

SATURN ENGINE PERFORMANCE - CERTIFIED TEST REPORT**CUSTOMER NAME:** Advanced Clean Energy LLC**GAS PRODUCER PART. NO.** T1201**GAS PRODUCER S.N.:** 0**COLLECTOR ASSY.:** N/A**DATE OF TEST:** 2/25/2021**G.T.A WORK ORDER:** 20-1137**ALL DATA IS CORRECTED TO AN 80 DEG. F DAY, SEA LEVEL,
AND NO INLET OR EXHAUST DUCT LOSSES.****SPEED**

CORRECTED GAS PRODUCER SPEED - RPM	22300 (+/- 50)	22300
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HORSEPOWER

CORRECTED SHAFT HORSEPOWER	1107 MINIMUM	1189
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TEMPERATURE

CORRECTED EXHAUST TEMP. / T7 - DEG. F	MAXIMUM 890	854
CORRECTED T.I.T / T3 WORK - DEG. F	1425 - 1480	1466

PRESSURE

CORRECTED MASS AIR FLOW - P.P.S.	13.2 - 14.0	13.44
P2/P1 PRESSURE RATIO	5.5 - 6.5	6.08
OIL TANK VENT PRESSURE - "H2O	2.0 MAXIMUM	1.3

TEST CELL TECHNICIAN:

TEST CELL INSPECTOR:

TEST SUPERVISOR:

SATURN TEST CELL PERFORMANCE - INPUT DATA

T-1020 / T-1201 SINGLE SHAFT

CUSTOMER: DATE:

G.T.A. WORK ORDER: TEST NO.:

GAS PRODUCER P.N.: S.N.:

COLLECTOR ASSY.: S.N.:

Accessory Drive P.N.: S.N.:

COMPRESSOR AIR INLET TEMPERATURE	DEG. F	56
GAS PRODUCER SPEED	R.P.M.	21799
BAROMETRIC PRESSURE	"Hg	30.24
AIR INLET DIFFERENTIAL PRESSURE	"H2O	8.2
EXHAUST DIFFERENTIAL BACK PRESSURE	"H2O	0.5
COMPRESSOR DISCHARGE PRESSURE / PCD	P.S.I.	70.0
VENTURI AIR DIFFERENTIAL PRESSURE	"H2O	25.2
AVG. MEASURED EXHAUST TEMP. / T-7	DEG. F	796
FORCE ON DYNO LOAD CELL	FT. LBS.	259
DYNAMOMETER SPEED	R.P.M.	21799

MAXIMUM OIL TANK VENT PRESSURE "H2O

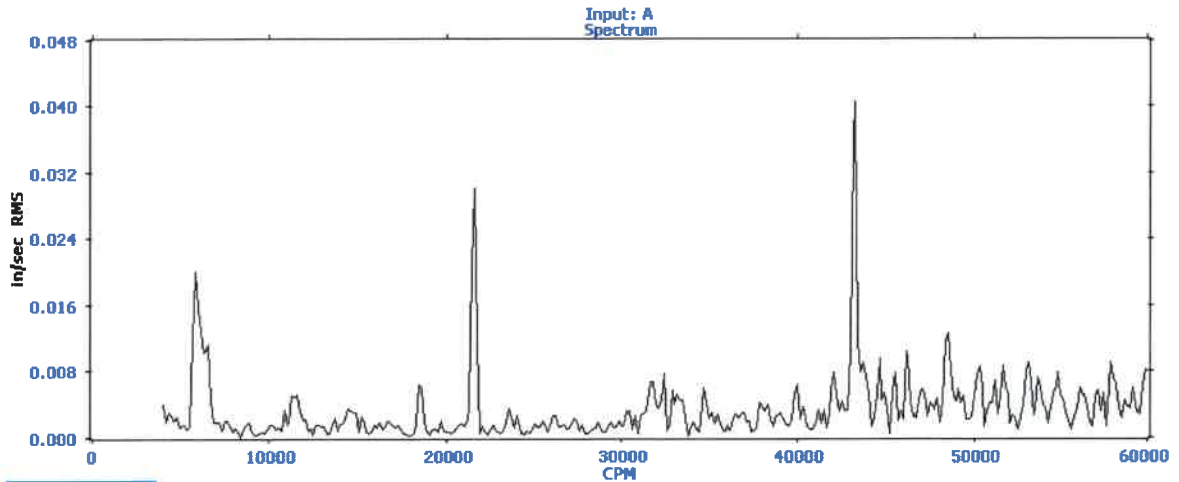
SATURN TEST CELL PERFORMANCE - CALCULATION RESULTS

