

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:** 6/15/2021**G.T.A WORK ORDER:** 21-1045**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)	22299
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HORSEPOWER

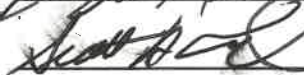
CORRECTED SHAFT HORSEPOWER	1107 MINIMUM	1180
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TEMPERATURE

CORRECTED EXHAUST TEMP. / T7 - DEG. F	MAXIMUM 890	857
CORRECTED T.I.T / T3 WORK - DEG. F	1425 - 1480	1471

PRESSURE

CORRECTED MASS AIR FLOW - P.P.S.	13.2 - 14.0	13.65
P2/P1 PRESSURE RATIO	5.5 - 6.5	6.29
OIL TANK VENT PRESSURE - "H2O	2.0 MAXIMUM	1

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	84
GAS PRODUCER SPEED	R.P.M.	22381
BAROMETRIC PRESSURE	"Hg	29.90
AIR INLET DIFFERENTIAL PRESSURE	"H2O	8.2
EXHAUST DIFFERENTIAL BACK PRESSURE	"H2O	0.1
COMPRESSOR DISCHARGE PRESSURE / PCD	P.S.I.	72.0
VENTURI AIR DIFFERENTIAL PRESSURE	"H2O	25.1
AVG. MEASURED EXHAUST TEMP. / T-7	DEG. F	866
FORCE ON DYNO LOAD CELL	FT. LBS.	254
DYNAMOMETER SPEED	R.P.M.	22381

MAXIMUM OIL TANK VENT PRESSURE "H2O

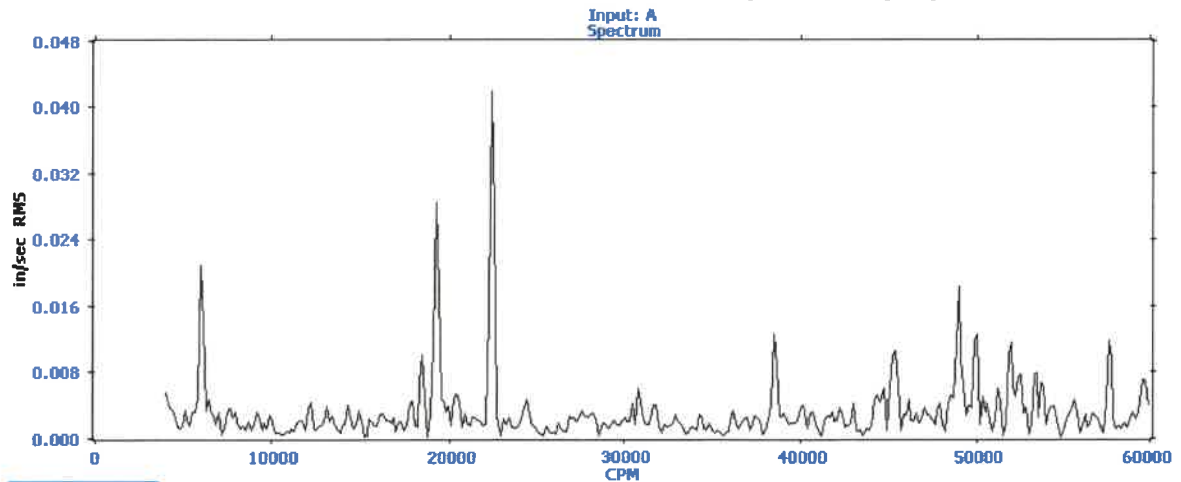
SATURN TEST CELL PERFORMANCE - CALCULATION RESULTS

COMPRESSOR AIR INLET TEMP. - RANKIN	DEG. R	543.7
BAROMETRIC PRESSURE - (CORR) - P1	"Hg	28.56
VENTURI AIR FLOW / Wa	P.P.S.	12.97
CORRECTED VENTURI AIR FLOW / Wa	P.P.S.	13.65
PRESSURE CORRECTION FACTOR - ALTITUDE	δ	0.9545
THETA CORRECTION (80 DEG. DAY)	Θ	1.00741
SQ. RT. THETA CORRECTION	SQRT.	1.00370
COMPRESSOR PRESSURE RATIO - P2/P1	Rc	6.29
CORRECTED GAS PRODUCER SPEED	R.P.M.	22299
CORRECTED GAS PRODUCER SPEED	PERCENT	99.99%
CORRECTED EXHAUST TEMPERATURE / T-7	DEG. F	857
TURBINE INLET TEMP. CALCULATED - / T-3	DEG. F	1485
TURBINE INLET TEMP. CORRECTED / T3W	DEG. F	1471
DYNAMOMETER TORQUE	IN. LBS.	3048
HORSEPOWER INTO DYNAMOMETER	H.P.	1082.38
HORSEPOWER AT POWER TURBINE	H.P.	1129.74
CALCULATED DUCT LOSSES	H.P.	49.86
CORRECTED HORSEPOWER	H.P.	1180
POWER VS MINIMUM REQUIRED	H.P.	73
Wa - "E"	1.00046	
Wa - "CV"	0.938272	DELTA P.V. - 0.9068
Wa - "1"	85.730566	BARO. - PSI 14.6901
Wa - "2"	0.9662519	
Wa - "3"	0.1565982	

