

OIL ANALYSIS REPORT

KEMP QUARRIES / PRYOR STONE [69066] WL116

Component **Hydraulic System** PETRO CANADA DURATRAN (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Pm3 performed. All oil samples taken. Engine oil, and all filters changed.)

Wear

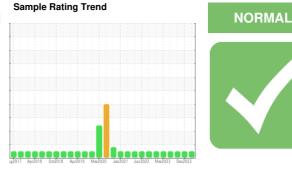
All component wear rates are normal.

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.

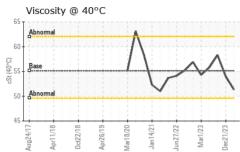




	MATION	method	limit/base	current		history2
Sample Number		Client Info		PCA0086598	PCA0084411	PCA0084250
Sample Date		Client Info		05 Mar 2024	21 Dec 2023	12 Aug 2023
Machine Age	hrs	Client Info		6476	6316	6032
Oil Age	hrs	Client Info		444	284	0
Oil Changed		Client Info		Oil Added	Oil Added	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI		method	limit/base	current	history1	history2
Water		WC Method		NEG	NEG	NEG
WEAR METALS	s	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	5	2	9
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	3	2	5
Lead	ppm	ASTM D5185m	>10	ر 1	0	0
Copper	ppm	ASTM D5185m		1	0	<1
Tin		ASTM D5185m	>10	، <1	<1	0
Vanadium	ppm	ASTM D5185m	>10	<1	0	0
Cadmium	ppm ppm	ASTM D5185m		<1 <1	0	<1
	ppm		11 11 11		-	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	110	124	102	117
Barium	ppm	ASTM D5185m	0.0	1	0	0
Molybdenum	ppm	ASTM D5185m	0.0	2	0	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	13	28	34	26
			3610	3587	2102	3611
Calcium	ppm	ASTM D5185m			3193	
Phosphorus	ppm	ASTM D5185m	1192	1211	1143	1147
Phosphorus Zinc		ASTM D5185m ASTM D5185m	1192 1455	1211 1430	1143 1425	1147 1440
Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m	1192	1211	1143	1147
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	1192 1455	1211 1430 3691 current	1143 1425	1147 1440
Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1192 1455 2641 limit/base	1211 1430 3691	1143 1425 3164	1147 1440 3877
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	1192 1455 2641 limit/base	1211 1430 3691 current	1143 1425 3164 history1	1147 1440 3877 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1192 1455 2641 <i>limit/base</i> >20	1211 1430 3691 current 12	1143 1425 3164 history1 11	1147 1440 3877 history2 9
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1192 1455 2641 <i>limit/base</i> >20	1211 1430 3691 current 12 0	1143 1425 3164 history1 11 <1	1147 1440 3877 history2 9 <1
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1192 1455 2641 <i>limit/base</i> >20 >20	1211 1430 3691 current 12 0 2	1143 1425 3164 history1 11 <1 0	1147 1440 3877 history2 9 <1 0
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m Method	1192 1455 2641 limit/base >20 >20 limit/base	1211 1430 3691 current 12 0 2 current	1143 1425 3164 history1 11 <1 0 history1	1147 1440 3877 history2 9 <1 0 history2
Phosphorus Zinc Sulfur CONTAMINAN Solicon Sodium Potassium VISUAL White Metal	ppm ppm TS ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *Visual	1192 1455 2641 >20 >20 limit/base NONE	1211 1430 3691 current 12 0 2 2 current NONE	1143 1425 3164 history1 11 <1 0 history1 NONE	1147 1440 3877 history2 9 <1 0 history2 NONE
Phosphorus Zinc Sulfur CONTAMINAN Sodium Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm TS ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *Visual	1192 1455 2641 >20 >20 limit/base >20 limit/base NONE NONE	1211 1430 3691 current 12 0 2 current NONE NONE	1143 1425 3164 history1 11 <1 0 history1 NONE NONE	1147 1440 3877 history2 9 <1 0 history2 NONE NONE NONE
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL Vhite Metal Yellow Metal Precipitate	ppm ppm TS ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual	1192 1455 2641 >20 >20 >20 S20 S20 S20 S20 S20 S20 S20 S20 S20 S	1211 1430 3691 current 12 0 2 current NONE NONE NONE	1143 1425 3164 history1 11 <1 0 history1 NONE NONE NONE NONE	1147 1440 3877 <u>history2</u> 9 <1 0 <u>history2</u> NONE NONE NONE NONE
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL Vhite Metal Yellow Metal Precipitate Silt	ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	1192 1455 2641 >20 >20 >20 <u>limit/base</u> NONE NONE NONE NONE	1211 1430 3691 current 12 0 2 current NONE NONE NONE NONE	1143 1425 3164 history1 11 <1 0 history1 NONE NONE NONE NONE NONE	1147 1440 3877 <u>history2</u> 9 <1 0 <u>history2</u> NONE NONE NONE NONE NONE
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL Vhite Metal Yellow Metal Precipitate Silt Debris	ppm ppm pm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual	1192 1455 2641 >20 >20 20 <u>limit/base</u> NONE NONE NONE NONE NONE NONE	1211 1430 3691 current 12 0 2 current NONE NONE NONE NONE NONE	1143 1425 3164 history1 11 <1 0 history1 NONE NONE NONE NONE NONE NONE	1147 1440 3877 <u>history2</u> 9 <1 0 <u>history2</u> NONE NONE NONE NONE NONE NONE
Phosphorus Zinc Sulfur Sulfur CONTAMINAN Sodium Potassium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm TS ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1192 1455 2641 >20 >20 <u>limit/base</u> >20 <u>limit/base</u> NONE NONE NONE NONE NONE NONE	1211 1430 3691 current 12 0 2 current NONE NONE NONE NONE NONE NONE NONE	1143 1425 3164 history1 11 <1 0 history1 NONE NONE NONE NONE NONE NONE NONE	1147 1440 3877 history2 9 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE NON
Phosphorus Zinc Sulfur Sulfur CONTAMINAN Sodium Potassium Potassium VISUAL White Metal VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm TS ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1192 1455 2641 >20 >20 Imit/base >20 Imit/base NONE NONE NONE NONE NONE NONE NONE NON	1211 1430 3691 current 12 0 2 current NONE NONE NONE NONE NONE NONE NONE NON	1143 1425 3164 history1 11 <1 0 history1 NONE NONE NONE NONE NONE NONE NONE NON	1147 1440 3877 history2 9 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE NON
Phosphorus Zinc Sulfur Sulfur CONTAMINAN Sodium Potassium Potassium VISUAL White Metal VISUAL Vellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm TS ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1192 1455 2641 >20 >20 >20 <u>limit/base</u> >20 <u>limit/base</u> NONE NONE NONE NONE NONE NONE NONE NON	1211 1430 3691 current 12 0 2 current NONE NONE NONE NONE NONE NONE NONE NON	1143 1425 3164 history1 11 <10 history1 NONE NONE NONE NONE NONE NONE NONE NON	1147 1440 3877 history2 9 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE NON



