

Barnett Shale Special Inventory, Phase Two

Frequently Asked Questions

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Disclaimer

Guidance presented within this document is ONLY applicable to the Barnett Shale, Phase Two Special Inventory and should not be used for reporting, permitting, compliance, or other agency purposes, including the annual point source emissions inventory.

Applicability

1a. Why did my company receive this inventory request?

This inventory is being conducted at the request of the Executive Director. The Texas Commission on Environmental Quality (TCEQ) requested the Phase Two inventory from owners or operators of oil and natural gas production operating in the Barnett Shale formation, along with mid-stream pipeline companies in the 23 county area.

1b. I responded to the Phase One inventory request with an inapplicability letter.

If you responded to the Phase One inventory request with an inapplicability letter and received a Phase Two inventory request, please contact us; contact information is available under the "Inventory Assistance" section.

2. Who must submit the equipment inventory?

Owners and/or operators that:

- are located in the 23-county Barnett Shale area specified in the letter **AND**
- had calendar year 2009 operations contacting oil and/or gas produced from the Barnett Shale formation(s)

3a. I have no equipment/sites within the Barnett Shale counties but my operations may transmit gas from the Barnett Shale formation. Should I complete an inventory?

3b. I have no equipment/sites within the Barnett Shale counties but I store gas that came from those counties.

Only sites/leases located within the 23-county area are subject to this request. If your site or lease is not located within one of the listed counties, you are not applicable to this request. Please see question 6 for the appropriate response to the inventory.

4. I have a saltwater disposal well. Do I have to report?

Saltwater commonly contains oil or condensate, and storage tanks associated with these wells should be reported.

5. My operations transmit pipeline quality gas within the Barnett Shale counties, am I applicable to the special inventory request?

This type of operation is considered midstream for the purposes of this inventory and should be included. Any sites within the 23-county area are subject to this request (see question 2 above).

6a. What if I completed a Phase One inventory but my lease/site was not applicable to the Phase Two request?

If a site is not applicable to the Phase Two request (see question 2 above) the company needs to:

- complete the "Site Info" form (included in the workbook),
- complete and sign either the "Emissions Totals Certification" form (included in the workbook),

- be sure to complete the “2009 Annual Emissions Totals” section with “NA” for each contaminant.
- print and sign the “Emissions Totals Certification” form,
- save the Excel workbook form onto a compact disk (CD),
- attach an explanation, and
- mail all items to the address listed in the letter (reproduced below) so that the TCEQ has a record of the company’s response to the inventory request.

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6b. What if I my company does not have any sites in the 23 Barnett Shale county area applicable to the Phase Two request?

If a company is not applicable to the Phase Two request (see question 2 above) the company needs to:

- complete the "Emissions Totals Certification" form (included in the workbook),
- print and sign the “Emissions Totals Certification” form,
 - be sure to complete the “2009 Annual Emissions Totals” section with “NA” for each contaminant.
- attach an explanation (cover letter), and
- mail this form and explanation to the address listed in the letter (reproduced below) so that the TCEQ has a record of the company’s response to the inventory request.

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7a. What must be submitted?

For companies that are applicable to the special inventory request (see question 2 above), two items must be submitted:

- Please submit via compact disc (CD) a completed inventory workbook
- Please also submit a printed, signed certification form (“Emissions Totals Certification” spreadsheet in the workbook)

For companies that are not applicable to the special inventory request, see question 6a and 6b above.

7b. Can I include more than one workbook on one CD or submit a CD for each site/lease?

Yes, you may include one CD for all workbooks if you wish. Please note that a printed (hard copy) of the “Emissions Totals Certification” form should be submitted for each site/lease. You are encouraged to designate the individual site/lease names on the certification forms.

8. What if my site was idle for 2009?

Please make sure that the site was truly idle by verifying that no potential emissions sources met the special inventory’s emissions reporting thresholds. For example, “idle” storage tanks with no throughput will have breathing loss emissions if liquid is still present in the tank. If the site was idle or did not operate in 2009, the company needs to:

- complete the “Site Info” form (included in the workbook),
- complete and sign either the "Emissions Totals Certification" form (included in the workbook),
 - complete the “2009 Annual Emissions Totals” section with zeros or “idle” for each contaminant.

- print and sign the “Emissions Totals Certification” form,
- save the Excel workbook form onto a compact disk (CD), attach an explanation, and
- mail this form and explanation to the address listed in the letter (reproduced below) so that the TCEQ has a record of the company’s response to the inventory request.

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9. What if my company sold its Barnett Shale operations during 2009?

The company that owns the operations (leases, equipment, etc.) on December 31, 2010, is responsible for submitting the inventory information. If there is a mutual business agreement specifying otherwise, the TCEQ will honor that business agreement. The company that received the inventory still needs to complete and sign the "Emission Totals Certification" form (included in the workbook), and attach an explanation stating who purchased the wells.

10. What if my company purchased Barnett Shale operations during 2010?

The company that owns the operations (leases, equipment, etc.) on December 31, 2010, is responsible for submitting the inventory information. If there is a mutual business agreement specifying otherwise, the TCEQ will honor that business agreement.

11. What if we are a contracting company that operates equipment on a lease owned by a producer? We do not own the gas, wells or the lease of the property.

11b. Are we required to report emissions from equipment that a contracting company owns and operates on our site/lease?

