



SWN Company Background

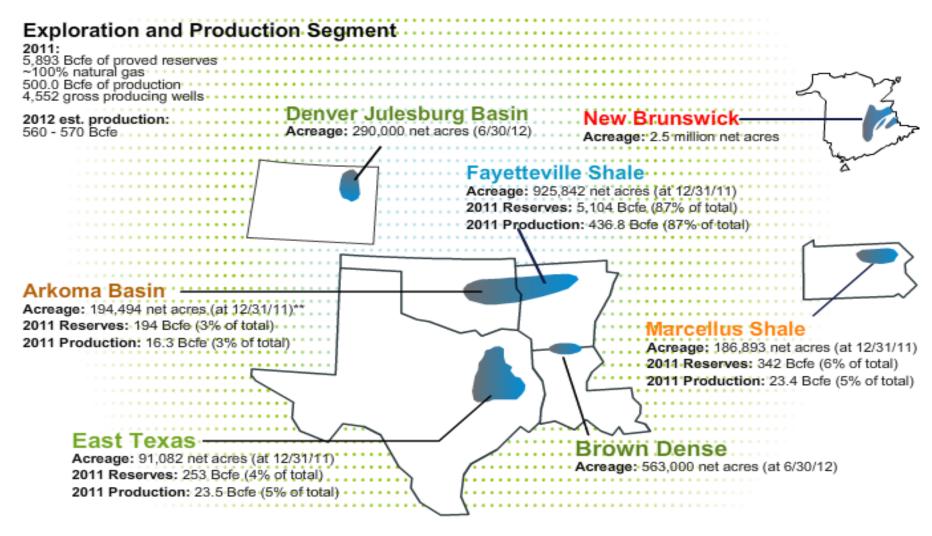


- SEECO
 - Fayetteville and Arkoma (Arkansas)
- Southwestern Energy Production Company
 - Pennsylvania
 - Texas, Louisiana, Oklahoma
 - SWN Drilling Company, Inc.
- SWN E&P Services L.L.C.
 - Desoto Sand L.L.C.
 - SWN Well Services L.L.C.
- SWN Resources Canada Inc.
- Desoto Gathering Company
- Angelina Gathering Company



SWN Company Background

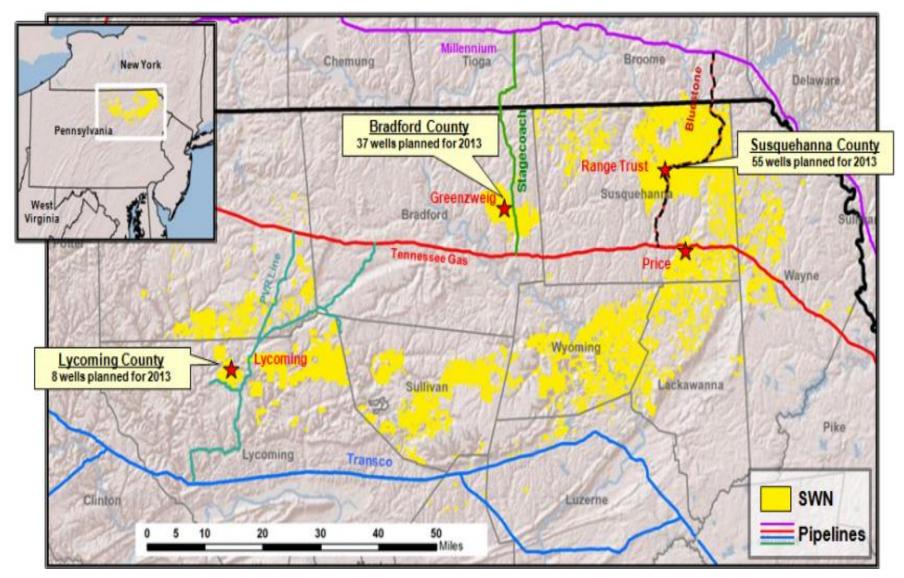




^{**}Conventional Arkoma acreage excludes 125,056 net acres in the conventional Arkoma Basin operating area that are also within the company's Fayetteville Shale focus area.

