

Puite, Tammie (EGLE)

From: Dickman, Rob (EGLE)
Sent: Monday, December 21, 2020 7:48 AM
To: Nixon, Shane (EGLE); Puite, Tammie (EGLE)
Subject: FW: AirUsePermits
Attachments: EGLE_AQD_617-96_PermitRecords092019-082020.zip; EGLE_AQD_619-96_PermitRecords092019082020.zip; EGLE_AQD_620-96_PermitRecords092019-082020.zip; EGLE_AQD_622-96_PermitRecords092019-082020.zip; EGLE_AQD_AirPermitChecklist.pdf; Maintenance Log 092019-082020.xlsx; Permit Maintenance Field Support Logs.pdf

The facility sent me the attached records in response to the VN.

From: Dennis Marelich <dennis.denergyservices@gmail.com>
Sent: Tuesday, December 15, 2020 3:35 PM
To: Dickman, Rob (EGLE) <DICKMANR@michigan.gov>
Cc: Chris Kokenis <c_kokenis@deltaoperations.com>
Subject: AirUsePermits

CAUTION: This is an External email. Please send suspicious emails to abuse@michigan.gov

Rob,

Attached is the information you requested for permits 617-96, 619-96, 620-96, and 622-96. I hope this is what you are looking for and if any other information is needed please let me know. I also hope this brings Delta Oil Co back into compliance.

Thanks for you patience,

--
Dennis Marelich
Owner
Denergy Services Co LLC
Mobile: 989-370-3194



Rob Dickman

EGLE-Air Quality Division

Cadillac District Office

Rob,

Regarding the inspections and subsequent records requested for the air use permits 617-96, 619-96, 620-96, and 622-96:

The rolling emissions calculations for CO, VOC, and NOx have been completed.

There are no HAP's to report.

Monthly fuel consumption spreadsheets have been completed individually for all compressors relative to permits requested.

None of our facilities produce, collect, process, or truck crude oil or condensates.

Only one of the facilities permitted has a dehy to log glycol circulation, that being the Avery24/31 PN 622-96. The others are satellite screw compressor units that move produced gas to a CPF for processing before sales.

Records of produced gas have been completed for each permit.

A maintenance and repair log has been completed for each permit.

There were no catalysts bypassed for the requested period.

All fuel used for all compressors is sweet natural gas derived from the produced Antrim gas of each respective field.

Appendix A
 Force Energy Company
 Permit No. 617-96

09/2019-08/2020

Equipment	Usage		Factor				Emissions			
	This month	12-month rolling period	CO	NOx	VOC ¹	HAP	CO	NOx	TOTAL VOC ²	HAP
U978-S 379 CAT TA Naturally Aspirated Compressor Facility Fuel Gas MMcf	2.02	26.45	0.215	1.7	0.041	—	5.62	44.97	1.08	—
N/A Low Emission Compressor Facility Fuel Gas MMcf			0.043	0.17	0.0205	—				—
N/A Tank Thruput bbl			—	—	0.000052	—	—	—		—
N/A Tank Capacity bbl	—		—	—	0.000037	—	—	—		—
N/A Crude Oil Trucked bbl			—	—	0.0014	—	—	—		—
N/A Niagaran Dehy ³ gpm	—		—	—	25.5	20.7	—	—		
N/A Prairie Duchein Dehy ³ gpm	—		—	—	8.6	1.1	—	—		
N/A Antrim Dehy ³ gpm	—		—	—	0.046	—	—	—		—
TOTAL Tons per 12-month rolling period							0.0	0.0	0.0	0.0

Notes-

- 1 - VOC factors in this column are non-HAP VOCs; but all HAPs are VOCs
- 2 - This column must be the TOTAL of the non-hap VOCs column and the HAPs columns
- 3 - Only ONE of the dehydrator types will be applicable for a particular facility

Example -

Fuel Gas MMcf	2.2	23.5	0.215	1.7	0.041	—	5.1	40.0	1.0	—
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BRILEY 31/ RAYNIER MONTHLY GAS PRODUCTION 9/2019-8/2020 PN617-96

	BRILEY 31		RAYNIER	
SEPTEMBER 2019	14,076	469	2,802	93
OCTOBER 2019	15,815	510	2,887	93
NOVEMBER 2019	13,339	445	2,675	89
DECEMBER 2019	13,357	431	2,718	88
JANUARY 2020	13,356	431	2,620	85
FEBRUARY 2020	12,047	415	1,986	68
MARCH 2020	12,289	396	1,981	64
APRIL 2020	11,935	398	2,092	70
MAY 2020	12,954	418	2,121	68
JUNE 2020	12,969	432	2,478	83
JULY 2020	13,613	439	2,458	79
AUGUST 2020	13,270	428	2,754	89

TOTALS	159,020	434	29,572	969
TOTAL PRODUCTION	159,989			

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2019-09-02 - To: 2019-10-01

Date	Gas	Diff	Line
2019-09-02 12:00:00	78.00	11.10	103.00
2019-09-03 12:00:00	78.30	11.20	102.60
2019-09-04 12:00:00	77.80	11.10	102.40
2019-09-05 12:00:00	73.90	10.60	105.10
2019-09-06 12:00:00	65.20	9.10	111.80
2019-09-07 12:00:00	76.70	10.50	105.70
2019-09-08 12:00:00	76.40	10.50	105.10
2019-09-09 12:00:00	61.20	8.40	110.90
2019-09-10 12:00:00	76.20	10.30	106.20
2019-09-11 12:00:00	76.20	10.30	106.50
2019-09-12 12:00:00	77.00	10.50	106.50
2019-09-13 12:00:00	66.50	9.10	111.60
2019-09-14 12:00:00	77.10	10.60	106.10
2019-09-15 12:00:00	77.20	10.60	106.20
2019-09-16 12:00:00	77.20	10.60	106.30
2019-09-17 12:00:00	77.70	11.10	103.40
2019-09-18 12:00:00	78.10	11.10	103.20
2019-09-19 12:00:00	74.30	10.90	104.40
2019-09-20 12:00:00	80.30	11.80	103.10
2019-09-21 12:00:00	80.60	11.90	103.00
2019-09-22 12:00:00	80.90	12.00	102.80
2019-09-23 12:00:00	81.30	12.10	102.90
2019-09-24 12:00:00	76.00	11.30	104.40
2019-09-25 12:00:00	80.00	11.70	103.10
2019-09-26 12:00:00	77.20	11.10	104.10
2019-09-27 12:00:00	73.90	10.20	103.10
2019-09-28 12:00:00	75.10	10.20	104.10
2019-09-29 12:00:00	79.20	11.30	104.40
2019-09-30 12:00:00	81.60	12.00	104.40
2019-10-01 12:00:00	56.80	8.20	110.40
Sums	2,267.90		
Averages	75.60	10.71	105.23

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2019-10-02 - To: 2019-11-01

Date	Gas	Diff	Line
2019-10-02 12:00:00	77.40	10.80	104.30
2019-10-03 12:00:00	74.80	10.30	105.70
2019-10-04 12:00:00	75.50	10.30	104.70
2019-10-05 12:00:00	74.10	10.30	102.70
2019-10-06 12:00:00	74.00	10.00	103.30
2019-10-07 12:00:00	73.80	9.90	102.90
2019-10-08 12:00:00	74.30	10.10	103.10
2019-10-09 12:00:00	74.10	10.00	103.20
2019-10-10 12:00:00	73.90	10.00	103.00
2019-10-11 12:00:00	73.80	10.00	103.10
2019-10-12 12:00:00	73.60	9.90	102.90
2019-10-13 12:00:00	73.10	9.80	103.00
2019-10-14 12:00:00	75.00	11.40	106.40
2019-10-15 12:00:00	73.30	9.70	104.20
2019-10-16 12:00:00	43.60	5.70	127.90
2019-10-17 12:00:00	66.70	8.00	104.20
2019-10-18 12:00:00	66.60	8.00	104.10
2019-10-19 12:00:00	66.30	8.00	104.10
2019-10-20 12:00:00	65.80	7.80	103.80
2019-10-21 12:00:00	65.50	7.80	103.30
2019-10-22 12:00:00	65.60	7.80	103.40
2019-10-23 12:00:00	65.90	7.90	103.30
2019-10-24 12:00:00	67.00	8.20	103.30
2019-10-25 12:00:00	67.40	8.30	103.60
2019-10-26 12:00:00	67.80	8.30	103.90
2019-10-27 12:00:00	66.10	7.90	104.10
2019-10-28 12:00:00	66.00	7.90	103.80
2019-10-29 12:00:00	66.10	7.90	103.80
2019-10-30 12:00:00	66.30	8.00	103.90
2019-10-31 12:00:00	65.80	7.80	104.00
2019-11-01 12:00:00	65.40	7.70	103.90
Sums	2,144.60		
Averages	69.18	8.89	104.55

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2019-11-02 - To: 2019-12-01

Date	Gas	Diff	Line
2019-11-02 12:00:00	34.40	4.40	108.80
2019-11-03 12:00:00	51.70	5.60	107.50
2019-11-04 12:00:00	56.10	6.00	106.20
2019-11-05 12:00:00	69.50	8.80	104.40
2019-11-06 12:00:00	74.20	9.90	104.40
2019-11-07 12:00:00	69.20	9.60	104.00
2019-11-08 12:00:00	71.30	9.20	104.60
2019-11-09 12:00:00	63.20	7.10	105.80
2019-11-10 12:00:00	63.10	7.10	105.70
2019-11-11 12:00:00	66.70	7.90	105.70
2019-11-12 12:00:00	67.60	8.10	106.20
2019-11-13 12:00:00	63.10	7.40	107.10
2019-11-15 12:00:00	28.90	4.80	110.70
2019-11-16 12:00:00	65.00	9.50	106.60
2019-11-17 12:00:00	86.40	13.40	105.00
2019-11-18 12:00:00	84.60	12.90	104.60
2019-11-19 12:00:00	84.90	13.00	104.40
2019-11-20 12:00:00	85.10	13.10	104.30
2019-11-21 12:00:00	65.00	9.20	111.50
2019-11-22 12:00:00	73.50	9.70	104.40
2019-11-23 12:00:00	73.00	9.60	104.70
2019-11-24 12:00:00	72.30	9.50	104.40
2019-11-25 12:00:00	72.70	9.60	103.70
2019-11-26 12:00:00	62.70	8.30	107.10
2019-11-27 12:00:00	72.10	9.50	103.10
2019-11-28 12:00:00	71.60	9.40	102.80
2019-11-29 12:00:00	76.30	10.70	102.40
2019-11-30 12:00:00	74.40	9.90	105.30
2019-12-01 12:00:00	71.90	9.30	105.20
Sums	1,970.50		
Averages	67.95	9.05	105.54