Analyze Plot
01 SAT-1V

SAT TEST

Acquired: 06/15/21 09:15 AM



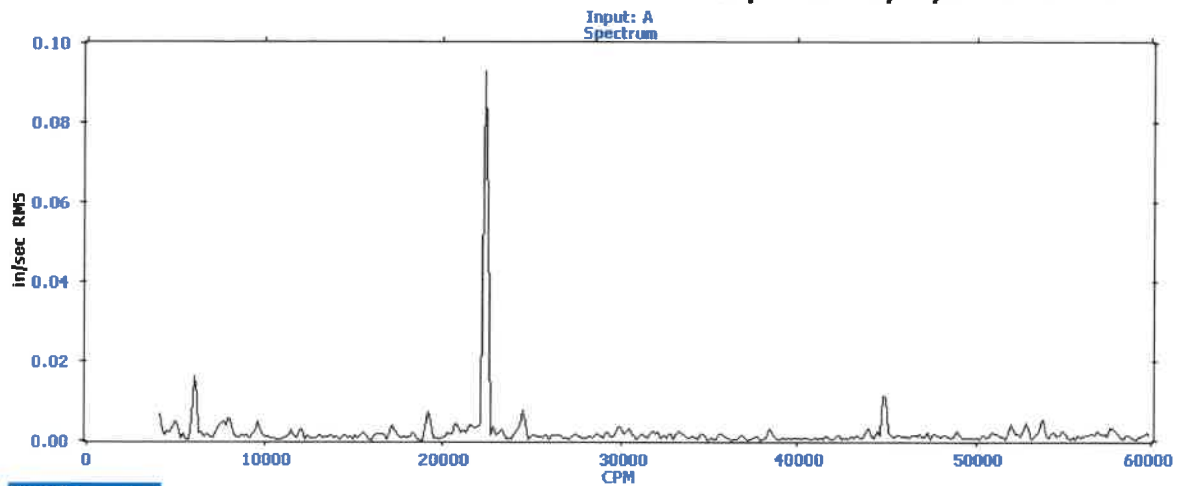
Overall: 0.07880

Frequency Data		Frequency Data		Frequency Data		Frequency Data	
1581.3	0.03035	1883.7	0.02357	6029.1	0.02126	18421.3	0.01035
19223.1	0.02884	20333.3	0.00605	22376.7	0.04274	30789.8	0.00627
38435.2	0.01298	44634.1	0.00686	45233.4	0.01209	48878.1	0.01849
49883.2	0.01437	51187.5	0.00625	51840.9	0.01287	52428.8	0.00896
53328.2	0.0092	53767.7	0.0076	57653.6	0.01282	59622.8	0.00827

