASTM D5185m 725 444 456 483 Sulfur ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		0	<1	0
Calcium ppm ASTM D5185m 0 2 3 Phosphorus ppm ASTM D5185m 725 444 456 483 Zinc ppm ASTM D5185m 625 468 577 636 Sulfur ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m		0	<1	0
Phosphorus ppm ASTM D5185m 725 444 456 483 Zinc ppm ASTM D5185m 625 468 577 636 Sulfur ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >20 <1 0 <1 <1 Potassium ppm ASTM D5185m >20 <1 0 0 Water % ASTM D5185m >20 <16.0 32.1 32.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 441 1208 296 Particles >38µm ASTM D7647 >320	Calcium	ppm	ASTM D5185m		0	2	3
Zinc ppm ASTM D5185m 4 5 8 Sulfur ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	725	444	456	483
Sulfur ppm ASTM D5185m 625 468 577 636 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m >20 <1			ASTM D5185m		4	5	8
Silicon ppm ASTM D5185m >15 8 7 9 Sodium ppm ASTM D5185m 0 <1	Sulfur		ASTM D5185m	625	468	577	636
Sodium ppm ASTM D5185m 0 <1 <1 Potassium ppm ASTM D5185m >20 <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 0 Water % ASTM D6304 >0.05 0.002 0.003 0.003 ppm Water ppm ASTM D6304 >500 16.0 32.1 32.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 1475 3681 920 Particles >6µm ASTM D7647 >2500 441 1208 296 Particles >14µm ASTM D7647 >320 42 77 36 Particles >21µm ASTM D7647 >80 11 11 14 Particles >38µm ASTM D7647 >20 0 0 3 Particles >71µm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2 <td>Silicon</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>15</td> <th>8</th> <td>7</td> <td>9</td>	Silicon	ppm	ASTM D5185m	>15	8	7	9
Water % ASTM D6304 >0.05 0.002 0.003 0.003 ppm Water ppm ASTM D6304 >500 16.0 32.1 32.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 1475 3681 920 Particles >6µm ASTM D7647 >2500 441 1208 296 Particles >14µm ASTM D7647 >320 42 77 36 Particles >21µm ASTM D7647 >80 11 11 14 Particles >38µm ASTM D7647 >20 0 0 3 Particles >71µm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		0	<1	<1
Water % ASTM D6304 >0.05 0.002 0.003 0.003 ppm Water ppm ASTM D6304 >500 16.0 32.1 32.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 1475 3681 920 Particles >6µm ASTM D7647 >2500 441 1208 296 Particles >14µm ASTM D7647 >32.0 42 77 36 Particles >21µm ASTM D7647 >80 11 11 14 Particles >38µm ASTM D7647 >20 0 0 3 Particles >71µm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	<1	0	0
ppm Water ppm ASTM D6304 >500 16.0 32.1 32.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 1475 3681 920 Particles >6µm ASTM D7647 >2500 441 1208 296 Particles >14µm ASTM D7647 >32.0 42 77 36 Particles >14µm ASTM D7647 >80 11 11 14 Particles >21µm ASTM D7647 >20 0 0 3 Particles >38µm ASTM D7647 >40 0 1 14 Particles >71µm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Water		ASTM D6304	>0.05	0.002	0.003	0.003
Particles >4µm ASTM D7647 1475 3681 920 Particles >6µm ASTM D7647 >2500 441 1208 296 Particles >14µm ASTM D7647 >320 42 77 36 Particles >14µm ASTM D7647 >80 11 11 14 Particles >21µm ASTM D7647 >80 11 11 14 Particles >38µm ASTM D7647 >20 0 0 3 Particles >38µm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>500	16.0	32.1	32.8
Particles >6μm ASTM D7647 >2500 441 1208 296 Particles >14μm ASTM D7647 >320 42 77 36 Particles >21μm ASTM D7647 >80 11 11 14 Particles >38μm ASTM D7647 >20 0 0 3 Particles >38μm ASTM D7647 >20 0 0 1 Particles >38μm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >320 42 77 36 Particles >21μm ASTM D7647 >80 11 11 14 Particles >21μm ASTM D7647 >80 11 11 14 Particles >38μm ASTM D7647 >20 0 0 3 Particles >71μm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647		1475	3681	920
Particles >14µm ASTM D7647 >320 42 77 36 Particles >21µm ASTM D7647 >80 11 11 14 Particles >38µm ASTM D7647 >20 0 0 3 Particles >38µm ASTM D7647 >20 0 0 1 Particles >71µm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500	441	1208	296
Particles >21μm ASTM D7647 >80 11 11 14 Particles >38μm ASTM D7647 >20 0 0 3 Particles >37μm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>320	42	77	
Particles >38μm ASTM D7647 >20 0 0 3 Particles >71μm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	•		ASTM D7647	>80	11		14
Particles >71μm ASTM D7647 >4 0 0 1 Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2							
Oil Cleanliness ISO 4406 (c) >/18/15 18/16/13 19/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2							
FLUID DEGRADATION method limit/base current history1 history2							
	FLUID DEGRADA	TION _	(/				
	ACIO NUMBER (AN)	mg KUH/ĝ	ASTIVI D8045	0.30	0.31	0.29	0.29



OIL ANALYSIS REPORT

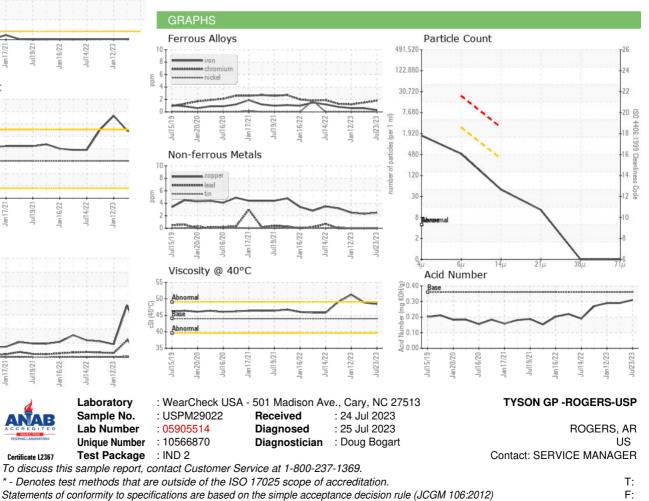






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	44	48.4	48.9	51.3
SAMPLE IMAGES	S	method	limit/base	current	history1	history2
Color				With the second se	All and a second s	
Bottom				(10)		

Bottom



Contact/Location: SERVICE MANAGER - TYSROGG