

Table 5.1B.2
Mariposa Energy Project
June 2009



GE Energy

Performance By: **Bryan2 (with the exception of 50% cases - Johnny Metcalf)**

Project Info: **Kelso**

Engine: **LM6000 PC-SPRINT w/ FIGV at -5 Degrees**

Dates: 12/09/2008 (50% Cases Only)

Deck Info: **G01250 - 8fk.scp**

01/27/2009 (46, 59, and 93F - 100%)

Generator: **BDAX 290ERT 60Hz, 13.8kV, 0.85PF (14839)**

01/29/2009 (17 and 112F - 100%)

Fuel: **Site Gas Fuel#900-1880, 20577 Btu/lb, LHV (50% Cases Only)**

Version: **3.7.6**

Site Gas Fuel#10-1, 19000 Btu/lb, LHV (All other cases)

Load (%)	100	100	100	50	100	50	100
Ambient Conditions							
Dry Bulb, °F	17.0	46.0	59.0	59.0	93.0	93.0	112.0
Wet Bulb, °F	15.8	45.3	51.5	51.5	67.5	67.5	73.2
RH, %	80.0	95.0	60.0	60.0	26.0	26.0	15.0
Altitude, ft	120.0	120.0	120.0	120.0	120.0	120.0	120.0
Ambient Pressure, psia	14.633	14.632	14.632	14.632	14.633	14.632	14.632
Engine Inlet							
Comp Inlet Temp, °F	17.0	46.0	59.0	52.6	93.0	71.3	112.0
RH, %	80.0	95.0	60.0	92.9	26.0	82.4	15.0
Conditioning	NONE	CHILLERS	NONE	EVAP	NONE	EVAP	NONE
Tons or kBtu/hr	0	0	0	0	0	0	0
Pressure Losses							
Inlet Loss, inH2O	5.00	5.00	5.00	4.50	5.00	4.50	5.00
Exhaust Loss, inH2O	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Partload %	100	100	100	50	100	50	100
kW, Gen Terms	49941	50977	48913	24932	39198	23237	32156
Est. Btu/kW-hr, LHV	8411	8532	8591	10204	9011	10486	9508
Fuel Flow							
MMBtu/hr, LHV	420.1	434.9	420.2	254.4	353.2	243.7	305.7
lb/hr	22108	22891	22117	12364	18591	11842	16092
NOx Control							
	Water	Water	Water	Water	Water	Water	Water
Water Injection							
lb/hr	22493	20550	19386	10061	15500	9047	13014
Temperature, °F	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SPRINT							
	OFF	LPC	LPC	OFF	LPC	OFF	LPC
lb/hr	0	8375	9562	0	8644	0	8022
Exhaust Parameters							
Temperature, °F	780.3	840.0	847.5	742.8	860.9	781.1	862.9
lb/sec	313.2	301.1	292.0	234.0	258.4	218.8	234.7
lb/hr	1127562	1083789	1051375	842305	930219	787723	845007
Energy, Btu/s- ref 0 °R	99178	101390	99031	71256	88454	69224	80276
Cp, Btu/lb-R	0.2714	0.2771	0.2776	0.2679	0.2776	0.2706	0.2768
Emissions (NOT FOR USE IN ENVIRONMENTAL PERMITS)							
NOx ppmvd Ref 15% O2	25	25	25	25	25	25	25
NOx as NO2, lb/hr	42.4	44.0	42.5	26	35.7	24	30.9
CO ppmvd Ref 15% O2	64.7	20.5	16.5	21	9.5	11	7.8
CO, lb/hr	66.80	21.97	17.05	12.85	8.28	6.41	5.87
CO2, lb/hr	55834.29	57832.50	55881.72	33330.72	47002.65	31921.83	40706.15
HC ppmvd Ref 15% O2	11	2	2	2	2	2	2
HC, lb/hr	6.37	1.37	1.33	0.78	1.12	0.71	0.97
SOX as SO2, lb/hr	0	0	0	0	0	0	0
Btu/lb, LHV	19000	19000	19000	20577	19000	20577	19000
Btu/scf, LHV	946	946	946	916	946	916	946

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Altitude, ft	120.0	120.0	120.0	120.0	120.0	120.0	120.0
Ambient Pressure, psia	14.633	14.632	14.632	14.632	14.633	14.632	14.632
Btu/scf, HHV	1047	1047	1047	1016	1047	1016	1047
Btu/lb, HHV	20996	20996	20996	22813	20996	22813	20996

(1) Source: GE Gas Turbine Performance Sheets for 17, 46, 59, 93 and 112F.

Data for 17 and 112F (Base Load) are based on January 29, 2009 data.

Data for 46, 59, and 93F (Base Load) are based on January 27, 2009 data.

Data for 59 and 93F (50% Load) are based on December 9, 2008 data