EPA Subpart W







SWN EPA Natural Gas STAR



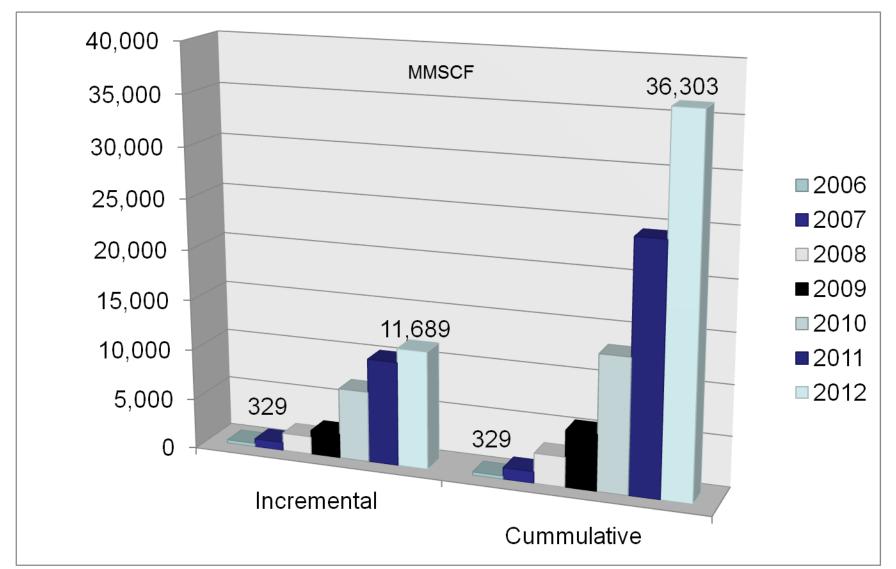
- 2006 Initial Reporting Year 329.266 MMSCF
- 2007 "Rookie of the Year"
- 2011 "Production Partner of the Year"
- 2012 Report
 - 11.689 BCF
 - 36.3 BCF Cumulative