Analyze Plot
03 SAT-2V

SAT TEST

Acquired: 06/15/21 09:26 AM



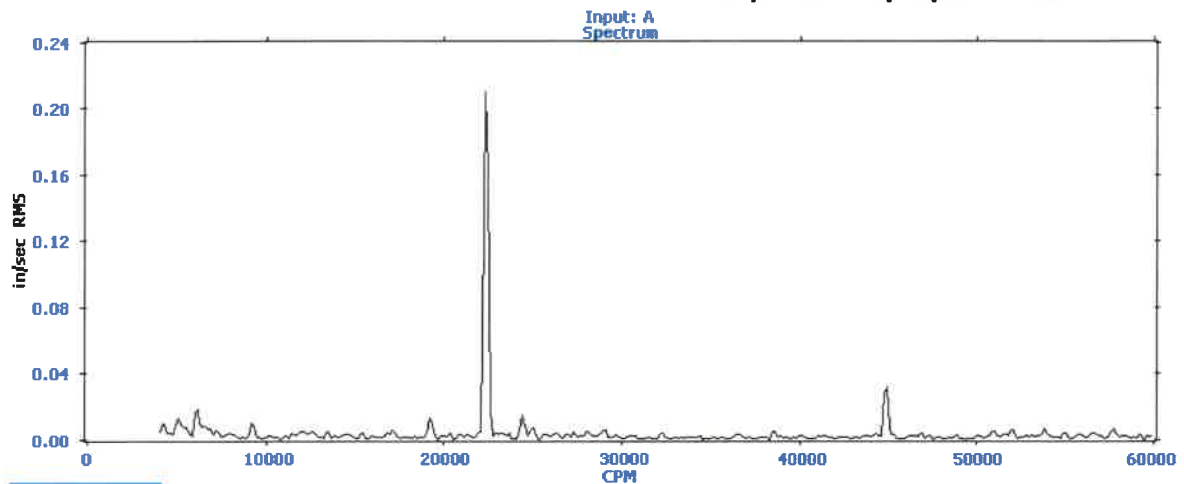
Overall: 0.10043

Frequency Data		Frequency Data		Frequency Data		Frequency Data	
816.5	0.03655	1627.3	0.01152	2015.2	0.01318	3064.5	0.00532
3421.4	0.0058	3965.4	0.00826	4994.7	0.00515	6034.7	0.01672
7593.1	0.00538	8024.2	0.00639	9632.3	0.00517	19227.0	0.00766
20762.5	0.00487	21519.8	0.00456	22369.5	0.09369	24464.0	0.00784
44769.6	0.01308	51934.7	0.00439	52829.0	0.00482	53774.4	0.00632

Analyze Plot
04 SAT-2H

SAT TEST

Acquired: 06/15/21 09:26 AM



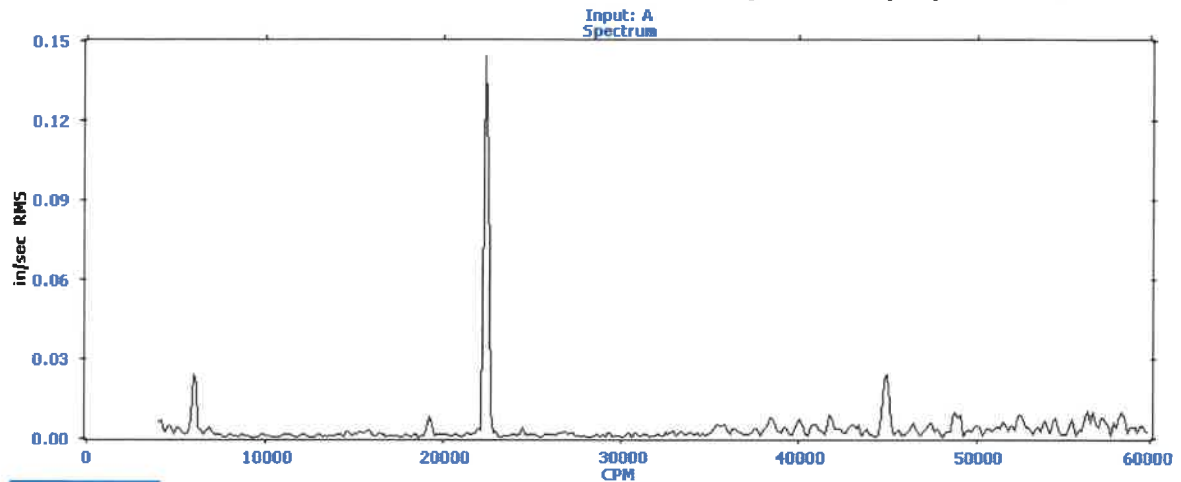
Overall: 0.23211

Frequency Data		Frequency Data		Frequency Data		Frequency Data	
977.1	0.01074	1459.9	0.00767	1911.5	0.027	2624.8	0.00753
2841.0	0.01172	3351.9	0.01189	3719.2	0.01014	4236.6	0.0109
5132.9	0.01347	5475.9	0.0087	6083.3	0.0208	6535.8	0.0099
6826.0	0.00776	9198.4	0.01117	19234.8	0.01397	22395.8	0.22275
24461.7	0.01488	24996.1	0.00787	44790.8	0.0349	57709.2	0.0074

Analyze Plot
05 SAT-3V

SAT TEST

Acquired: 06/15/21 09:26 AM



Overall: 0.16389

Frequency Data		Frequency Data		Frequency Data		Frequency Data	
1476.9	0.01636	2026.9	0.02196	4131.1	0.00754	6056.3	0.02618
19221.6	0.00839	22389.0	0.1502	38473.7	0.00897	40087.4	0.00788
41753.6	0.00975	44785.2	0.02705	48694.6	0.01093	48986.4	0.01006
52433.7	0.01026	53957.3	0.00733	54541.1	0.00858	55532.2	0.00763
56357.9	0.0109	56684.2	0.00985	57213.8	0.00896	58296.2	0.01085