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2019-12-02 - To: 2020-01-01

Date	Gas	Diff	Line
2019-12-02 12:00:00	71.10	9.10	104.80
2019-12-03 12:00:00	71.90	9.30	105.00
2019-12-04 12:00:00	71.40	9.20	104.70
2019-12-05 12:00:00	71.20	9.10	104.60
2019-12-06 12:00:00	71.10	9.10	104.60
2019-12-07 12:00:00	71.50	9.20	104.50
2019-12-08 12:00:00	68.80	8.80	106.90
2019-12-09 12:00:00	71.20	9.10	105.40
2019-12-10 12:00:00	66.70	9.60	107.40
2019-12-11 12:00:00	86.70	13.50	105.00
2019-12-12 12:00:00	86.20	13.30	105.40
2019-12-13 12:00:00	60.20	7.70	107.40
2019-12-14 12:00:00	67.60	8.20	105.00
2019-12-15 12:00:00	68.60	8.50	104.70
2019-12-16 12:00:00	68.90	8.50	104.90
2019-12-17 12:00:00	68.80	8.50	104.90
2019-12-18 12:00:00	68.80	8.50	104.80
2019-12-19 12:00:00	69.90	8.80	105.00
2019-12-20 12:00:00	68.70	8.50	105.00
2019-12-21 12:00:00	67.90	8.30	104.90
2019-12-22 12:00:00	67.70	8.30	104.50
2019-12-23 12:00:00	68.80	8.60	104.00
2019-12-24 12:00:00	65.20	8.20	107.10
2019-12-25 12:00:00	70.40	8.90	105.40
2019-12-26 12:00:00	70.70	9.00	105.20
2019-12-27 12:00:00	70.30	8.90	104.80
2019-12-28 12:00:00	69.20	8.60	104.90
2019-12-29 12:00:00	68.90	8.50	104.90
2019-12-30 12:00:00	68.50	8.40	104.60
2019-12-31 12:00:00	68.00	8.30	104.30
2020-01-01 12:00:00	68.20	8.40	104.10
Sums	2,173.10		
Averages	70.10	9.00	105.12

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-01-02 - To: 2020-02-01

Date	Gas	Diff	Line
2020-01-02 12:00:00	68.00	8.40	104.00
2020-01-03 12:00:00	68.10	8.40	103.70
2020-01-04 12:00:00	68.80	8.60	103.80
2020-01-05 12:00:00	68.80	8.60	103.80
2020-01-06 12:00:00	68.50	8.50	103.90
2020-01-07 12:00:00	68.60	8.50	103.80
2020-01-08 12:00:00	68.20	8.40	103.70
2020-01-09 12:00:00	70.40	9.00	103.90
2020-01-10 12:00:00	68.70	8.60	103.90
2020-01-11 12:00:00	67.90	8.40	103.40
2020-01-12 12:00:00	67.70	8.30	103.60
2020-01-13 12:00:00	69.60	8.80	103.70
2020-01-14 12:00:00	69.20	8.70	103.70
2020-01-15 12:00:00	67.40	8.20	103.50
2020-01-16 12:00:00	67.80	8.40	103.20
2020-01-17 12:00:00	70.30	9.00	103.30
2020-01-18 12:00:00	70.00	8.90	103.40
2020-01-19 12:00:00	66.70	8.10	103.00
2020-01-20 12:00:00	69.10	8.70	103.00
2020-01-21 12:00:00	68.40	8.50	103.20
2020-01-22 12:00:00	66.70	8.10	103.20
2020-01-23 12:00:00	66.20	8.00	102.90
2020-01-24 12:00:00	67.00	8.20	103.00
2020-01-25 12:00:00	66.30	8.10	102.50
2020-01-26 12:00:00	67.00	8.20	102.50
2020-01-27 12:00:00	67.40	8.30	102.60
2020-01-28 12:00:00	67.60	8.40	102.70
2020-01-29 12:00:00	67.80	8.40	102.90
2020-01-30 12:00:00	69.50	8.90	102.70
2020-01-31 12:00:00	69.50	8.90	102.40
2020-02-01 12:00:00	69.10	8.80	102.20
Sums	2,116.30		
Averages	68.27	8.49	103.26

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-02-02 - To: 2020-03-01

Date	Gas	Diff	Line
2020-02-02	66.90	8.20	102.10
2020-02-03	66.70	8.20	101.90
2020-02-04	67.60	8.40	102.00
2020-02-05	68.60	8.70	102.20
2020-02-06	67.80	8.40	102.30
2020-02-07	66.40	8.10	102.20
2020-02-08	65.70	7.90	105.70
2020-02-09	61.50	7.20	109.10
2020-02-10	65.20	7.50	106.60
2020-02-11	66.70	7.90	106.60
2020-02-12	66.10	7.80	106.10
2020-02-13	66.10	7.80	105.60
2020-02-14	67.90	8.20	105.90
2020-02-15	68.70	8.40	106.20
2020-02-16	66.80	8.00	105.70
2020-02-17	67.60	8.20	105.50
2020-02-18	67.20	8.10	105.30
2020-02-19	73.00	10.80	107.20
2020-02-20	87.90	13.90	105.40
2020-02-21	88.50	14.00	105.20
2020-02-22	86.90	13.60	104.70
2020-02-23	86.10	13.40	104.10
2020-02-24	86.70	13.60	103.90
2020-02-25	86.90	13.70	103.90
2020-02-26	86.80	13.70	104.10
2020-02-27	87.00	13.70	103.90
2020-02-28	86.20	13.50	104.00
2020-02-29	85.30	13.20	103.90
2020-03-01	84.10	12.90	103.90
Sums	2,158.90		
Averages	74.44	10.24	104.66

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-03-02 - To: 2020-04-01

Date	Gas	Diff	Line
2020-03-02 12:00:00	85.00	13.20	103.20
2020-03-03 12:00:00	84.90	13.20	103.10
2020-03-04 12:00:00	84.40	13.00	103.00
2020-03-05 12:00:00	86.50	13.70	103.20
2020-03-06 12:00:00	85.80	13.50	103.20
2020-03-07 12:00:00	86.40	13.60	103.50
2020-03-08 12:00:00	85.50	13.30	103.20
2020-03-09 12:00:00	84.30	13.10	102.50
2020-03-10 12:00:00	85.00	13.30	102.40
2020-03-11 12:00:00	85.90	13.50	102.60
2020-03-12 12:00:00	85.10	13.30	102.60
2020-03-13 12:00:00	84.30	13.10	102.20
2020-03-14 12:00:00	85.20	13.30	102.40
2020-03-15 12:00:00	86.60	13.70	102.70
2020-03-16 12:00:00	85.70	13.40	102.80
2020-03-17 12:00:00	83.90	12.90	102.50
2020-03-18 12:00:00	84.10	13.00	102.40
2020-03-19 12:00:00	83.70	12.90	102.50
2020-03-20 12:00:00	82.70	12.60	102.10
2020-03-21 12:00:00	84.60	13.20	102.30
2020-03-22 12:00:00	84.80	13.20	102.70
2020-03-23 12:00:00	84.10	13.00	102.50
2020-03-24 12:00:00	83.40	12.80	102.10
2020-03-25 12:00:00	83.40	12.80	102.00
2020-03-26 12:00:00	74.80	10.40	102.80
2020-03-27 12:00:00	73.30	9.80	103.10
2020-03-28 12:00:00	73.20	9.80	102.90
2020-03-29 12:00:00	73.10	9.80	102.80
2020-03-30 12:00:00	72.60	9.70	102.40
2020-03-31 12:00:00	74.10	10.10	102.70
2020-04-01 12:00:00	74.00	10.00	102.60
Sums	2,550.40		
Averages	82.27	12.46	102.68

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-04-02 - To: 2020-05-01

Date	Gas	Diff	Line
2020-04-02 12:00:00	73.80	10.00	102.30
2020-04-03 12:00:00	73.50	10.00	102.20
2020-04-04 12:00:00	73.60	10.00	102.10
2020-04-05 12:00:00	74.30	10.20	102.20
2020-04-06 12:00:00	74.30	10.20	102.10
2020-04-07 12:00:00	65.70	8.80	103.00
2020-04-08 12:00:00	67.40	8.30	103.40
2020-04-09 12:00:00	66.70	8.30	101.70
2020-04-10 12:00:00	67.30	8.30	103.10
2020-04-11 12:00:00	67.80	8.40	103.10
2020-04-12 12:00:00	67.30	8.30	102.70
2020-04-13 12:00:00	67.00	8.20	102.30
2020-04-14 12:00:00	67.70	8.40	102.60
2020-04-15 12:00:00	67.90	8.40	103.00
2020-04-16 12:00:00	67.70	8.40	103.00
2020-04-17 12:00:00	67.90	8.40	102.90
2020-04-18 12:00:00	67.20	8.30	102.60
2020-04-19 12:00:00	66.70	8.20	102.30
2020-04-20 12:00:00	67.50	8.40	102.30
2020-04-21 12:00:00	66.60	8.20	102.10
2020-04-22 12:00:00	68.00	8.50	102.50
2020-04-23 12:00:00	67.70	8.40	102.40
2020-04-24 12:00:00	67.10	8.20	102.50
2020-04-25 12:00:00	66.90	8.20	102.20
2020-04-26 12:00:00	67.00	8.30	102.10
2020-04-27 12:00:00	67.10	8.30	101.80
2020-04-28 12:00:00	66.90	8.30	101.70
2020-04-29 12:00:00	66.90	8.30	101.70
2020-04-30 12:00:00	66.30	8.10	101.50
2020-05-01 12:00:00	66.90	8.30	101.70
Sums	2,048.70		
Averages	68.29	8.62	102.37