SWN EPA Natural Gas STAR Reductions



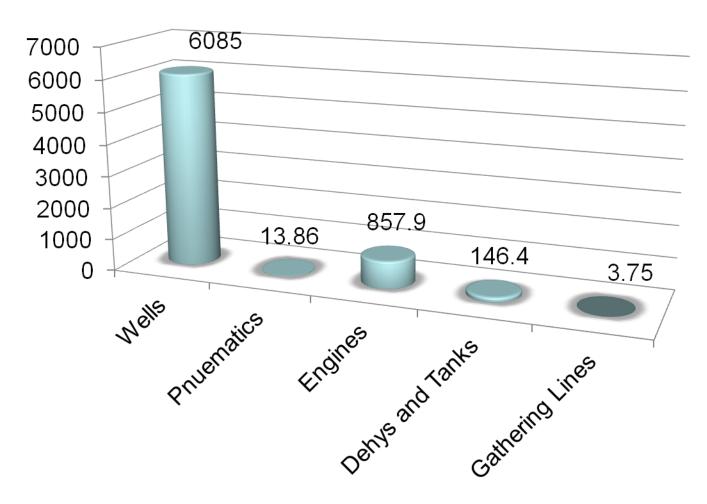




SWN 2010 EPA STAR Reductions



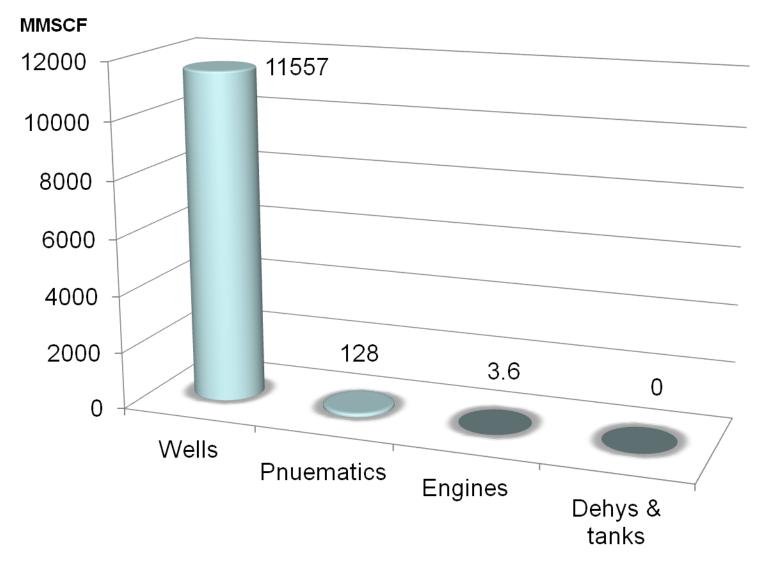
MMSCF





SWN 2012 EPA STAR Reductions







SWN Gas Capture



 Since 2009 - 27.562 BCF recovered by Gas Capture and Green Completions





SWN Gas Capture: History - Background



- Pre 2010: Wells vented until tubing flow could be established
- September 2009: Study concluded 16 MMCF is vented during an average flowback
- <u>December 2009</u>: Completion program changed. Tubing run immediately after frac plug drill out, no casing flowback
- <u>December 2009</u>: Flowback scheme "modified" to allow selling gas via the casing/tubing annulus.
- January 2010: Separators upgraded, allowing for 2000+ bwpd capability, "modified" flowback in full use.
- January 2010: First "Gas Capture" well was executed.
- April 2010: Completed 19th full "Gas Capture" operation.
- September 2010: Completed the 100th full "Gas Capture" operation
- October Forward: Expanded "Gas Capture" (Ventless Restoration) to recompletions.



SWN "Gas Capture"







SWN Gas Capture - Portable Compressor





- Portable Caterpillar 3406
- 200-300 MCF Gas Compressed
- 8-12 Hours
- Target 2000 psi



SWN Gas Capture -Sand Separator and Sand Box







SWN Gas Capture







SWN Gas Capture - Fat Boy Separators







SWN Gas Capture - Flowback Water to Frac Tank







SWN Gas Capture - Water Recovery/Recycling







SWN Gas Capture - Gas to Sales







SWN Gas Capture - Updated Gas Capture Layout







SWN Gas Capture – Fayetteville vs Marcellus





Fayetteville

- Low pressure reservoir
 - Need for gas compression/injection
- Low sales line pressure~65 psia



Marcellus

- High pressure reservoir
- High sale line pressure>500 psi
- Installing additional compression to lower line pressure



In the Past



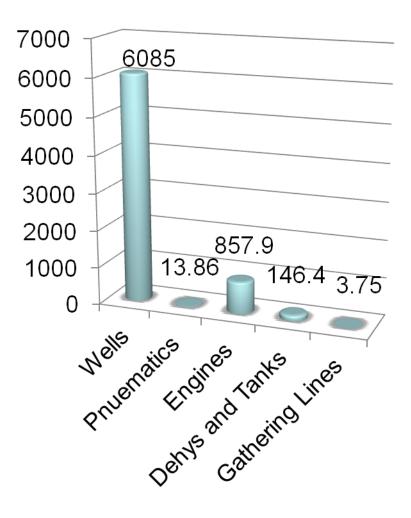
- Regulated by OOOO
 - Hydraulically Fractured Gas Well Completion Flowbacks
 - Hydraulically Fractured Gas Well Recompletion Flowbacks
 - Continuous Bleed Pneumatic Controllers
 - Oil, Condensate, and Produced Water Storage Tanks
 - Reciprocating Compressor (not at wellpad)



