Lamb Canyon Landfill LFGTE:
Unlocking the Power of Low BTU gases with Near Zero Emissions

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Brett Luedde, Director Business Development
Who is FlexEnergy?

• Company Background
  • Privately Held, Clean Tech Company
  • Over 80 employees at U.S. locations
  • Headquarters - CA
  • Microturbine manufacturing - NH
  • Recuperator manufacturing - NC
  • Engineering & Service – CA, NH, NC

• Clean Energy Product Lines
  • Flex Powerstation
    • Low, medium & high strengths of methane gas to near zero emission energy
  • Flex MT250
    • Medium & High strengths of gas to low emission energy
  • Recuperators
    • Durable high temperature heat exchangers for gas turbine efficiency improvement
## Fuel Flexible for Gas Applications

<table>
<thead>
<tr>
<th>Natural Gas Pipeline</th>
<th>Gas Btu/scf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abandoned mines</td>
<td>15-200</td>
</tr>
<tr>
<td>Coal Beds/Coal mines</td>
<td>250-500</td>
</tr>
<tr>
<td>Digester Gas</td>
<td>500-650</td>
</tr>
<tr>
<td>Oil Field Associated Gas</td>
<td>1000-1200</td>
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<tr>
<td>Oil Field Overhead Vapors</td>
<td>2000+</td>
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<tr>
<td>Oil Field Tail Gas</td>
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<tr>
<td>Perimeter Gas</td>
<td></td>
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<tr>
<td>Closed Landfills</td>
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<tr>
<td>Active Landfills</td>
<td></td>
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<tr>
<td>Natural Gas</td>
<td></td>
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<tr>
<td>Flex Powerstation™</td>
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<tr>
<td>Flex Energy</td>
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</tbody>
</table>

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1) Fuel Gas Aspiration at System Inlet Eliminates Need for High Pressure
   - Dilutes Gas Down to 1.5% Methane for Operation

2) Flexidizer (Thermal Oxidizer) Replaces Combustor & Eliminates Need for Fuel Conditioning
   - Avoids NOx formation while destroying CO and VOC’s
   - Temperatures maintained above 1450F & below 2000F
Riverside County Waste Management Department

Solid Waste System

OVERVIEW

Riverside County Population - 21.5 Million

A total of 39 Landfills - 32 Closed & 7 Active
(6 Public & 1 Private)

A total of 8 Transfer Stations / Collection Centers Privately Operated
(6 on Public Land & 2 on Private Land)

Tonnage Received in FY 09-10:

Total Riverside County = 1.7 Million tons
Out of County = 1.2 Million tons
Grand Total = 2.9 Million tons
LAMB CANYON LANDFILL

GENERAL SITE INFORMATION
Total Property Acreage: 1,189 acres
site classification: Class III Sanitary Landfill
Year opened: November, 1970
Service area: San Jacinto, Banning, Beaumont, Hemet and the Coachella Valley
Permitted Daily Tonnage: 5,000 tpd
Operations Work Schedule: Monday through Saturday, 6:00 am to 4:30 pm
Average Daily Tonnage: 1,870 tpd during July 2010 [Monday through Friday]
Total Tonnage received in 2009: 548,839 tons

SUMMARY OF LANDFILL GAS SYSTEM
Flare Design Flow Rate 2,000 cubic feet per minute (cfm)
Current Flare Flow Rate 940 cfm at 45% methane (rate increasing 100 to 150 cfm each year)
Vertical Gas Wells 41
Horizontal Gas Wells 10
Header Pipe 2.2 miles
Flex Powerstation: Lamb Canyon Installation Overview

(A) Methane gas generated by landfill is controlled and gathered by site collection system.

(B) Flex takes gas after site collection system prior to site flare.

(C) Fuel is aspirated with air forming a 1.5% methane (15 Btu/cubic foot) mix at the inlet to the gas turbine.

[D] The diluted gas air mix is compressed and preheated by the gas turbine.

[E] The pressurized preheated mixture is oxidized in the Flexidizer. The Flex algorithms control the temperature preventing Oxides of Nitrogen (NOx) formation while destroying Carbon Monoxide (CO) and Volatiles (VOC's).

[F] The near zero emission gas leaves the Flexidizer and powers the gas turbine. The clean hot gas energy is converted to electricity.

[G] The renewable electricity created from flared gas is now available for use by the site or sold to the grid.
Flex Emissions

Flexidizer Exhaust Emissions

System Exhaust Emissions

Ambient Air
Source Test Results (July 28, 2010)

CO (Flexidizer)
- 0 ppm @ 15% O2

NOx (Flexidizer)
- 0.66 ppm @ 15% O2

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Inlet</th>
<th>Combustion Outlet</th>
<th>Turbine Exhaust</th>
<th>Reporting Limit</th>
<th>Limit</th>
<th>Applicable SCAQMD Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2O %</td>
<td>2.5</td>
<td>17.1</td>
<td>17.2</td>
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<tr>
<td>CO2 %</td>
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<td>3.5</td>
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<td>H2 %</td>
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<td>79.4</td>
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<td>H2O, %</td>
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<td>LFG Flow Rate, scf/m</td>
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<td>Black Flow Rate, desm</td>
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<td>Temperature, °F</td>
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<tr>
<td>LFG Btu/scf</td>
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<td>Total Heat Input, MMBtu/hr</td>
<td>0.8</td>
<td>27.1</td>
<td>30.4</td>
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<td>KW</td>
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**NOx:**
- ppm
- ppm @ 15% O2: 0.66
- 15% O2 Btu/hr (as NOx): 0.66
- 15% O2 MM Btu: 0.0065
- 15% O2 MW: 0.0065
- Applicable SCAQMD Rule: 0.07 PIC

**CO:**
- ppm
- ppm @ 15% O2: 0.0
- 15% O2 Btu/hr (as NOx): 0.0
- 15% O2 MM Btu: 0.014
- 15% O2 MW: 0.014
- Applicable SCAQMD Rule: 0.0 PIC

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Life of A Landfill

Years Since Inception of Landfill

Percent Methane

Active

Closed

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