OIL ANALYSIS REPORT



	FLUID PROPE Visc @ 40°C	cSt	method ASTM D445	limit/base 55.14	current 51.3	history1 54.0	history2 58.3
Δ.	SAMPLE IMAG						
\sim	SAMPLE IMAG	125	method	limit/base	current	history1	history2
3	Color				no image	no image	no image
Jun27/22 Mar1/23 Dec21/23	Bottom				no image	no image	no image
	GRAPHS						
	Iron (ppm)			3	Lead (ppm)		
	30			2			
	E 20 - Abnormal			2 			
				1	0 - Abnormal		
		\sim	$ \frown $	V	5	$- \wedge -$	
	Aug24/17 Apr11/18 Oct22/18 Apr26/19	Mar18/20 Jan 14/21	Jun27/22 Mar1/23	Dec21/23	Aug24/17 Apr11/18 Oct22/18	Apr26/19 Mar18/20 Jan14/21	Jun27/22 Mar1/23
	Aluminum (ppm)	2 7		Q	Chromium (p		
	25 Severe			3	Carlana		
	20			2	0		
	Abnormal			<u>E</u> 1	Abaamaal		
	5				5-		
	2/19 2/19	3/20	1/22	1/23	0 1/18	3/19 3/20 4/21	1/22
	Aug24/17 Apr11/18 0ct22/18 Apr26/19	Mar18/20 Jan14/21	Jun27/22 Mar1/23	Dec21/23	Aug24/17 Apr11/18 0ct22/18	Apr26/19 Mar18/20 Jan14/21	Jun27/22 Mar1/23
	Copper (ppm)			6	Silicon (ppm)		
	200 - Severe			5			
	E 150-			4 8.3			
	Abnormal			2	0 - Abnormal	~~~	
	50	~~~			0		\sim
	Aug24/17 Apr11/18 Oct22/18 -	Mar18/20 - Jan14/21	Jun27/22 - Mar1/23 -	Dec21/23	Aug24/17 Apr11/18	Apr26/19	Jun27/22 - Mar1/23 -
	a کے میں کی میں کو م Viscosity @ 40°C	Nä Na	Ju. M	De	ar a	Ar M≀ Ja	n 2 d
	65 Abnormal			500	0 calcium		
	60	Λ		400	0 - phosphor		~~
	() 04) 55 35		\sim			·V	
	50 - Abnormal		~	100	The second s		A CONTRACTOR OF THE OWNER
	45	20	22		/11 0 /18	/19	22
	aug24/17 Apr11/18 Oct22/18 Apr26/19	Mar18/20 Jan14/21	Jun27/22 Mar1/23	Dec21/23	Aug24/17 Apr11/18 Oct22/18	Apr26/19 Mar18/20 Jan14/21	Jun27/22 Mar1/23
Sample No. Lab Number Unique Number Test Package	: 10942457	Recei Teste Diagn	ved : 29 d : 20 losed : 28	5 Mar 2024 5 Mar 2024 Mar 2024 - Jona	-	Quarries - Pryc	or Stone - Pry 1050 E 520 Pryor, US 743 Conta