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-05-02 - To: 2020-06-01

Date	Gas	Diff	Line
2020-05-02 12:00:00	66.50	8.20	101.40
2020-05-03 12:00:00	66.50	8.20	101.10
2020-05-04 12:00:00	67.60	8.50	101.50
2020-05-05 12:00:00	68.30	8.60	101.80
2020-05-06 12:00:00	67.70	8.40	101.90
2020-05-07 12:00:00	67.80	8.50	101.20
2020-05-08 12:00:00	69.80	9.00	103.50
2020-05-09 12:00:00	67.70	8.60	106.10
2020-05-10 12:00:00	68.50	8.40	104.80
2020-05-11 12:00:00	67.20	8.30	105.00
2020-05-12 12:00:00	68.30	8.40	104.40
2020-05-13 12:00:00	68.30	8.40	104.40
2020-05-14 12:00:00	61.80	8.00	106.30
2020-05-15 12:00:00	69.20	8.70	103.70
2020-05-16 12:00:00	69.50	8.80	103.30
2020-05-17 12:00:00	70.00	8.90	103.20
2020-05-18 12:00:00	70.30	9.00	103.30
2020-05-19 12:00:00	69.50	8.80	103.10
2020-05-20 12:00:00	69.50	8.80	102.60
2020-05-21 12:00:00	69.60	8.90	102.50
2020-05-22 12:00:00	69.20	8.80	102.20
2020-05-23 12:00:00	69.10	8.80	102.00
2020-05-24 12:00:00	69.30	8.80	101.90
2020-05-25 12:00:00	69.40	8.90	101.80
2020-05-26 12:00:00	68.80	8.80	101.50
2020-05-27 12:00:00	69.20	8.90	101.50
2020-05-28 12:00:00	69.20	8.90	101.40
2020-05-29 12:00:00	70.20	9.10	101.80
2020-05-30 12:00:00	71.40	9.40	102.10
2020-05-31 12:00:00	71.30	9.30	102.30
2020-06-01 12:00:00	70.60	9.20	102.10
Sums	2,131.30		
Averages	68.75	8.72	102.76

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-06-02 - To: 2020-07-01

Date	Gas	Diff	Line
2020-06-02 12:00:00	69.70	9.00	101.80
2020-06-03 12:00:00	68.20	8.60	101.30
2020-06-04 12:00:00	69.50	8.90	101.60
2020-06-05 12:00:00	70.30	9.10	101.80
2020-06-06 12:00:00	70.70	9.20	102.00
2020-06-07 12:00:00	71.60	9.40	102.20
2020-06-08 12:00:00	71.30	9.40	102.20
2020-06-09 12:00:00	69.80	9.00	101.80
2020-06-10 12:00:00	68.80	8.70	101.70
2020-06-11 12:00:00	69.10	8.80	102.10
2020-06-12 12:00:00	71.60	9.40	102.50
2020-06-13 12:00:00	72.10	9.50	102.70
2020-06-14 12:00:00	71.80	9.50	102.40
2020-06-15 12:00:00	91.70	16.70	104.90
2020-06-16 12:00:00	106.50	20.80	102.90
2020-06-17 12:00:00	65.80	9.90	108.30
2020-06-18 12:00:00	74.50	10.20	102.60
2020-06-19 12:00:00	74.40	10.20	102.40
2020-06-20 12:00:00	74.70	10.30	102.10
2020-06-21 12:00:00	72.60	9.70	101.90
2020-06-22 12:00:00	73.90	10.10	101.60
2020-06-23 12:00:00	74.60	10.30	101.40
2020-06-24 12:00:00	75.30	10.50	101.90
2020-06-25 12:00:00	75.80	10.60	101.90
2020-06-26 12:00:00	75.30	10.50	101.60
2020-06-27 12:00:00	74.60	10.30	101.20
2020-06-28 12:00:00	75.10	10.40	101.40
2020-06-29 12:00:00	75.20	10.50	101.40
2020-06-30 12:00:00	75.10	10.50	101.20
2020-07-01 12:00:00	75.00	10.40	101.50
Sums	2,224.60		
Averages	74.15	10.35	102.21

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-07-02 - To: 2020-08-01

Date	Gas	Diff	Line
2020-07-02 12:00:00	74.80	10.40	101.60
2020-07-03 12:00:00	75.20	10.50	101.50
2020-07-04 12:00:00	75.40	10.50	101.50
2020-07-05 12:00:00	75.70	10.60	101.50
2020-07-06 12:00:00	75.50	10.50	101.70
2020-07-07 12:00:00	75.10	10.50	101.30
2020-07-08 12:00:00	75.90	10.70	101.30
2020-07-09 12:00:00	75.70	10.60	101.30
2020-07-10 12:00:00	76.10	10.80	101.30
2020-07-11 12:00:00	76.40	10.80	101.40
2020-07-12 12:00:00	76.50	10.90	101.40
2020-07-13 12:00:00	76.60	10.90	101.40
2020-07-14 12:00:00	76.50	10.90	101.30
2020-07-15 12:00:00	75.90	10.70	101.10
2020-07-16 12:00:00	76.10	10.80	101.10
2020-07-17 12:00:00	76.30	10.80	101.10
2020-07-18 12:00:00	76.40	10.80	101.20
2020-07-19 12:00:00	75.40	10.60	101.10
2020-07-20 12:00:00	76.70	10.90	101.20
2020-07-21 12:00:00	77.40	11.10	101.50
2020-07-22 12:00:00	76.50	10.90	101.40
2020-07-23 12:00:00	77.00	11.00	101.60
2020-07-24 12:00:00	77.10	11.00	101.50
2020-07-25 12:00:00	76.40	10.80	101.00
2020-07-26 12:00:00	75.80	10.70	101.00
2020-07-27 12:00:00	76.00	10.80	100.90
2020-07-28 12:00:00	75.10	10.50	101.20
2020-07-29 12:00:00	77.40	11.10	101.10
2020-07-30 12:00:00	77.50	11.20	101.00
2020-07-31 12:00:00	77.30	11.10	101.10
2020-08-01 12:00:00	76.90	11.00	101.10
Sums	2,362.60		
Averages	76.21	10.79	101.28

Single Well Report For: Briley_31 - U-978S_Fuel - From: 2020-08-02 - To: 2020-09-01

Date	Gas	Diff	Line
2020-08-02 12:00:00	76.50	10.90	100.90
2020-08-03 12:00:00	76.90	11.00	101.20
2020-08-04 12:00:00	77.60	11.10	101.50
2020-08-05 12:00:00	77.10	11.00	101.40
2020-08-06 12:00:00	77.10	11.00	101.20
2020-08-07 12:00:00	76.60	10.90	100.90
2020-08-08 12:00:00	76.30	10.80	101.00
2020-08-09 12:00:00	76.40	10.90	101.00
2020-08-10 12:00:00	75.90	10.80	100.60
2020-08-11 12:00:00	76.10	10.80	100.80
2020-08-12 12:00:00	76.70	10.90	101.20
2020-08-13 12:00:00	76.80	11.00	101.20
2020-08-14 12:00:00	76.50	10.90	101.30
2020-08-15 12:00:00	76.20	10.80	101.10
2020-08-16 12:00:00	76.30	10.80	101.20
2020-08-17 12:00:00	76.60	10.90	101.50
2020-08-18 12:00:00	76.90	10.90	101.50
2020-08-19 12:00:00	77.20	11.00	101.50
2020-08-20 12:00:00	71.90	10.60	105.60
2020-08-21 12:00:00	76.50	10.80	102.20
2020-08-22 12:00:00	77.00	11.00	101.70
2020-08-23 12:00:00	76.90	11.00	101.20
2020-08-24 12:00:00	74.70	10.70	102.50
2020-08-25 12:00:00	77.30	11.10	101.60
2020-08-26 12:00:00	78.60	11.50	101.40
2020-08-27 12:00:00	77.60	11.20	101.20
2020-08-28 12:00:00	77.40	11.20	100.80
2020-08-29 12:00:00	77.10	11.10	100.50
2020-08-30-12:00:00	77.10	11.10	100.50
2020-09-01 12:00:00	74.60	10.60	103.00
Sums	2,296.40		
Averages	76.55	10.94	101.44

Air Use Permit Maintenance Log 09/2019-08/2020

Scheduled Services (Lube, Oil, Filters)

617-96 Service		619-96 Service		620-96 Service		622-96 Service	
Unit #	Date	Unit #	Date	Unit #	Date	Unit #	Date
978-S	11/12/2019	674-S	9/4/2019	1319-S	9/9/2019	1307 & 841-S	11/7/2019
978-S	2/11/2020	674-S	12/3/2019	1319-S	12/19/2019	1308 & 841-S	2/9/2020
978-S	5/13/2020	674-S	3/10/2020	1319-S	3/26/2020	1309 & 841-S	5/5/2020
978-S	8/19/2020	674-S	6/8/2020	1319-S	6/24/2020	1310 & 841-S	8/7/2020

