

## SWISS VALLEY – DATABASE NOTES

**Table 1 Database Notes**

<b>Data Collection</b>	Data Logger: Data Collection Interval: Collection Method:	2x Red Lion data loggers (1x – WG, FGE, FGF and 1x – Gas analyzer values) 15-minute Automated Frontier Energy Python script; catcher.py
<b>Site Information</b>	DER Unit (make & model): Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	Guascor SFGLD 240 300 kW Hot Water Digester heating and space heating Rejected to atmosphere using dump radiator
<b>DER Electricity Generated (WG)</b>	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh Gross Accumulated energy from Intelisys NT engine controller
<b>Biogas to Generator (FGE)</b>	Engineering Units: Measurement type:	cf Accumulated cf from Sage gas meter
<b>Biogas to Flare (FGF)</b>	Engineering Units: Measurement type:	cf Accumulated cf from Sage gas meter
<b>H2S to Scrubber (H2S_IN)</b>	Engineering Units: Measurement type:	ppm INCA gas analyzer; 30-minute samples
<b>H2S to Generator (H2S_OUT)</b>	Engineering Units: Measurement type:	ppm INCA gas analyzer; 30-minute samples
<b>Methane Content (CH4)</b>	Engineering Units: Measurement type:	% CH <sub>4</sub> INCA gas analyzer; 30-minute samples

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**Table 2 Event Timeline**

<b>Date</b>	<b>Event</b>
November 2009	Data collection for new ADG system, from initial Red Lion data logger, begins. Data points include generator power, gas to engine, and flare gas (WG, FGE, FGF).
November 2014	Scrubber and second Red Lion data logger installation is completed. Scrubber data points include methane in biogas, hydrogen sulfide in gas entering scrubber, and hydrogen sulfide in gas leaving scrubber (CH <sub>4</sub> , H <sub>2</sub> S_IN, and H <sub>2</sub> S_OUT). These additional points have been added to website.

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### *Range Checks*

Table 3 Range Checks

<b>Data Point</b>	<b>Units</b>	<b>Database Lower Range</b>	<b>Database Upper Range</b>	<b>Notes</b>
<b>DER Electricity Generated</b>	kWh/hour	0	350	
<b>Biogas to Generator</b>	cfh	0	15,000	
<b>Biogas to Flare</b>	cfh	0	15,000	
<b>H2S to Scrubber</b>	ppm	0	4,000	
<b>H2S to Generator</b>	ppm	0	4,000	
<b>Methane Content</b>	%	0	100	
<b>Ambient Temperature</b>	°F	-20	130	NOAA Airport Code - KBUF

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### ***Relational Checks***

**Table 4 Relational Checks**

<b>Evaluated Point(s)</b>	<b>Criteria</b>	<b>Result</b>