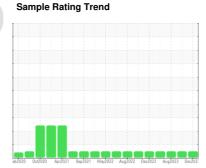


## **OIL ANALYSIS REPORT**

KEMP QUARRIES / RIVER VALLEY BACKBONE





Component Rear Differential Fluid

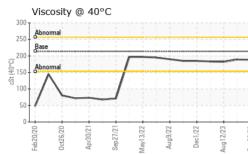
WL135

PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

DIAGNOSIS	SAMPLE INFOR		method	limit/base	current	history1	history2
	Sample Number		Client Info		PCA0069890	PCA0084856	PCA0084841
Recommendation Resample at the next service interval to monitor.	Sample Date		Client Info		28 Dec 2023	25 Oct 2023	12 Aug 2023
	Machine Age	bro	Client Info		52934	52934	52602
Vear	Oil Age	hrs hrs	Client Info		900	900	900
Il component wear rates are normal.	Oil Changed	1115	Client Info		Not Changd	Not Changd	
ontamination	-		Client Inio		NORMAL	NORMAL	Not Changd NORMAL
here is no indication of any contamination in the il.	Sample Status				NORMAL	NORMAL	NORIVIAL
". Iuid Condition	CONTAMINA	TION	method	limit/base	current	history1	history2
Find Condition The condition of the oil is acceptable for the time in service.	Water		WC Method		NEG	NEG	NEG
	WEAR META	LS	method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>500	83	39	102
	Chromium	ppm	ASTM D5185m	>3	<1	0	0
	Nickel	ppm	ASTM D5185m	>3	<1	0	0
	Titanium	ppm	ASTM D5185m	>2	<1	0	0
	Silver	ppm	ASTM D5185m	>2	0	0	0
	Aluminum	ppm	ASTM D5185m	>30	2	1	2
	Lead	ppm	ASTM D5185m	>13	<1	0	<1
	Copper	ppm	ASTM D5185m	>103	2	<1	2
	Tin	ppm	ASTM D5185m	>5	<1	0	<1
	Vanadium	ppm	ASTM D5185m		0	0	0
	Cadmium	ppm	ASTM D5185m		<1	0	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	2	<1	0	0
	Barium	ppm	ASTM D5185m	0	0	0	0
	Molybdenum	ppm	ASTM D5185m	0	2	<1	1
	Manganese	ppm	ASTM D5185m	0	1	<1	<1
	Magnesium	ppm	ASTM D5185m	9	21	21	32
	Calcium	ppm	ASTM D5185m	3114	3241	3038	2967
	Phosphorus	ppm	ASTM D5185m	1099	970	884	951
	Zinc				1101		
		ppm	ASTM D5185m	1245	1101	1163	1189
	Sulfur	ppm ppm	ASTM D5185m ASTM D5185m		1181 7028	1163 5402	1189 7407
		ppm					
	Sulfur	ppm	ASTM D5185m	7086 limit/base	7028	5402	7407
	Sulfur CONTAMINA	ppm NTS	ASTM D5185m method	7086 limit/base	7028 current	5402 history1	7407 history2
	Sulfur CONTAMINA Silicon	ppm NTS ppm	ASTM D5185m method ASTM D5185m	7086 limit/base >100	7028 current 25	5402 history1 17	7407 history2 27
	Sulfur CONTAMINA Silicon Sodium	ppm NTS ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	7086 limit/base >100	7028 current 25 0 2	5402 history1 17 2	7407 history2 27 <1 0
	Sulfur CONTAMINA Silicon Sodium Potassium	ppm NTS ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	7086 limit/base >100 >20	7028 current 25 0 2	5402 history1 17 2 0	7407 history2 27 <1 0
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL	ppm NTS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	7086 limit/base >100 >20 limit/base	7028 current 25 0 2 current	5402 history1 17 2 0 history1	7407 history2 27 <1 0 history2
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal	ppm NTS ppm ppm ppm scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *Visual	7086 limit/base >100 >20 limit/base NONE	7028 current 25 0 2 current NONE	5402 history1 17 2 0 history1 NONE	7407 history2 27 <1 0 history2 NONE
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm NTS ppm ppm ppm scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *Visual	7086 limit/base >100 >20 limit/base NONE NONE	7028 current 25 0 2 current NONE NONE	5402 history1 17 2 0 history1 NONE NONE	7407 history2 27 <1 0 history2 NONE NONE
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm NTS ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> *Visual *Visual	7086 limit/base >100 >20 limit/base NONE NONE NONE	7028 current 25 0 2 2 current NONE NONE NONE	5402 history1 17 2 0 history1 NONE NONE NONE	7407 history2 27 <1 0 history2 NONE NONE NONE NONE
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm NTS ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	7086 limit/base >100 >20 limit/base NONE NONE NONE NONE	7028 current 25 0 2 current NONE NONE NONE NONE	5402 history1 17 2 0 history1 NONE NONE NONE NONE	7407 history2 27 <1 0 history2 NONE NONE NONE NONE
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm NTS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual	7086 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE	7028 current 25 0 2 current NONE NONE NONE NONE NONE	5402 history1 17 2 0 history1 NONE NONE NONE NONE NONE NONE	7407 history2 27 <1 0 history2 NONE NONE NONE NONE NONE NONE
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm NTS ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual	7086 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE	7028 current 25 0 2 current NONE NONE NONE NONE NONE NONE NONE NON	5402 history1 17 2 0 history1 NONE NONE NONE NONE NONE NONE NONE	7407 history2 27 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm NTS ppm ppm ppm pm scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	7086 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE	7028 current 25 0 2 current NONE NONE NONE NONE NONE NONE NONE	5402 history1 17 2 0 history1 NONE NONE NONE NONE NONE NONE NONE NON	7407 history2 27 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE NON
	Sulfur CONTAMINA Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm NTS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	7086 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE	7028 current 25 0 2 current NONE NONE NONE NONE NONE NONE NONE NON	5402 history1 17 2 0 history1 NONE NONE NONE NONE NONE NONE NONE NON	7407 history2 27 <1 0 NONE NONE NONE NONE NONE NONE NONE NO



## **OIL ANALYSIS REPORT**



	FLUID PROPE	ERTIES	method	limit/base	current	history1	history2				
	Visc @ 40°C	cSt	ASTM D445	213.9	188	189	182				
	SAMPLE IMA	GES	method	limit/base	current	history1	history2				
22 22 23	Color				no image	no image	no image				
May13/22 Aug9/22 Dec1/22 Aug12/33	Bottom				no image	no image	no image				
	GRAPHS										
	Iron (ppm)				Lead (ppm)						
	800 - Asvere 600 - Abnormal 400 -			Ed.	7						
	Feb.20/20 0ct26/20 Apri30/21	3/22	Aug9/22 + Dec1/22 +	Dec28/23	Feb20/20	Sep21/21	Dec1/22				
		May13/22	Aug9/22 Dec1/22 Aug12/23	Dec2		2	Dec1/22 Aug12/23				
	Aluminum (ppm)				Chromium (p	pm)					
	Copper (ppm)	May13/22-	Aug972 Aug972 Dec1/22 Dec1/22	2	Silicon (ppm)	Sep 27/21 - May13/22 - Aug9/22 -	Dec1/22 Aug 12/23				
	Correction (12,000) Correction (12,000) Correctio	May13/22 -	Aug9/22 Dec1/22 Aug12/23		40130/21 40130/21 40130/21 40130/21	Sep21/21 May13/22 Aug9/22	Dec1/22				
	300 250 50 50 5150 50 50 50 50 50 50 50 50 50 50 50 50 5	<u> </u>		35 30 25 25 5 15 10	calcium phosphon zinc zinc						
	Feb20/20	May13/22	Aug9/22 + Dec1/22 + Aug12/23 +	Dec28/23	Feb 20/20 +	Sep27/21 + May13/22 +	Dec1/22 Aug12/23				
Laboratory Sample No Lab Numb Unique Num ificate 12367	D. : PCA0069890   er : 06054429   uber : 10820378	501 Mad Recieve Diagnos Diagnos	d : 08 sed : 09	ary, NC 2751 Jan 2024 Jan 2024 Is Davis	3 Kemp C		alley - Backbon 600 S Hwy 25 Huntington, Af US 7294 Contact				