Engine Repairs

Unit #	Date	Explanation of Repairs
978-S	9/30/2019	Replace engine oil cooler
978-S	10/2/2019	Flush coolant system
978-S	10/15/2019	Replace piston, liner, and #8 cylinder head
841-S	10/21/2019	Replace engine water pump
841-S	11/8/2019	Replace engine fuel regulator
978-S	11/14/2019	Replace engine water pump, repair throttle linkage, replace plugs
978-S	11/20/2019	Replace left side exhaust manifold
1319-S	12/20/2019	Replace engine oil pan gasket
1319-S	4/10/2020	Changed head, oil cooler, coolant, and engine oil
841-S	5/5/2020	Changed front and rear main engine bearing seals
841-S	5/12/2020	Changed head and cleaned turbo nozzles
841-S	5/18/2020	Changed out governor
1319-S	6/9/2020	Replace engine block freeze plug and check oil cooler-OK
1307	8/7/2020	Change our rear main engine bearing seal

NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed REPLACED ENG. OIL COOLER	WO 46808
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Customer DELTA	Unit # U 978-S	Location BRILEY 31	Date 9/30/2019
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Equipment	Eng. Hours 36875	Day Of Week MONDAY	Time In 10:00	Time Out 19:30	Total Billable Reg 10.5	Total Billable OT	NonBillable
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Eng. Model & Serial # CAT 379 TA 72B01257	Compressor Model & serial # LEROI SCREW-LGL30270VFEP G3 S#5610X49	Cylinder Sizes
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Water Temp In	Water Temp Out	RPM	Oil Temp	Fuel Press	Aux Water In	Aux Water Out	Vac. Left	Vac. Right
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Valve Adjust In./Exh.	Avg. Clear. Before Set	Type Of Oil	Timing	Amb. Temp	Sep. Press	Pre Cat	Post Cat
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Compression	LB	1	2	3	4	5	6	7	8	Suc Press	1st Int Press	2nd Int Press	3rd Int Press	Disc Press
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Readings	RB	1	2	3	4	5	6	7	8	1st temp	2nd Temp	3rd Temp	4th Temp	Oil Press	Oil Temp
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HRS.	PK	Eric	Service Unit	Check Cooler	Check Lube/Cycle time.
9.5	PK	✓	Oil Sample Eng./Frame	Test shutdowns	X Oil & A/F Levels -25
1	Eric	✓	Change Oil & Filters	Regap/Replace Spark plugs	Grease Bearings
			Adjust Valves/Bridges	Air Filter	Check packing
			Check Compression	Carb Linkage	Check Salt Filter Diff
			Check Hold Downs	Compressor Valves	Check Battery Level
			Check Fuel Press	Check O2 %	Check UNDER VOLTAGE
			Check Belts/Bearings	Check CO	Converter Maintenance
			Check Panel Wiring	Check NOX	Coalescer Differential
			Replace Pro Flo Batt		Alignment
			DUMPS		

MAINTENANCE PERFORMED

CALLED TO LOCATION BY PETE L. THAT PUMPER WAS SHUTTING DOWN UNIT. OIL OVERFLOWING OUT OF COOLANT DAY TANK. PETE CALLED ARCHROCK FOR PART. MEET ERIC W. FOR PART. AT LOCATION CHECKED OVER UNIT AND LAID DOWN OIL SOAKS ON SKID AND WIPE PIPES WERE I WAS GOING TO WORK. FOUND 2 EMPTY BARRELS. DRAINED COOLANT SYSTEM INTO BARRELS. DRAINED OIL COOLER. PULLED OFF OIL COOLER AND CLEANED UP EVERYTHING. INSTALLED NEW OIL COOLER AND GASKET AND ORINGS. FINISHED UP. CLEANED UP WHILE WAITING FOR STEAMER. HAD STEAMER CLEAN UP COOLER/FAN/BELT GUARD. HAD STEAMER FILL ENGINE WITH WATER. START UP AND LOAD UNIT. HOOKED UP HOSE OFF TOP OF DAY TANK. HAD STEAMER CLEAN UP REST OF UNIT. ADD WATER EVERY 15 MINUTES. SHUTDOWN AND DRAINED SYSTEM. REFILL SYSTEM AND PURGED SYSTEM. START UP AND LOAD UNIT. ADDED WATER A FEW TIMES TO PUMP OFF OIL OUT THE TOP OF TANK. HAD STEAMER FILL BARREL WITH WATER. LEFT WATER IN SYSTEM.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	OR 5540 OIL COOLER	CUST.			
1	109 2332 ORING	PK			
1	6L 1650 ORING	PK			
1	3P 0650 ORING	PK			
2	4F 7387 ORING	PK			
1	4L 8120 GASKET	PL			
1	10# RAGS	NS			
20	WHITE OIL SOAKS	NS			
3	ROLOC DISCS	NS			

Customer Signature _____

Mechanic PHILLIP KORFF



JS



pij

NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed REPLACED ENG. OIL COOLER		WO 46808
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Customer DELTA	Unit # U 978-S	Location BRILEY 31	Date 9/30/2019
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Equipment	Eng. Hours 36875	Day Of Week MONDAY	Time In 10:00	Time Out 19:30	Total Billable Reg 10.5	Total Billable OT	NonBillable
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Eng. Model & Serial # CAT 379 TA 72B01257	Compressor Model & serial # LEROI SCREW-LGL30270VFEP G3 S#5610X49	Cylinder Sizes
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Water Temp In	Water Temp Out	RPM	Oil Temp	Fuel Press	Aux Water In	Aux Water Out	Vac. Left	Vac. Right
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Valve Adjust In./Exh.	Avg. Clear. Before Set	Type Of Oil	Timing	Amb. Temp	Sep. Press	Pre Cat	Post Cat
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Compression	LB	1	2	3	4	5	6	7	8	Suc Press	1st Int Press	2nd Int Press	3rd Int Press	Disc Press
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Readings	RB	1	2	3	4	5	6	7	8	1st temp	2nd Temp	3rd Temp	4th Temp	Oil Press	Oil Temp
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HRS.	SERVICE CHECKLIST																																	
9.5 PK	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Service Unit</td> <td style="width: 20%;">Check Cooler</td> <td style="width: 50%;">Check Lube/Cycle time</td> </tr> <tr> <td>1 Eric</td> <td>Oil Sample Eng./Frame</td> <td>Test shutdowns <input checked="" type="checkbox"/> Oil & A/F Levels -25</td> </tr> <tr> <td></td> <td>Change Oil & Filters</td> <td>Regap/Replace Spark plugs Grease Bearings</td> </tr> <tr> <td></td> <td>Adjust Valves/Bridges</td> <td>Air Filter Check packing</td> </tr> <tr> <td></td> <td>Check Compression</td> <td>Carb Linkage Check Salt Filter Diff</td> </tr> <tr> <td></td> <td>Check Hold Downs</td> <td>Compressor Valves Check Battery Level</td> </tr> <tr> <td></td> <td>Check Fuel Press</td> <td>Check O2 % Check UNDER VOLTAGE</td> </tr> <tr> <td></td> <td>Check Belts/Bearings</td> <td>Check CO Converter Maintenance</td> </tr> <tr> <td></td> <td>Check Panel Wiring</td> <td>Check NOX Coalescer Differential</td> </tr> <tr> <td></td> <td>Replace Pro Flo Batt</td> <td>Alignment</td> </tr> <tr> <td></td> <td>DUMPS</td> <td></td> </tr> </table>	Service Unit	Check Cooler	Check Lube/Cycle time	1 Eric	Oil Sample Eng./Frame	Test shutdowns <input checked="" type="checkbox"/> Oil & A/F Levels -25		Change Oil & Filters	Regap/Replace Spark plugs Grease Bearings		Adjust Valves/Bridges	Air Filter Check packing		Check Compression	Carb Linkage Check Salt Filter Diff		Check Hold Downs	Compressor Valves Check Battery Level		Check Fuel Press	Check O2 % Check UNDER VOLTAGE		Check Belts/Bearings	Check CO Converter Maintenance		Check Panel Wiring	Check NOX Coalescer Differential		Replace Pro Flo Batt	Alignment		DUMPS	
Service Unit	Check Cooler	Check Lube/Cycle time																																
1 Eric	Oil Sample Eng./Frame	Test shutdowns <input checked="" type="checkbox"/> Oil & A/F Levels -25																																
	Change Oil & Filters	Regap/Replace Spark plugs Grease Bearings																																
	Adjust Valves/Bridges	Air Filter Check packing																																
	Check Compression	Carb Linkage Check Salt Filter Diff																																
	Check Hold Downs	Compressor Valves Check Battery Level																																
	Check Fuel Press	Check O2 % Check UNDER VOLTAGE																																
	Check Belts/Bearings	Check CO Converter Maintenance																																
	Check Panel Wiring	Check NOX Coalescer Differential																																
	Replace Pro Flo Batt	Alignment																																
	DUMPS																																	

MAINTENANCE PERFORMED

CALLED TO LOCATION BY PETE L. THAT PUMPER WAS SHUTTING DOWN UNIT. OIL OVERFLOWING OUT OF COOLANT DAY TANK. PETE CALLED ARCHROCK FOR PART. MEET ERIC W. FOR PART. AT LOCATION CHECKED OVER UNIT AND LAID DOWN OIL SOAKS ON SKID AND WIPE PIPES WERE I WAS GOING TO WORK. FOUND 2 EMPTY BARRELS. DRAINED COOLANT SYSTEM INTO BARRELS. DRAINED OIL COOLER. PULLED OFF OIL COOLER AND CLEANED UP EVERYTHING. INSTALLED NEW OIL COOLER AND GASKET AND ORINGS. FINISHED UP. CLEANED UP WHILE WAITING FOR STEAMER. HAD STEAMER CLEAN UP COOLER/FAN/BELT GUARD. HAD STEAMER FILL ENGINE WITH WATER. START UP AND LOAD UNIT. HOOKED UP HOSE OFF TOP OF DAY TANK. HAD STEAMER CLEAN UP REST OF UNIT. ADD WATER EVERY 15 MINUTES. SHUTDOWN AND DRAINED SYSTEM. REFILL SYSTEM AND PURGED SYSTEM. START UP AND LOAD UNIT. ADDED WATER A FEW TIMES TO PUMP OFF OIL OUT THE TOP OF TANK. HAD STEAMER FILL BARREL WITH WATER. LEFT WATER IN SYSTEM.

PARTS LIST					
QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	OR 5540 OIL COOLER	CUST.			
1	109 2332 ORING	PK			
1	6L 1650 ORING	PK			
1	3P 0650 ORING	PK			
2	4F 7387 ORING	PK			
1	4L 8120 GASKET	PL			
1	10# RAGS	NS			
20	WHITE OIL SOAKS	NS			
3	ROLOC DISCS	NS			

Customer Signature _____

Mechanic PHILLIP KORFF

ENTERED

NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed
FINISH COOLANT FLUSH

WO
46827

Customer **DELTA** Unit # **U 978-S** Location **BRILEY 31** Date **10/2/2019**

Equipment _____ Eng. Hours **52364** Day Of Week **WEDNESDAY** Time In **7:30** Time Out **10:30** Total Billable Reg **3** Total Billable OT _____ NonBillable _____

Eng. Model & Serial # **CAT 379 TA 72B01257** Compressor Model & serial # **LEROI SCREW-LGL30270VFEP G3 S#5610X49** Cylinder Sizes _____

Water Temp In **111** Water Temp Out **179** RPM **1108** : **63** Oil Temp **184** Fuel Press _____ Aux Water In _____ Aux Water Out _____ Vac. Left _____ Vac. Right _____

Valve Adjust In./Exh. _____ Avg. Clear. Before Set _____ Type Of Oil _____ Timing _____ Amb. Temp _____ Sep. Press _____ Pre Cat _____ Post Cat _____

Compression _____ LB 1 2 3 4 5 6 7 8 Suc Press **-17.5** 1st Int Press _____ 2nd Int Press _____ 3rd Int Press _____ Disc Press **37**

Readings _____ RB 1 2 3 4 5 6 7 8 1st temp **69** 2nd Temp **208** 3rd Temp _____ 4th Temp _____ Oil Press **13** Oil Temp **188**

HRS.	SERVICE CHECKLIST							
3	PK	Service Unit	Check Cooler	Check Lube/Cycle time				
		Oil Sample Eng./Frame	Test shutdowns	X	Oil & A/F Levels -25			
		Change Oil & Filters	Regap/Replace Spark plugs		Grease Bearings			
		Adjust Valves/Bridges	Air Filter		Check packing			
		Check Compression	Carb Linkage		Check Salt Filter Diff			
		Check Hold Downs	Compressor Valves		Check Battery Level			
		Check Fuel Press	Check O2 %		Check UNDER VOLTAGE			
		Check Belts/Bearings	Check CO		Converter Maintenance			
		Check Panel Wiring	Check NOX		Coalescer Differential			
		Replace Pro Flo Batt			Alignment			
		DUMPS						

MAINTENANCE PERFORMED

AT LOCATION CHECKED OVER UNIT AND HOOKED UP PUMP AND ADDED WATER AND PUMPED WATER OUT TOP OF DAY TANK INTO BUCKETS. ONCE SYSTEM WAS CLEAN. THEN SHUTDOWN AND DRAINED SYSTEM DOWN DUMP LINE. PUMPED NEW COOLANT INTO SYSTEM. PURGED SYSTEM, START UP AND LOAD UNIT. CLEANED UP AND DISCONNECTED HOSE AND HOOKED UP CAP AND DRAIN LINE. CHECKED OVER UNIT BEFORE LEAVING.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
110	Gallons coolant	CUST			

Customer Signature _____

Mechanic **PHILLIP KORFF**



NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed Cyl.Head Piston and Liner		Customer Delta						Unit # U978-s			Location Briley 31			WO 50 46843																	
Customer Delta		Unit # U978-s			Location Briley 31			Date 10/15/2019			Equipment		Eng. Hours		Day Of Week Tuesday		Time In 10:00		Time Out 22:30		Total Billable Reg 13.5		Total Billable OT 13		NonBillable						
Eng. Model & Serial # Cat 379 72B314				Compressor Model & serial # Leroy LGL3027ovfep 561ox49								Cylinder Sizes																			
Water Temp In 79		Water Temp Out 150		RPM 1109		Oil Press. 68		Oil Temp 135		Fuel Press		Aux Water In 74		Aux Water Out 74		Vac. Left 0		Vac. Right													
Valve Adjust In./Exh.		Avg. Clear. Before Set		Type Of Oil								Timing		Amb. Temp		Sep. Press		Pre Cat		Post Cat											
Compression		LB		1		2		3		4		5		6		7		8		Suc Press -17		1st Int Press		2nd Int Press		3rd Int Press		Disc Press 38			
Readings		RB		1		2		3		4		5		6		7		8		1st temp 83		2nd Temp		3rd Temp		4th Temp		Oil Press 13		Oil Temp 145	

HRS.	Technician	Time	Notes	SERVICE	Check Cooler	Check Lube/Cycle time
12.5	Chad Wright	10:00 - 22:30	5.5	Oil Sample Eng./Frame	Test shutdowns	Oil & A/F Levels -25
11.5	Jeff Butler	10:30 - 22:00	5	Change Oil & Filters	Regap/Replace Spark plugs	Grease Bearings
2.5	Peter Latuszek	18:00 - 20:30	2.5	Adjust Valves/Bridges	Air Filter	Check packing
				Check Compression	Carb Linkage	Check Salt Filter Diff
				Check Hold Downs	Compressor Valves	Check Battery Level
				Check Fuel Press	Check O2 %	Check UNDER VOLTAGE
				Check Belts/Bearings	Check CO	Converter Maintenance
				Check Panel Wiring	Check NOX	Coalescer Differential
				Replace Pro Flo Batt		Alignment
				DUMPS		

MAINTENANCE PERFORMED

Called to unit for suspected coolant getting into a cylinder I drove to location we shut unit down and pulled the spark plugs to find out what cylinder was filling up with coolant after letting it sit for a half hour we found that the coolant was leaking into the number 8 cylinder. We Drained the coolant part way down below the heads we then removed number 8 head. Upon inspection we could not find anything wrong with the head we then turned our attention to the liner where we then found pitting in the cylinder and coolant leaking from one of the spots. We then drained the rest of the coolant I drove to the shop for parts and liner tool drove back to location replaced the piston and liner and cylinder head filled engine up with coolant changed engine oil cleaned oil pan out installed new spark plugs started unit up checked for leaks everything looked good cleaned up skid and left location.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	OR3286 Piston and liner pack	CW			
1	OR2670-R Cyl.Head	CW			
1	399054CP Gasket Kit	CW			
8	RL85G Spark Plugs	CW			
10	07480 roloc disc	non stk.			
6	Brake clean	non stk.			
1	10# Rags	non stk.			
1	Aero-Kroil penetrating	non stk.			

Customer Signature Chad Wright Compression Unit # Briley 31 / Raymer Mechanic

Operations Project _____

AFE # _____ Acct # _____

Explanation: repair cylinder on

01-2785

ENTERED

Rob

54

NATURAL GAS COMPRESSION SYSTEMS
FIELD MAINTENANCE REPORT

Maintenance Performed: r & r water pump

Customer: DELTA Unit #: U841-S Location: AVERY 31 Date: 10/21/2019

Equipment: Eng. Hours: n/a Day Of Week: Monday Time In: 12:00 Time Out: 17:30 Total Billable Reg: 9.5 Total Billable OT: NonBillable

Eng. Model & Serial #: CAT379 72B237 Compressor Model & serial #: LGL30270V/FEP:5610X51 Cylinder Sizes: 16 3/4 11R 7R 4 1/4

Water Temp In: 140 Water Temp Out: 172 RPM: 1134 Oil Press: 47 Oil Temp: 175 Fuel Press: Aux Water In: Aux Water Out: Vac. Left: Vac. Right:

Valve Adjust In./Exh.: Avg. Clear: Before Set: Type Of Oil: CHEVRON SAE 40 Timing: Amb. Temp: 53 Sep. Press: Pre-Cat: Post-Cat:

Compression: LB 1 2 3 4 5 6 7 8 Suc. Press: -10 1st Int. Press: 2nd Int. Press: 3rd Int. Press: Disc Press: 15

Readings: RB 1 2 3 4 5 6 7 8 1st temp: 62 2nd Temp: 3rd Temp: 4th Temp: 154 Oil Press: 32 Oil Temp: 150

HRS.		SERVICE CHECKLIST																
5.5	jab	Service Unit	Check Cooler	Check Lube/Cycle time														
4	pjl	Oil Sample Eng./Frame	Test shutdowns	X Oil & A/F Levels -25														
		Change Oil & Filters	Regap/Replace Spark plugs	Grease Bearings														
		Adjust Valves/Bridges	Air Filter	Check packing														
		Check Compression	Carb Linkage	Check Salt Filter Diff														
		Check Hold Downs	Compressor Valves	Check Battery Level														
		Check Fuel Press	Check O2 %	Check UNDER VOLTAGE														
		Check Belts/Bearings	Check CO	Converter Maintenance														
		Check Panel Wiring	Check NOX	Coalescer Differential														
		Replace Pro Flo Batt		Alignment														

MAINTENANCE PERFORMED

call out by Bill for water pump leaking. Arrived at unit and water pump was leaking coolant out of a hole in the top of the water pump. Shut unit down and drained coolant. Removed and replaced water pump. Replaced all gaskets and orings on coolant bypass tube. Filled unit with coolant. started unit. checked for leaks. all pressure and temps normal.

