

Fuel
Order

COMPANY: SOLAR TURBINES
 SITE: SAN MARCOS LANDFILL
 REPORT #: 89-017

FUEL USAGE CALCULATIONS

UNIT	RUN #	DSCFM	F factor	Btu/cf	%O2	FUEL USAGE SCF/M
TURBINE #1	#1	10162	9263.15	540.66	17.7	310.67
TURBINE #1	#2	10013	9263.15	540.66	17.5	325.25
TURBINE #1	#3	10197	9263.15	540.66	17.4	340.97
TURBINE #2	#1	10526	9263.15	540.66	17.7	321.80
TURBINE #2	#2	11104	9263.15	540.66	17.63	346.89
TURBINE #2	#3	10423	9263.15	540.66	17.61	327.61

RUN TIMES:	BEGIN	END
TURBINE #1 RUN #1	1230	1301
TURBINE #1 RUN #2	1405	1435
TURBINE #1 RUN #3	1540	1610
TURBINE #2 RUN #1	930	1010
TURBINE #2 RUN #2	1145	1235
TURBINE #2 RUN #3	1325	1415

EQUATION:

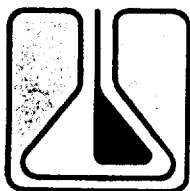
$$SCFM = DSCFM * 1/F \text{ factor} * (20.9 - \%O2) / 20.9 * 10^6 \text{ Btu/MMBtu} * 1/\text{Btu/cf}$$

DSCFM from "Volume Flow Results"

F factor from fuel analysis

Btu/cf from fuel analysis

%O2 from EPA method #3



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Lab. No.: 019710_001
Received: Jun 29, 1989
Reported: Jun 29, 1989

Attention: Leslie Johnson

Sample Description: Solar Turbines, 6/27/89

* CHROMATOGRAPHIC ANALYSIS (Z 1635) *

Components	Mole %	Wt %	CHONS	Wt %
Hydrogen	0.000	0.000	CARBON	40.29
Carbon Dioxide	42.076	65.120	HYDROGEN	7.54
Oxygen	.469	.527	OXYGEN	47.89
Nitrogen	4.338	4.274	NITROGEN	4.27
Carbon Monoxide	0.000	0.000	SULFUR	0.00
Hydrogen Sulfide	0.000	0.000		
Methane	53.071	29.941	Totals	100.00
Ethane	0.000	0.000	Total H/C	.19
Propane	0.000	0.000		
IsoButane	0.000	0.000		
N-Butane	0.000	0.000		
IsoPentane	0.000	0.000		
N-Pentane	0.000	0.000		
Hexanes+	.046	.138		
Totals =	100.000	100.000		

SPECIFIC GRAVITY (Air = 1) .9843
 SPECIFIC VOLUME, cu.ft./lb * 13.31
 GROSS CALORIFIC VALUE, BTU/cu.ft. * 531.47
 GROSS CALORIFIC VALUE, BTU/cu.ft. ** 540.66
 GROSS CALORIFIC VALUE, BTU/lb ** 7196.77
 NET CALORIFIC VALUE, BTU/cu.ft. ** 486.86
 NET CALORIFIC VALUE, BTU/lb ** 6480.67
 DSCF EXHAUST PER SCF FUEL (0% Oxygen) 5.0361
 COMPRESSIBILITY FACTOR 'Z' (60 F, 1 ATM) .9974
 EPA 'F' Factor @ 68 F: 9404.213 DSCF / MM Btu.
 KCAPCD 'F' Factor @ 60 F: 9263.150 DSCF / MM Btu.

* Water Saturated

** Dry Gas @ 60 F, 14.73 psia

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