COMPRESSOR AIR INLET TEMP. - RANKIN	DEG. R	515.7
BAROMETRIC PRESSURE - (CORR) - P1	"Hg	28.89
VENTURI AIR FLOW / Wa	P.P.S.	13.42
CORRECTED VENTURI AIR FLOW / Wa	P.P.S.	13.44
PRESSURE CORRECTION FACTOR - ALTITUDE	δ	0.9656
THETA CORRECTION (80 DEG. DAY)	Θ	0.95553
SQ. RT. THETA CORRECTION	SQRT.	0.97751
COMPRESSOR PRESSURE RATIO - P2/P1	Rc	6.08
CORRECTED GAS PRODUCER SPEED	R.P.M.	22300
CORRECTED GAS PRODUCER SPEED	PERCENT	100.00%
CORRECTED EXHAUST TEMPERATURE / T-7	DEG. F	854
TURBINE INLET TEMP. CALCULATED - / T-3	DEG. F	1380
TURBINE INLET TEMP. CORRECTED / T3W	DEG. F	1466
DYNAMOMETER TORQUE	IN. LBS.	3108
HORSEPOWER INTO DYNAMOMETER	H.P.	1074.99
HORSEPOWER AT POWER TURBINE	H.P.	1138.86
CALCULATED DUCT LOSSES	H.P.	49.86
CORRECTED HORSEPOWER	H.P.	1189
POWER VS MINIMUM REQUIRED	H.P.	82
Wa - "E"	0.99996	
Wa - "CV"	0.9387229	DELTA P.V. - 0.9104
Wa - "1"	85.730566	BARO. - PSI 14.8572
Wa - "2"	0.9665026	
Wa - "3"	0.1619453	

Analyze Plot
05 SAT-3V

SAT TEST

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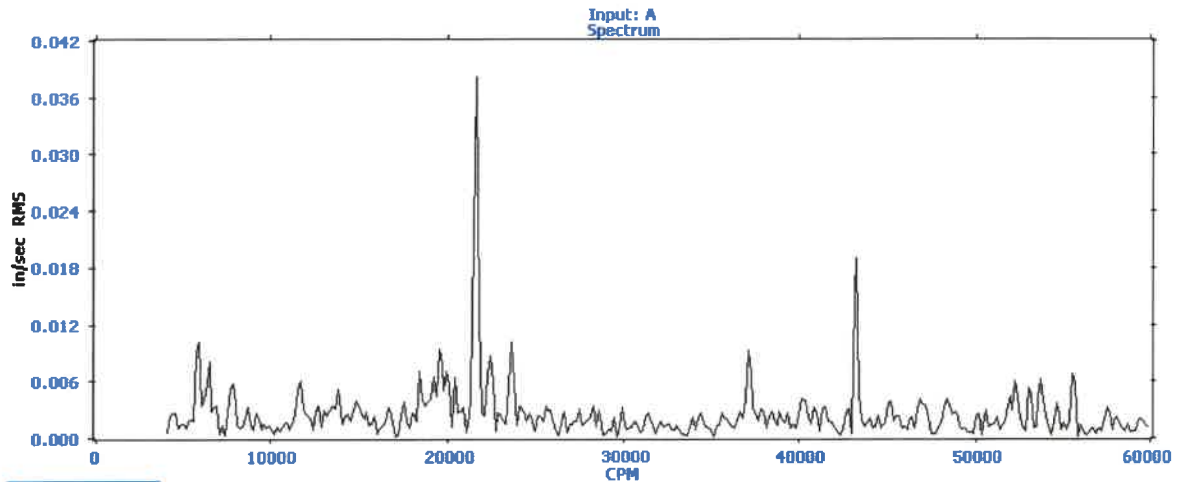
Overall: 0.08397

Frequency Data		Frequency Data		Frequency Data		Frequency Data	
1494.3	0.01428	2947.7	0.00761	5896.8	0.02129	6531.8	0.01291
21567.8	0.03093	31726.3	0.00786	32384.9	0.00783	41961.1	0.00829
43138.3	0.04515	43591.0	0.01005	44538.8	0.00961	45413.5	0.00814
46116.6	0.01192	48383.3	0.01427	50188.0	0.00957	51633.1	0.00908
53037.8	0.01009	53755.6	0.00783	54854.1	0.00831	57949.9	0.00981