PARTS LIST					
QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	OR-0803 water pump	jab	6	Roloc disc	n/s
1	5L-2660 bearing	jab	1	Black adhesive	n/s
1	8L-5197 gasket	jab	6	cans of break clean	n/s
1	4L-7885 gasket	jab	1	Black silicone	n/s
1	4L-7885 gasket	jab			
1	4L-8121 gasket	jab			
1	4L-5832 gasket	jab			
1	4L-3437 gasket	jab			
1	4L-8606 gasket	jab			
1	5H-6012 seal	jab			
2	6L-1650 oring	jab			

Customer Signature: _____ Mechanic: Jeff Butler



37



**NATURAL GAS COMPRESSION SYSTEMS
FIELD MAINTENANCE REPORT**

Maintenance Performed Fuel regulator		NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT						WO 46940							
Customer DELTA			Unit # U841-S			Location AVERY 31			Date 11/8/2019						
Equipment	Eng. Hours n/a	Day Of Week Friday		Time In 10:00	Time Out 12:30	Total Billable Reg 2.5	Total Billable OT	NonBillable							
Eng. Model & Serial # CAT379 72B237			Compressor Model & serial # Lerio LGL30270VFEP 5610X51			Cylinder Sizes									
Water Temp In 129	Water Temp Out 175	RPM 1170	Oil Press. 52	Oil Temp 180	Fuel Press 14	Aux Water In 71	Aux Water Out 76	Vac. Left	Vac. Right						
Valve Adjust In./Exh.	Avg. Clear. Before Set		Type Of Oil CHEVRON SAE 40			Timing 26	Amb. Temp. 13	Sep. Press	Pre Cat Post Cat						
Compression	LB	1	2	3	4	5	6	7	8	Suc Press -8	1st Int Press	2nd Int Press	3rd Int Press	Disc Press 12	
Readings	RB	1	2	3	4	5	6	7	8	1st temp 51 175	2nd Temp	3rd Temp	4th Temp	Oil Press 51	Oil Temp 175

HRS.	SERVICE CHECKLIST														
2.5	Peter	Service Unit				Check Cooler				Check Lube/Cycle time					
		Oil Sample Eng./Frame				Test shutdowns				Oil & A/F Levels -25					
		Change Oil & Filters				Regap/Replace Spark plugs				Grease Bearings					
		Adjust Valves/Bridges				Air Filter				Check packing					
		Check Compression				Carb Linkage				Check Salt Filter Diff					
		Check Hold Downs				Compressor Valves				Check Battery Level					
		Check Fuel Press				Check O2 %				Check UNDER VOLTAGE					
		Check Belts/Bearings				Check CO				Converter Maintenance					
		Check Panel Wiring				Check NOX				Coalescer Differential					
		Replace Pro Flo Batt								Alignment					

MAINTENANCE PERFORMED

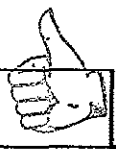
Callout by Kent, stated engine wouldn't start after the service and wanted the right fuel regulator replaced. At location, installed a new regulator. Started unit and checked the timing while warming up b/c Kent had replaced the magneto. Timing was too high. Shutdown and index the magneto. Restart unit and set timing to 26 BTDC. Engine was low on coolant fill engine with coolant.

PARTS LIST					
QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
15	Gallons coolant	customer			
1	S201 regulator	PL			

Customer Signature _____ Mechanic Peter Latuszek

ENTERED

Maintenance Performed
r & r water pump



NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

WO
46967

Customer **DELTA** Unit # **U978-S** Location **BRILEY 31** Date **11/14/2019**

Equipment Eng. Hours **53354** Day Of Week **Thursday** Time In **6:30** Time Out **15:00** Total Billable Reg **8.5** Total Billable OT NonBillable

Eng. Model & Serial # **CAT379 72B00314** Compressor Model & serial # **LEROI LGL30270VFEP/ 5610X49** Cylinder Sizes

Water Temp In **126** Water Temp Out **175** RPM **1131** Oil Press. **65** Oil Temp **175** Fuel Press Aux Water In Aux Water Out Vac. Left Vac. Right

Valve Adjust In./Exh. Avg. Clear. Before Set Type Of Oil **CHEVRON SAE 40** Timing Amb. Temp. **37** Sep. Press Pre Cat **954** Post Cat **1033**

Compression LB 1 2 3 4 5 6 7 8 Suc Press **-15** 1st Int Press 2nd Int Press 3rd Int Press Disc Press **46**

Readings RB 1 2 3 4 5 6 7 8 1st temp 2nd Temp 3rd Temp 4th Temp Oil Press **14** Oil Temp **200**

HRS.	Job	Service Unit	Check Cooler	Check Lube/Cycle time
8.5	jab	Oil Sample Eng./Frame	Test shutdowns	X Oil & A/F Levels -25
		Change Oil & Filters	Regap/Replace Spark plugs	Grease Bearings
		Adjust Valves/Bridges	Air Filter	Check packing
		Check Compression	Carb Linkage	Check Salt Filter Diff
		Check Hold Downs	Compressor Valves	Check Battery Level
		Check Fuel Press	Check O2 %	Check UNDER VOLTAGE
		Check Belts/Bearings	Check CO	Converter Maintenance
		Check Panel Wiring	Check NOX	Coalescer Differential
		Replace Pro Flo Batt		Alignment

MAINTENANCE PERFORMED

call out by Pat for water pump leaking. Arrived at unit and unit was down. drained coolant. Removed and replaced water pump. Filled unit with new coolant. found throttle linkage bolt missing. Found bolt and nut and put back on. started unit and unit would barely run. checked fuel. checked timing. checked spark on all spark plugs and left bank plugs weren't firing. shut unit down and replaced left bank spark plugs. started unit. checked for leaks. let unit warm up and loaded. all pressure and temps normal.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	OR-0803 water pump	jab			
1	5L-2660 bearing	jab	3	6L-9284 oring	ATL -jab-
1	8L-5197 gasket	jab	3	6L-1651 oring	ATL -jab-
2	4L-7885 gasket	jab	2	barrels coolant	customer
2	9M-4218 o-ring	ATL jab	4	RL85G spark plug (customer supplied)	customer
1	4L-8121 gasket	jab	1	box of rags	n/s
1	4L-5832 gasket	jab	1	bag of gray soaks	n/s
1	4L-3437 gasket	jab	6	cans of break clean	n/s
1	4L-8606 gasket	jab	4	roloc disc	n/s
2	5H-6012 seal	jab			
2	6L-1650 oring	jab			

Customer Signature _____

Mechanic Jeff Butler

ENTERED

37

**NATURAL GAS COMPRESSION SYSTEMS
FIELD MAINTENANCE REPORT**

Maintenance Performed: left exhaust manifold
 Customer: Delta
 Unit #: U978-S
 Location: Briley 31
 WO: 46986
 Date: 11/20/2019

Equipment: eng hours
 Day Of Week: Wednesday
 Time In: 7:00
 Time Out: 13:30
 Total Billable Reg: 19.5
 Total Billable OT: NonBillable

Eng. Model & Serial #: 379TA 72B00314
 Compressor Model & serial #: LGL 30270VFEP 5610X49
 Cylinder Sizes:

Water Temp In: 114
 Water Temp Out: 188
 RPM: 1130
 Oil Press.: 62
 Oil Temp: 190
 Fuel Press:
 Aux Water In: 53
 Aux Water Out: 58
 Manifold psi left: 2.5#
 Manifold psi right: 2.5#

Valve Adjust In./Exh.: Avg. Clear. Before Set
 Type Of Oil: chevron
 Timing: 27 ACT
 DES.
 Amb. Temp: 35
 Sep. Press: Pre Cat 1030
 Post Cat 949

Compression	LB	1	2	3	4	5	6	7	8	Suc Press -18	1st Int Press	2nd Int Press	3rd Int Press	Disc Press 35
Readings	RB	1	2	3	4	5	6	7	8	1st temp 58 205	2nd Temp	3rd Temp	4th Temp	Oil Press 12 Oil Temp 200

HRS.	HOURS DETAIL	TECHNICIAN	SERVICE CHECKLIST		
6.5	/	Peter	Service Unit	Check Cooler	Check Lube/Cycle time
7	/	Kyle	Oil Sample Eng./Frame	Test shutdowns	Oil & A/F Levels -25
6	/	Phil	Change Oil & Filters	Regap/Replace Spark plugs	Grease Bearings
			Adjust Valves/Bridges	Air Filter	Check packing
			Check Compression	Carb Linkage	Check Salt Filter Diff
			Check Hold Downs	Compressor Valves	Check Battery Level
			Check Fuel Press	Check O2 %	Check Dumps
			Check Belts/Bearings	Check CO	Converter Maintenance
			Check Panel Wiring	Check NOX	Coalescer Differential
			Replace Pro Flo Batt		

MAINTENANCE PERFORMED

At location to replace the left exhaust manifold. Manifold has internal crack.
 Shutdown and drain the coolant. Remove left exhaust manifold. Clean all mating surfaces and install new manifold. Replace all related gaskets and o-rings.
 Refill engine with coolant and restart unit. Put unit back online.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	4L-9151 Exhaust manifold- Marine exhaust	po#47246			
2	5L-8817 gasket	PL			
4	4H-5952 gasket (4 FDSOI)	PL			
1	4L-7907 gasket PK	PL			
1	7M-7273 gasket	PK			
4	2N-3238 gasket	n/s			
1	4L-8128 gasket	PL			
1	9M-4217 o-ring	KP			
1	10# Rags	n/s			
6	Brake clean	n/s			
1	Bolts (Atlanta Hardware)	N/S			