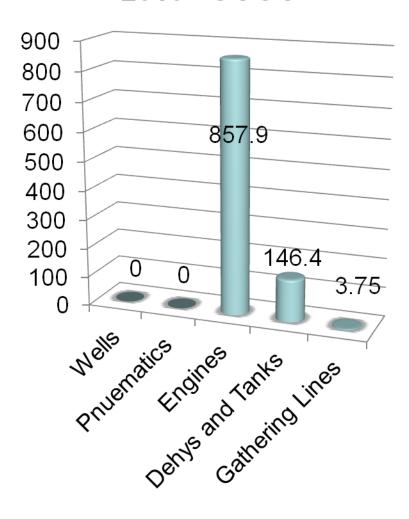
Pre and Post NSPS 0000







2010 - 0000





Moving Forward



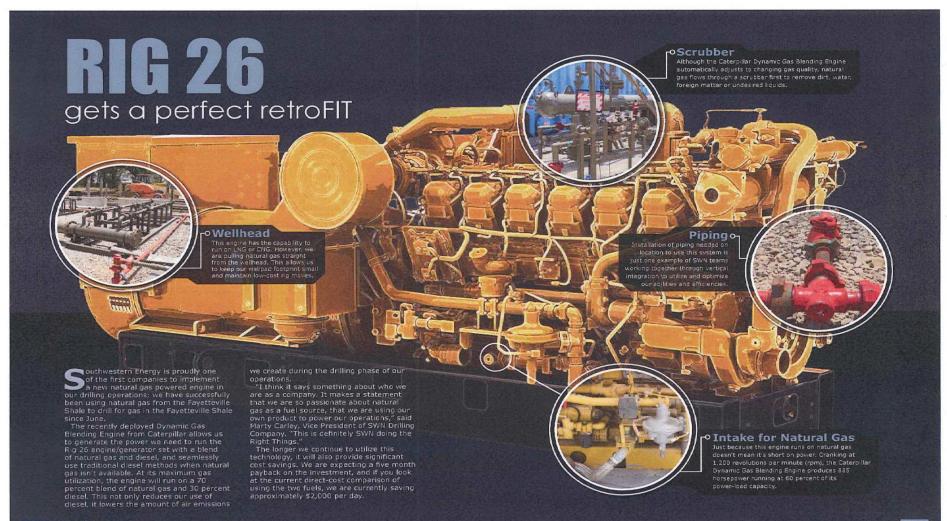
Future Opportunities

- Reciprocating compressors at well pad
- No bleed pneumatics
- Solar Powered pumps
- Thermostat controllers
- Liquids Unloadings
- Storage Tanks < 6 tpy
- Gas capture of blowdowns
- Fleet and vehicle conversions to CNG
- Diesel/Gas Drill Rigs and Completions Rigs
- Directed Inspection/Maintenance
- Methane Leadership Initiative



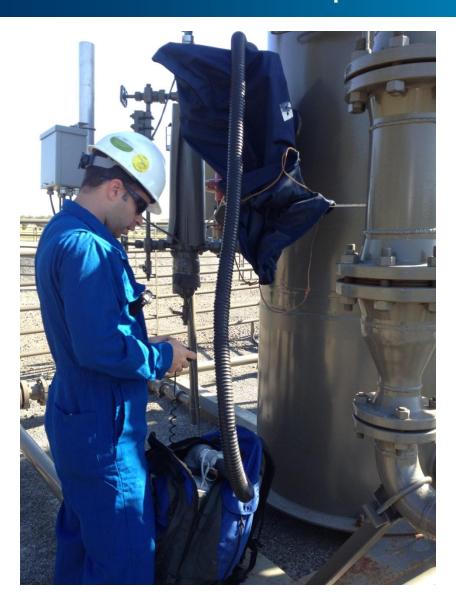
SWN Rig 26 – Natural Gas Powered Rig





Methane Leadership Initiative





- Voluntary methane reduction initiative
- Measure methane emissions
- Implement leading practices where practicable
- Cultivate participation by others. Production sector first, then value chain
- Publically report "validated/verified" emissions reductions

