Annual Report 2013

Production Sector

OMB Control No. 2060-0328
Pending OMB Approval

Company Information

Company Name: **Apache Corporation**

Gas STAR Contact: **C.J. Doiron**

Title **GHG Specialist Sr. Staff**

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State:

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Company Information Updated: **No**

Activities Reported

BMP1: No **BMP2: No** **BMP3: Yes**

Total Methane Emission Reductions Reported This Year : **420,700**

Previous Years' Activities Reported : **No**

Period Covered by Report

From: **01/01/2013** To: **12/31/2013**

☑ I hereby certify the accuracy of the data contained in this report.

Additional Comments

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central Region, anadarko Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Eliminate unnecessary equipment and/or systems

Please describe how your company implemented this PRO:

Released 61 production compressors, gas lift compressors, coolers and vent gas compressors from service by optimizing production processes, producing to low pressure pipelines, and other projects.

C. Level of Implementation
Number of units installed: 61 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **201,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

✓ One-year Multi-year

If Multi-year:

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 0**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 743,700**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:
Efficiency improvements are ongoing.

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Gulf Coast Region, Gulf Coast Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Eliminate unnecessary equipment and/or systems

Please describe how your company implemented this PRO:

Equipment optimization allowed 7 compressors to be released from service or downsized to improve operating efficiencies.

C. Level of Implementation
Number of units installed: 7 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **30,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

✓ One-year Multi-year

If Multi-year:

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 7,066,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 111,000**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:
Equipment optimization is an ongoing effort in the region.

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central Region, Anadarko Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Improve electrical power generation systems

Please describe how your company implemented this PRO:

Released 6 gas fired electrical generator sets and converted 2 locations from gas fired electrical generators to commercial electrical grid power

C. Level of Implementation
Number of units installed: 8 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **75,700 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

✓ One-year Multi-year

If Multi-year:

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 0**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 280,090**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central Region, Anadarko Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Improve system design/operation

Please describe how your company implemented this PRO:

Removed 5 gas fired production units and replaced them with non-fired separators or fired heater units, all with no bleed manual control valves.

C. Level of Implementation
Number of units installed: 5 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **2,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

✓ One-year Multi-year

If Multi-year:

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 0**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 7,400**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:

Optimization programs are ongoing

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Permian Region, Permian Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Install flares (10 years)

Please describe how your company implemented this PRO:

Installed dual flare stacks to reduce emergency field gas venting and tank vapors at 26 leases and tank batteries in the Garden City District.

C. Level of Implementation
Number of units installed: 26 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **26,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 1,600,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 96,200**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:

Reduction programs are ongoing in this region.

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Permian Region, Permian Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Install flares (10 years)

Please describe how your company implemented this PRO:

Installed dual flare stacks to reduce field gas vented during emergency events. Also meter flared gas and tank vapor emissions on the University Devonian 'O' tank battery (Sandhills Area).

C. Level of Implementation
Number of units installed: 4 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **11,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 30,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 40,700**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:

Vent reduction projects are ongoing in the region.

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Permian Region, Permian Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Install vapor recovery units (VRUs) on storage tanks (10 years)

Please describe how your company implemented this PRO:

Installed 10 separate Vapor Recovery Units to reduce field gas released to the atmosphere in the Eunice, Artesia areas.

C. Level of Implementation
Number of units installed: 10 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **49,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 330,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 181,300**
$ / Mcf used: **$ 3.70**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:
Ongoing implementation of reduction programs in this region.

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central Region, Anadarko Basin

B. Description of PRO

Please specify the technology or practice that was implemented:

Optimize pumping engines and fired units

Please describe how your company implemented this PRO:

Replaced pumping unit engines with lower horsepower, more efficient units, fired production units with unfired separators and higher horsepower compressors with smaller units.

C. Level of Implementation
Number of units installed: 15 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **26,000 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

✓ One-year Multi-year

If Multi-year:

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 0**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 182,000**
$ / Mcf used: **$ 7.00**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?:
Efficiency improvement programs are ongoing.

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

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Additional Accomplishments