Mechanic: Peter J Latuszek

ENTERED

33



pjl

Maintenance Performed FIX ENGINE OIL PAN LEAK	NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT	WO 47132
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Customer DELTA	Unit # U 1319-S	Location BRILEY 19	Date 12/20/2019
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Equipment	Eng. Hours 31282	Day Of Week FRIDAY	Time In 6:00	Time Out 12:00	Total Billable Reg 10	Total Billable OT	NonBillable
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Eng. Model & Serial # CAT 3406 TA 4FD01614	Compressor Model & serial # LEROI A219-232-6 G3 S#5265X231	Cylinder Sizes SCREW
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Water Temp In 122	Water Temp Out 180	RPM 1664	Oil Press. 78	Oil Temp 172	Fuel Press	Aux Water In	Aux Water Out	Vac. Left 5	Vac. Right
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Valve Adjust In./Exh.	Avg. Clear. Before Set	Type Of Oil	Timing	Amb. Temp 20	Sep. Press	Pre Cat	Post Cat
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Compression	LB	1	2	3	4	5	6	7	8	Suc Press -10	1st Int Press	2nd Int Press	3rd Int Press	Disc Press 74
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Readings	RB	1	2	3	4	5	6	7	8	1st temp 48 193	2nd Temp	3rd Temp	4th Temp	Oil Press 50	Oil Temp 184
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HRS.	SERVICE CHECKLIST
6 PK	Service Unit
4 PL	Oil Sample Eng./Frame
	Change Oil & Filters
	Adjust Valves/Bridges
	Check Compression
	Check Hold Downs
	Check Fuel Press
	Check Belts/Bearings
	Check Panel Wiring
	Replace Pro Flo Batt
	DUMP
	Check Cooler
	Test shutdowns
	Regap/Replace Spark plugs
	Air Filter
	Carb Linkage
	Compressor Valves
	Check O2 %
	Check CO
	Check NOX
	Check Lube/Cycle time
	Oil & A/F Levels -25
	Grease Bearings
	Check packing
	Check Salt Filter Diff
	Check Battery Level
	Check UNDER VOLTAGE
	Converter Maintenance
	Coalescer Differential
	Alignment

MAINTENANCE PERFORMED

WENT TO SHOP FOR PARTS. AT LOCATION CHECKED OVER UNIT BEFORE SHUTTING DOWN. DRAINED OIL FROM ENGINE AND PULLED CAT WALK AND PIPES OUT OF THE WAY. PULLED OFF ENGINE OIL PAN. CLEANED UP EVERYTHING AND INSTALL NEW GASKET. INSTALL OIL PAN BACK ONTO ENGINE. PUT PIPING BACK TOGETHER AND CAT WALK BACK IN PLACE. FINISHED UP AND START UP AND LOAD UNIT. CLEANED UP AND CHECKED OVER UNIT BEFORE LEAVING.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	4N 1151 GASKET KIT	PK			
6	CANS BRAKE CLEANER	NS			
1	BLACK SILICONE GASKET MAKER	NS			
20	WHITE OIL SOAKS	NS			
1	10# RAGS	NS			
4	ROLOC DISC	NS			

Customer Signature _____

Mechanic PHILLIP KORFF

POSTED

NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed head change		NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT						WO 47517							
Customer DELTA			Unit # U1319-S		Location BRILEY 19			Date 4/10/2020							
Equipment	Eng. Hours 33928	Day Of Week Friday	Time In 6:30	Time Out 16:00	Total Billable Reg 19	Total Billable OT	NonBillable								
Eng. Model & Serial # 3406 4FD01614			Compressor Model & serial # LEROI 5265X231			Cylinder Sizes									
Water Temp In 127	Water Temp Out 188	RPM 1691	Oil Press. 78	Oil Temp 203	Fuel Press	Aux Water In 75	Aux Water Out 79	Vac. Left	Vac. Right						
Valve Adjust In./Exh.	Avg. Clear. Before Set	Type Of Oil chevron			Timing	Amb. Temp. 34	Sep. Press	Pre Cat	Post Cat						
Compression	LB	1	2	3	4	5	6	7	8	Suc Press -17	1st Int Press	2nd Int Press	3rd Int Press	Disc Press 29	
Readings	RB	1	2	3	4	5	6	7	8	1st temp 58	2nd Temp	3rd Temp	4th Temp 210	Oil Press 50	Oil Temp 175

HRS.		SERVICE CHECKLIST													
9.5	jab	Service Unit				Check Cooler				Check Lube/Cycle time					
9.5	PK	Oil Sample Eng./Frame				Test shutdowns				Oil & A/F Levels -25					
		Change Oil & Filters				Regap/Replace Spark plugs				Grease Bearings					
		Adjust Valves/Bridges				Air Filter				Check packing					
		Check Compression				Carb Linkage				Check Salt Filter Diff					
		Check Hold Downs				Compressor Valves				Check Battery Level					
		Check Fuel Press				Check O2 %				Check UNDER VOLTAGE					
		Check Belts/Bearings				Check CO				Converter Maintenance					
		Check Panel Wiring				Check NOX				Coalescer Differential					
		Replace Pro Flo Batt								Alignment					

MAINTENANCE PERFORMED

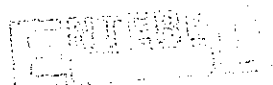
unit is scheduled for a head change. Arrived at unit. Drained coolant and engine oil. coolant was black. told Kent and he said he would get new coolant. Removed engine head. Cleaned engine deck. Installed new head. adjusted valves/bridges. removed and replaced oil filter, installed new spark plugs. removed oil cooler and inspected. oil cooler was clogged. drove to shop and picked up a new one. installed new oil cooler. removed sight glass and petcock and tube on coolant tank and cleaned. reinstalled sight glass and petcock. refilled unit with new coolant and oil. started unit. let unit warm up and loaded. all pressure and temps normal.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	20R-0827 head	jab			
1	7X-7657 gasket kit	jab			
1	OR5511 oil cooler	jab			
1	6V-1185 gasket kit (459978)	jab			
6	RN79G spark plug	customer			
6	7E-0079 seal	customer			
1	1R-0716 oil filter	customer			
1	box of rags	n/s			
1	bag gray oil soaks	n/s			
12	break clean	n/s			
12	roloc disc's	n/s			

Customer Signature _____

Mechanic Jeff Butler



Maintenance Performed front/rear seal		NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT						WO 47577							
Customer Delta		Unit # U841-S		Location Avery 31 booster			Date 5/5/2020								
Equipment screw		Eng. Hours 50093		Day Of Week Tuesday		Time In 7:00	Time Out 15:00	Total Billable Reg 23.5	Total Billable OT	NonBillable					
Eng. Model & Serial # CAT 379TA 72B0237				Compressor Model & serial # Lerio LGL30270YFEP 5610X51				Cylinder Sizes							
Water Temp In 137	Water Temp Out 170	RPM 1183	Oil Press. 47	Oil Temp 182	Fuel Press 26	Aux Water In	Aux Water Out	Vac. Left		Vac. Right					
Valve Adjust In./Exh.		Avg. Clear. Before Set		Type Of Oil Chevron Hdax Low Ash				Timing		Amb. Temp. 51	Sep. Press	Pre Cat	Post Cat		
Compression	LB	1	2	3	4	5	6	7	8	Suc Press -15	1st Int Press	2nd Int Press	3rd Int Press	Disc Press 10	
Readings	RB	1	2	3	4	5	6	7	8	1st temp 60	2nd Temp 201	3rd Temp	4th Temp	Oil Press 30	Oil Temp 176

HRS.		SERVICE CHECKLIST													
8	KP	Service Unit				Check Cooler				Check Lube/Cycle time					
9	PJL	Oil Sample Eng./Frame				Test shutdowns				Oil & A/F Levels -25					
6.5	CW	Change Oil & Filters				Regap/Replace Spark plugs				Grease Bearings					
		Adjust Valves/Bridges				Air Filter				Check packing					
		Check Compression				Carb Linkage				Check Salt Filter Diff					
		Check Hold Downs				Compressor Valves				Check Battery Level					
		Check Fuel Press				Check O2 %				Check UNDER VOLTAGE					
		Check Belts/Bearings				Check CO				Converter Maintenance					
		Check Panel Wiring				Check NOX				Coalescer Differential					
		Replace Pro Flo Batt								Alignment					

MAINTENANCE PERFORMED

Checked unit over good. Shut unit down. Blew unit down. Was there to change front and rear seal. Drain compressor oil down, shut oil valve off for compressor. Removed inlet and outlet pipe to compressor. Unhook all lines connecting to compressor. Unbolt compressor from engine and skid stand. Pull compressor out using boom truck. Changed coupling on compressor. Removed flywheel. Removed adapter and old seal. Cleaned up and installed new adapter and seal. Reinstalled flywheel and torque flywheel bolts. Reinstalled compressor and shimed mounts. Changed gasket on main inlet pipes. Also change seals on compressor oil pipes. Hooked up all piping and lines. Refilled with compressor oil. Removed fan guard. Removed belts and pulleys. Removed damper. Removed adapter and old seal. Installed new front seal. Reinstalled damper. Reinstalled pulley and belts. Reinstalled fan guard. Installed 4 new compressor filters. Fired unit back up. Checked unit over good. Everything looked good. Unit was than put back on line.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	4W-2606 front seal	KP	1	8T coupling	customer
1	4W-2607 rear seal	KP	2	.020 B-Type shims	n/s
1	2445-0490 garlock gasket	KP			
4	008-8000 2in dresser sleeves	KP			
4	B99 filters	KP			
12	cans of brake clean	N/S			
10	roltec disc	N/S			
2	scotch brit pads	N/S			
1	4W-2566 adapter	PJL			
1	4W-2567 adapter	PJL			
2	5L-2093 gaskets	PJL			

