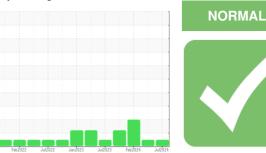


OIL ANALYSIS REPORT

Sample Rating Trend



Pickle Line [Pickle Line] 515020-ENTRY AUXILIARY HPU

Hydraulic System

PETRO CANADA HYDREX AW 46 (--- GAL

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

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

		Aug2021	Feb2022 Jul2022 .	Jan 2023 Jul 2023 Feb 2024	Jui2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0129250	PCA0117633	PCA0112989
Sample Date		Client Info		14 Jul 2024	07 Apr 2024	14 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	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	1	1	0
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>20	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	2	0
Lead	ppm	ASTM D5185m	>20	5	0	9
Copper	ppm	ASTM D5185m	>20	6	6	7
Tin	ppm	ASTM D5185m	>20	2	2	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	nnm	ACTM DE10Em	^	_	0	0
DOTOTT	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	<1	0
Barium	ppm	ASTM D5185m	0	0	<1	0
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0	0 <1	<1 <1	0
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	0 <1 <1	<1 <1 0	0 0 0
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	0 <1 <1 3	<1 <1 0 3	0 0 0
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 50	0 <1 <1 3 33	<1 <1 0 3 52	0 0 0 0 38
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 50 330	0 <1 <1 3 33 306	<1 <1 0 3 52 336	0 0 0 0 38 301
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 50 330 430	0 <1 <1 3 33 306 413	<1 <1 0 3 52 336 406	0 0 0 0 38 301 352
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 50 330 430 760	0 <1 <1 3 33 306 413 918	<1 <1 0 3 52 336 406 1081	0 0 0 0 38 301 352 1008
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 50 330 430 760	0 <1 <1 3 33 336 413 918 current	<1 <1 0 3 52 336 406 1081 history1	0 0 0 0 38 301 352 1008
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 50 330 430 760	0 <1 <1 3 33 336 413 918 current	<1 <1 0 3 52 336 406 1081 history1 0	0 0 0 0 38 301 352 1008 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 0 0 0 50 330 430 760 limit/base >15	0 <1 <1 3 33 336 413 918 current 2 0	<1 <1 0 3 52 336 406 1081 history1 0 0	0 0 0 0 38 301 352 1008 history2 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 0 0 50 330 430 760 limit/base >15	0 <1 <1 3 33 336 413 918 current 2 0 <1	<1 <1 0 3 52 336 406 1081 history1 0 0 1	0 0 0 0 38 301 352 1008 history2 <1 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN	ppm	ASTM D5185m METHOD ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 50 330 430 760 limit/base >15	0 <1 <1 3 33 306 413 918 current 2 0 <1 current	<1 <1 0 3 52 336 406 1081 history1 0 0 1 history1	0 0 0 0 38 301 352 1008 history2 <1 <1 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 50 330 430 760 limit/base >15 >20 limit/base	0 <1 <1 3 33 306 413 918 current 2 0 <1 current 2692	<1 <1 0 3 52 336 406 1081 history1 0 0 1 history1 3874	0 0 0 0 38 301 352 1008 history2 <1 <1 0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm	ppm	ASTM D5185m method ASTM D5185m	0 0 0 0 50 330 430 760 limit/base >15 >20 limit/base >5000 >1300	0 <1 <1 3 33 336 413 918 current 2 0 <1 current 2692 487	<1 <1 0 3 52 336 406 1081 history1 0 0 1 history1 3874 448	0 0 0 0 38 301 352 1008 history2 <1 <1 0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm	ppm	ASTM D5185m MEthod ASTM D5185m ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 limit/base >15 >20 limit/base >5000 >1300 >160	0 <1 <1 3 33 336 413 918 current 2 0 <1 current 2692 487 23	<1 <1 <1 0 3 52 336 406 1081 history1 0 0 1 history1 3874 448 33	0 0 0 0 38 301 352 1008 history2 <1 <1 0 history2 5968 1441 225
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm	ASTM D5185m MEthod ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 limit/base >15 >20 limit/base >5000 >1300 >160 >40 >10	0 <1 <1 3 33 336 413 918 current 2 0 <1 current 2692 487 23 4	<1 <1 0 3 52 336 406 1081 history1 0 0 1 history1 3874 448 33 6	0 0 0 0 38 301 352 1008 history2 <1 <1 0 history2 5968 1441 225 81
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm Particles >21µm	ppm	ASTM D5185m MEthod ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 limit/base >15 >20 limit/base >5000 >1300 >160 >40 >10	0 <1 <1 3 33 336 413 918 current 2 0 <1 current 2692 487 23 4 0	<1 <1 <1 0 3 52 336 406 1081 history1 0 0 1 history1 3874 448 33 6 0 0	0 0 0 0 38 301 352 1008 history2 <1 <1 0 history2 5968 1441 225 81

Acid Number (AN)

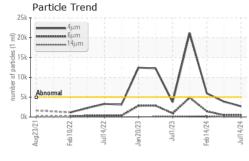
mg KOH/g ASTM D8045 0.70

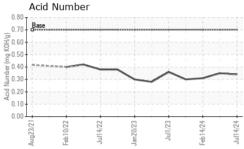
0.31

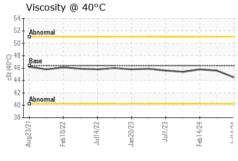
Contact/Location: BRAD ELLIS - SDITER

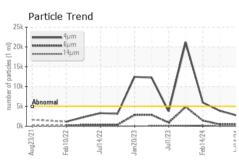


OIL ANALYSIS REPORT









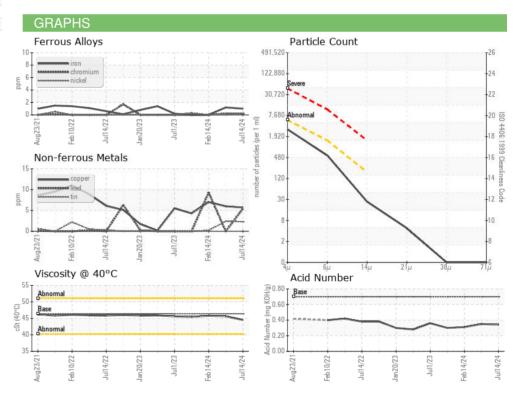
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE	LIGHT
Sand/Dirt	scalar	*Visual	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 PROP	ERTIES	method				history2
Visc @ 40°C	cSt	ASTM D445	46.4	44.5	45.6	45.8

SAMPI	LE IMAGES	

Color

Bottom







Certificate 12367

Report Id: SDITER [WUSCAR] 06235907 (Generated: 07/16/2024 14:30:13) Rev: 1

Laboratory

Sample No. Lab Number : 06235907 Unique Number : 11124741

Test Package : PLANT

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0129250

Received : 15 Jul 2024 **Tested**

: 16 Jul 2024 Diagnosed : 16 Jul 2024 - Wes Davis

SDI - Steel DynamicsInc. - Heartland

455 West Industrial Drive Terre Haute, IN

US 47802 Contact: BRAD ELLIS brad.ellis@steeldynamics.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. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: BRAD ELLIS - SDITER

T:

F: