

## **OIL ANALYSIS REPORT**

#### Area COMPRESSOR STATIONS/RED HILLS EAST AREA Machine Id DENALI (S/N LE11348) Component

Compressor

TULCO LUBSOIL LPG WS 150 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

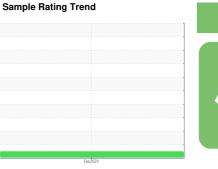
All component wear rates are normal.

#### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

#### **Fluid Condition**

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



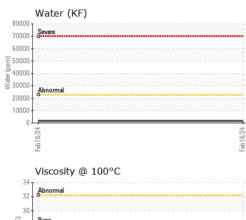


NORMAL

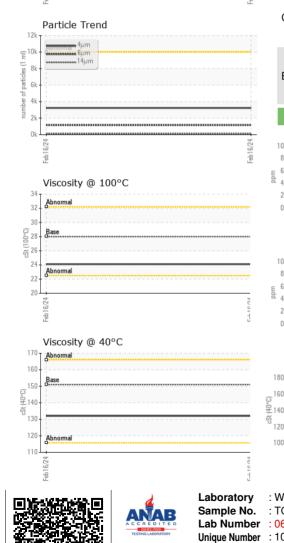
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		TO60002060		
Sample Date		Client Info		16 Feb 2024		
Machine Age	hrs	Client Info		8050		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	1		
Chromium	ppm	ASTM D5185m	>10	<1		
Nickel	ppm	ASTM D5185m		0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>25	2		
Lead	ppm	ASTM D5185m	>25	0		
Copper	ppm	ASTM D5185m	>50	0		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0		
Barium	ppm	ASTM D5185m	0	8		
Molybdenum	ppm	ASTM D5185m	0	0		
Manganese	ppm	ASTM D5185m		0		
Magnesium	ppm	ASTM D5185m	0	<1		
Calcium	ppm	ASTM D5185m	0	2		
Phosphorus	ppm	ASTM D5185m	0	27		
Zinc	ppm	ASTM D5185m	0	0		
Sulfur	ppm	ASTM D5185m	0	198		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	0		
Sodium	ppm	ASTM D5185m		0		
Potassium	ppm	ASTM D5185m	>20	1		
Water	%	ASTM D6304	>2.26	0.156		
ppm Water	ppm	ASTM D6304	>22600	1562		
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	3227		
Particles >6µm		ASTM D7647	>1300	1150		
Particles >14µm		ASTM D7647	>320	106		
Particles >21µm		ASTM D7647	>80	25		
Particles >38µm		ASTM D7647	>20	1		
Particles >71µm		ASTM D7647	>4	0		
Oil Cleanliness		ISO 4406 (c)	>20/17/15	19/17/14		
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.49		



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	VISUAL White Metal	scalar	method *Visual	limit/ba	se current	history1	history2
		scalar	visual		NUNE		
		ocoler	*\/icusl				
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
4	Sand/Dirt	scalar	*Visual	NONE	NONE		
Feb 16/24	Appearance	scalar	*Visual	NORML	NORML		
Ľ.	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>2.26	NEG		
1	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	IES	method	limit/ba	se current	history1	history2
	Visc @ 40°C	cSt	ASTM D445	151	132		
	Visc @ 100°C	cSt	ASTM D445	28	24.1		
	Viscosity Index (VI)	Scale	ASTM D2270	224	215		
	SAMPLE IMAGES	2	method	limit/ba	se current	history1	history2
Feb 16/24 •		)	methou	IIIIII/Da	se current	Thistory I	TIIStoryz
- E	Color					• no image	no image
	Bottom					no image	no image
	GRAPHS						
	Ferrous Alloys				Particle Cou	int	
Feb 16/24	10 8 iron			49	1,520		T <sup>26</sup>
노	6 - newsease chromium			12	2,880 Severe		-24
d.	4			3	0,720		-22
	2				Abnormal		20
				5/24 -	7,680		-21
*****	Feb 16/2 <sup>4</sup>			Feb16/24 s (per 1 m	1,920-		-18
	Non-ferrous Metals	5		articles	480	S	-16
	<sup>10</sup> T			of ba	120	$\mathbf{i}$	
	8 - copper			Feb16/24 number of particles (per 1 ml)	120-		112
Ed	6 tin			2	30-		-12
L 1 C 12	2				8-	/	-10
3				54	2		
	Feb 16/24			Feb 16/24	2		
	_			£	0 4µ 6µ	14µ 21µ	38µ 71µ
1	Viscosity @ 40°C				Acid Numbe	er	
	Abnormal			//HUX	2 0.50 2 0.40 2 0.30		
cs (40°C)	40 Base			em j	0.30		
St.	20 Abnormal				0.20		
1.				Acid M	20.10		
	00						
10.04	Feb16/24			Feb16/24	Feb 16/24		
Sample No. : 1 Lab Number : 0 Unique Number : 1	10899134 IND 2 ( Additional Tes	Recei Teste Diagn ts: KF, K	ved : 26 d : 27 iosed : 28 V100, PrtCoi	Feb 2024 Feb 2024 Feb 2024 - unt, VI )	4 4 Don Baldridge		IPIONS DRIN MIDLAND, 1 US 7970 RMAN GARZ

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

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