Customer Signature _____

Mechanic Kyle Purvis

MAY 27 ENT'D

**NATURAL GAS COMPRESSION SYSTEMS
FIELD MAINTENANCE REPORT**

Maintenance Performed Changed #1 #3 Cylinder Head		Unit # U841-s						Location Avery 31 Booster				WO 47594																			
Customer Delta		Eng. Hours 50261		Day Of Week Tuesday		Time In 9:00		Time Out 18:30		Total Billable Reg 15.5		Total Billable OT NonBillable																			
Date 5/12/2020		Compressor Model & serial # Leroi Igl30270vfep63 5610x51				Cylinder Sizes																									
Eng. Model & Serial # Cat 379 72B237		Water Temp In 142		Water Temp Out 190		RPM 1170		Oil Press. 60		Oil Temp 180		Fuel Press Aux Water In Aux Water Out		Vac. Left 0		Vac. Right															
Valve Adjust In./Exh.		Avg. Clear. Before Set		Type Of Oil				Timing		Amb. Temp		Sep. Press		Pre Cat		Post Cat															
Compression		LB		1		2		3		4		5		6		7		8		Suc Press -14		1st Int Press		2nd Int Press		3rd Int Press		Disc Press 10			
Readings		RB		1		2		3		4		5		6		7		8		1st temp 58		2nd Temp		3rd Temp		4th Temp 195		Oil Press 25		Oil Temp 148	

HRS.		SERVICE CHECKLIST															
9.5		Chad Wright ✓				SERVICE				Check Cooler				Check Lube/Cycle time			
6		Kyle Purvis ✓				Oil Sample Eng./Frame				Test shutdowns				Oil & A/F Levels -25			
						Change Oil & Filters				Regap/Replace Spark plugs				Grease Bearings			
						Adjust Valves/Bridges				Air Filter				Check packing			
						Check Compression				Carb Linkage				Check Salt Filter Diff			
						Check Hold Downs				Compressor Valves				Check Battery Level			
						Check Fuel Press				Check O2 %				Check UNDER VOLTAGE			
						Check Belts/Bearings				Check CO				Converter Maintenance			
						Check Panel Wiring				Check NOX				Coalescer Differential			
						Replace Pro Flo Batt								Alignment			
						DUMPS											

MAINTENANCE PERFORMED

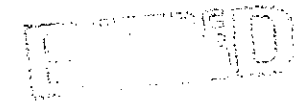
Called to unit for coolant leak. Drove to location and found the coolant was leaking from under number 1 Cylinder head. Drained coolant from engine and drove to the shop to get parts to change head. Drove back to location and started removing head, after removing head we discovered that the head burnt a exhaust valve cleaned up and installed new head. Filled back up with coolant and started unit up. When we tried loading unit the engine started detonating we shut unit back down, removed turbo nozzles and cleaned them reassembled. Started unit back up and loaded and was running good cleaned up skid and left location.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	OR-2670 Cylinder Head (NG657)	CW	6	Brake clean	n/s
1	399054cp Gasket Kit	CW	8	Roloc disc	n/s
2	NK1000063C400 Seals	CW	4	07447 scotch pads	n/s
1	9M-4217 O-ring	CW			
2	6L-1650 O-ring	CW			
1	9M-4849 O-ring	KP			
1	1S-6595 Gasket	KP			
1	1S-4810 Gasket	KP			
5	RL85G Spark plug	KP			
1	1S-6595 Gasket	N/S CW			
1	1S-4810 Gasket	N/S CW			

Customer Signature _____

Mechanic Chad Wright



NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed
CHANGED ENGINE GOVERNOR

WO
47620

Customer **DELTA** Unit # **U841-S** Location **AVERY 24** Date **5/18/2020**

Equipment _____ Eng. Hours **50392** Day Of Week **MONDAY** Time In **10:30** Time Out **14:00** Total Billable Reg **3.5** Total Billable OT _____ NonBillable _____

Eng. Model & Serial # **CAT 379 TA 72B237** Compressor Model & serial # **LEROI LGL30270VFEP G3 S# 5610X51** Cylinder Sizes **SCREW**

Water Temp In **139** Water Temp Out **160** RPM **1015** Oil Press. **32** Oil Temp **183** Fuel Press **30** Aux Water In _____ Aux Water Out _____ Vac. Left _____ Vac. Right _____

Valve Adjust In./Exh. _____ Avg. Clear. Before Set _____ Type Of Oil _____ Timing _____ Amb. Temp _____ Sep. Press _____ Pre Cat _____ Post Cat _____

Compression **LB** 1 2 3 4 5 6 7 8 Suc Press **-13** 1st Int Press _____ 2nd Int Press _____ 3rd Int Press _____ Disc Press **9**

Readings **RB** 1 2 3 4 5 6 7 8 1st temp **64** 171 2nd Temp _____ 3rd Temp _____ 4th Temp _____ Oil Press **31** Oil Temp **180**

HRS.		SERVICE CHECKLIST											
3.5	PK	Service Unit				Check Cooler				Check Lube/Cycle time			
		Oil Sample Eng./Frame				Test shutdowns				X Oil & A/F Levels -25			
		Change Oil & Filters				Regap/Replace Spark plugs				Grease Bearings			
		Adjust Valves/Bridges				Air Filter				Check packing			
		Check Compression				Carb Linkage				Check Salt Filter Diff			
		Check Hold Downs				Compressor Valves				Check Battery Level			
		Check Fuel Press				Check O2 %				Check UNDER VOLTAGE			
		Check Belts/Bearings				Check CO				Converter Maintenance			
		Check Panel Wiring				Check NOX				Coalescer Differential			
		Replace Pro Flo Batt								Alignment			
		DUMPS											

MAINTENANCE PERFORMED

CALLLED TO LOCATION BY OPERATOR THAT ENGINE SURGING. WENT TO SHOP FOR PARTS. AT LOCATION CHECKED OVER UNIT. ENGINE SPEED WAS 1015. COULD NOT SPEED UP OR SLOW DOWN. EVERYTHING WAS BOUND. DISCONNECT LINKAGE AND PROBLEM WAS IN THE GOVERNOR. SLOW DOWN OTHER UNIT. SHUTDOWN UNIT AND PULL OFF GOVERNOR. INSTALL NEW GOVERNOR. START UP UNIT AND COULD NOT SPEED UP. CHECKED LINKAGES AND PULLED OFF TOP ON GOVERNOR. ADJUSTED OVERSPEED. SPEED UP AND LOAD UNIT. SET OVERSPEED AND SET RPMS AT 1180. CHECKED OVER UNIT BEFORE LEAVING. CALLED BACK THAT ENGINE WAS SURGING. AT LOCATION CHECKED OVER ENGINE. SHUTDOWN AND SHIM RELIEF. START UP AND LOAD UNIT. ADJUSTED FUEL. CHECKED OVER UNIT BEFORE LEAVING.

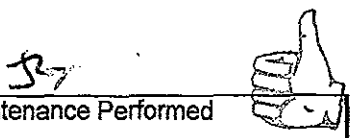
PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	3N 4077 GOVERNOR	GAY			
1	7L 8682 GASKET	PK			

Customer Signature _____

Mechanic **PHILLIP KORFF**





NATURAL GAS COMPRESSION SYSTEMS FIELD MAINTENANCE REPORT

Maintenance Performed Coolant Leak repair	WO	47691
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Customer Delta	Unit # U-1319-S	Location Briley 19	Date 6/9/2020
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Equipment	Eng. Hours 35355	Day Of Week Tuesday	Time In 13:30	Time Out 19:00	Total Billable Reg 6.5	Total Billable OT 3	NonBillable
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Eng. Model & Serial # Cat 3406 4FD01514	Compressor Model & serial # Leroi A219-232-6 5265x231	Cylinder Sizes
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Water Temp In 146	Water Temp Out 190	RPM 1583	Oil Press. 75	Oil Temp 173	Fuel Press	Aux Water In	Aux Water Out 102	Vac. Left 7	Vac. Right
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Valve Adjust In./Exh.	Avg. Clear.	Before Set	Type Of Oil				Timing	Amb. Temp	Sep. Press	Pre Cat	Post Cat
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Compression	LB	1	2	3	4	5	6	7	8	Suc Press 0	1st Int Press	2nd Int Press	3rd Int Press	Disc Press 54
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Readings	RB	1	2	3	4	5	6	7	8	1st temp 88	2nd Temp	3rd Temp	4th Temp 195	Oil Press	Oil Temp
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HRS.	SERVICE CHECKLIST																
5.5	Chad Wright	13:30 - 19:00	SERVICE								Check Cooler			Check Lube/Cycle time			
4	Pete Latuszek	14:00 - 18:00	Oil Sample Eng./Frame								Test shutdowns			Oil & A/F Levels -25			
			Change Oil & Filters								Regap/Replace Spark plugs			Grease Bearings			
			Adjust Valves/Bridges								Air Filter			Check packing			
			Check Compression								Carb Linkage			Check Salt Filter Diff			
			Check Hold Downs								Compressor Valves			Check Battery Level			
			Check Fuel Press								Check O2 %			Check UNDER VOLTAGE			
			Check Belts/Bearings								Check CO			Converter Maintenance			
			Check Panel Wiring								Check NOX			Coalescer Differential			
			Replace Pro Flo Batt											Alignment			
			DUMPS														

MAINTENANCE PERFORMED

Called to unit for coolant leak one of the freeze plugs in the hot housing popped out. Drove to shop and picked up parts, drove to location made sure all the coolant was out then started removing the hot housing we were going to replace with a new hot housing but we did not have the old style housing so we installed a new freeze plug in the old hot housing and reassembled Also checked the oil cooler to make sure it was not plugged causing the freeze plug to pop out but oil cooler was not plugged reassembled that. Filled engine back up with coolant and started up checked for leaks cleaned up and left location.

PARTS LIST

QTY	PART#/DESCRIPTION	INV. LOC.	QTY	PART#/DESCRIPTION	INV. LOC.
1	4N0932 Freeze plug	PL			

Customer Signature _____

Mechanic Chad Wright