Analyze Plot
01 SAT-1V

SAT TEST

Acquired: 02/25/21 12:43 PM

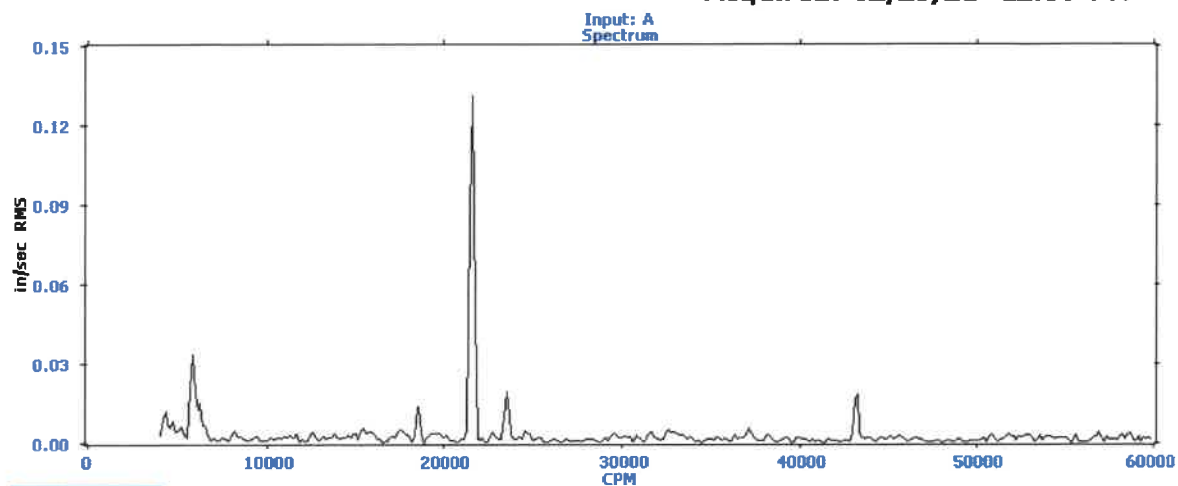


Frequency Data		Frequency Data		Frequency Data		Frequency Data	
1546.6	0.02277	2003.3	0.0113	2656.5	0.01125	3798.1	0.00741
5788.1	0.01127	6411.8	0.00848	7733.3	0.00651	11640.9	0.00664
18465.0	0.00711	19232.2	0.00662	19554.5	0.01024	19998.8	0.00752
20412.4	0.00642	21588.1	0.03813	22302.9	0.00918	23568.9	0.01018
37092.2	0.00972	43149.2	0.02044	53666.8	0.00635	55556.9	0.00747

Analyze Plot 03 SAT-2V

SAT TEST

Acquired: 02/25/21 12:50 PM

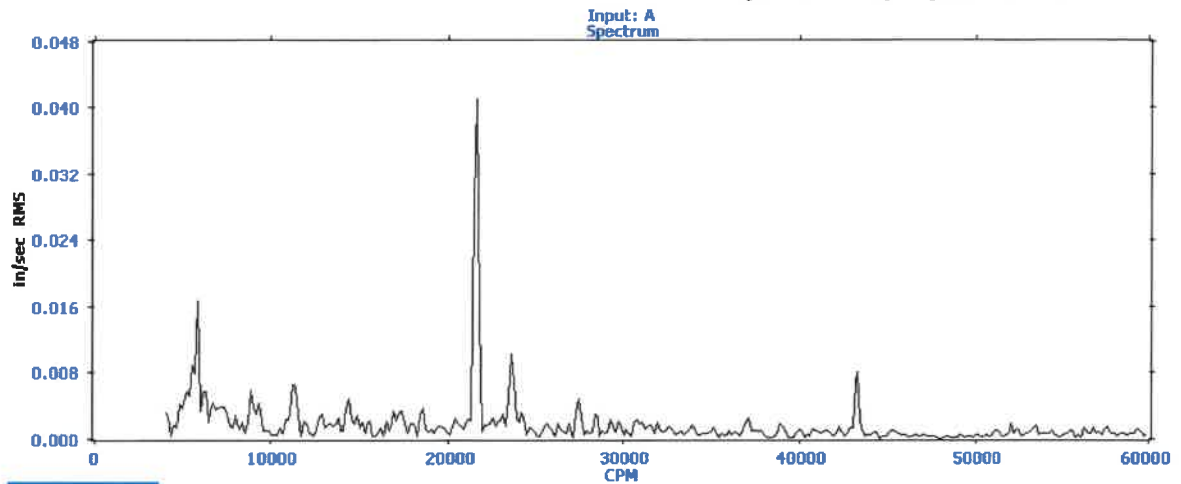


Frequency Data		Frequency Data		Frequency Data		Frequency Data	
1284.3	0.01439	1744.8	0.01059	2175.0	0.00707	3050.1	0.00785
3383.3	0.0058	3863.3	0.00997	4300.9	0.01283	4764.9	0.00858
5200.2	0.00653	5828.5	0.03381	6247.7	0.01661	15399.3	0.00639
15822.5	0.00515	17605.6	0.00578	18523.5	0.01598	21571.2	0.13372
23564.6	0.01937	32498.8	0.00593	37075.2	0.00578	43134.7	0.02091

Analyze Plot
04 SAT-2H

SAT TEST

Acquired: 02/25/21 12:51 PM



Frequency Data		Frequency Data		Frequency Data		Frequency Data	
1109.6	0.00745	1846.1	0.00724	2314.8	0.0123	3041.0	0.00674
3233.0	0.00578	3936.9	0.00468	4860.8	0.0047	5185.4	0.0065
5612.6	0.00994	5834.2	0.01663	6226.3	0.00671	6802.3	0.00466
7277.1	0.0045	8876.2	0.00607	11323.0	0.00761	14355.4	0.00516
21565.5	0.0423	23579.8	0.01056	27422.2	0.00506	43145.6	0.00869