The owner/operator of the site (producer) is required to report the emissions from any equipment, including contracted equipment, that meets the reporting requirements. However, if the contracting company owns and operates all the equipment at the site, then the contracting company would be required to respond to the special inventory request.

Inventory Submissions

1. When is the inventory due?

The inventory must be postmarked on or before December 31, 2010.

2. Who signs the inventory?

The company’s responsible official or legally responsible party should sign the inventory certification page.

3. What are the consequences for not submitting an inventory?

Per the request letter, the TCEQ will pursue enforcement action for inventories that are not received.

4. Can the inventory be submitted via e-mail?

No, an official response with a signed copy of the certification form needs to be mailed to the address on the letter by the due date. You may e-mail a courtesy copy of the forms to bshaleei@tceq.state.tx.us.

5. Can my company just print the forms, complete them, and send them in?

The TCEQ encourages companies to submit data electronically to reduce the potential for data entry errors. The TCEQ is using a data loader to read the Excel files and compile the results into a database. However, hard copies of the forms may be submitted.

6. How will CDs that come in blank or with garbled files be processed?

CDs submitted with missing or unreadable information will not be considered a received inventory and may be subject to enforcement action.

Inventory Assistance

1. Who can I contact at the TCEQ for assistance?

Julia Knezek, bshaleei@tceq.state.tx.us or (512) 239-1424
Miles Whitten, bshaleei@tceq.state.tx.us or (512) 239-5749
Emissions Inventory Help Line, (512) 239-1773

2. Can I get a copy of the presentation given at the October 12, 2010, workshop at the Will Rogers Memorial Center?

A copy of the Phase II Workbook Overview presentation can be found at
<<http://www.tceq.state.tx.us/implementation/air/industei/psei/psei.html#barnett2>>.

3. Where can I find the emission calculator that has been created to assist in determining emissions from my equipment?

An emission calculator has been developed and is available at
<<http://www.tceq.state.tx.us/implementation/air/industei/psei/psei.html#barnett2>>. Please realize that the use of this calculator is optional. Please note that emissions determined by this calculator do not necessarily ensure compliance with local, state, or federal rules or regulations.

4. Where can I find a consultant/private contractor to assist me in completing this inventory?

You are encouraged to contact TCEQ staff with any questions or if you need assistance. The Air Permits Division does maintain a list of consultants available at
<www.tceq.state.tx.us/permitting/air/constst.html>. Inclusion or non-inclusion on this list does not constitute approval or disapproval by the TCEQ, nor does it indicate relative competence. The list is compiled and maintained by notification only. No attempt is made to categorize firms according to various capabilities nor to follow-up on current addresses or existence therefore there is no guarantee that the companies listed at the following provide services to complete the Barnett Shale special inventory request.

5. Where can I find a list of labs that can assist me in obtaining site specific information?

The TCEQ maintains a list of laboratories accredited by the State of Texas under the National Environmental Laboratory Accreditation Program (NELAP) available at
<http://www.tceq.state.tx.us/assets/public/compliance/compliance_support/qa/txnelap_lab_list.pdf>.

Workbook Details

General Workbook Questions

1a. Why is the workbook password protected? Can I have the password?

1b. Can I develop my own workbook?

The TCEQ is expecting approximately 10,000 workbooks in response to this inventory request. To collect, organize, and analyze the data efficiently, the data is being compiled into one large database. All workbooks must be in the specified format for data processing purposes.

If you are having issues with the workbook, please contact us; contact information is available in the "Inventory Assistance" section. Please note that any inventories that are submitted in an invalid format will not be given an official receipt date and may be subject to enforcement action.

2a. Do I have to enable macros?

The macros in the workbook allow the workbook to be more user friendly. Enabling macros allows you to select the radio buttons next to the equipment type and be navigated to the specific form for that

equipment. If you choose not to enable macros or they do not function, the workbook can still be completed and submitted. Use the tabs at the bottom of the workbook instead to navigate to each form.

3. Where can I find additional information concerning each of the fields required in the workbook?

Each field in the workbook is hyperlinked to the instructions for that field/form. Click on the underlined text and you will be directed to instructions for the corresponding field. If the explanation/definition included in the instructions does not answer your question, please contact us for further clarification; contact information is available in the “Inventory Assistance” section.

Site, Lease, or Facility Information (“Site Info” Tab)

1. What is the difference between upstream and midstream operations (question 9 on “Site Info” Tab)?

Exploration or production activities are considered upstream operations for this inventory request. Processing or transmission activities are considered midstream operations for this inventory request. Midstream operators typically gather and purchase gas from several producers and several formations for treatment/compression at large, centralized locations, such as dehydration at a gas plant, transmission at compressor stations, etc. Upstream producers can gather gas from several wells that the company itself owns/operate, but typically do not purchase the gas from other companies. Upstream producers may treat/compress gas, but again, these wells *typically* belong to the same company.

2a. How does my company report its sites? On the lease number level, lease name level, or site level? Can well pads be reported?

Please enter a unique “site” (facility) for each spreadsheet. Companies have the flexibility to report several lease numbers under one site or “pad.” A spreadsheet should be completed for each site (row) indicated for Phase One.

2b. What if I reported a site as two sites for Phase One, but now I understand it really should be represented as one site?

Use the best site representation for your Phase Two response and attach an explanation why these sites were reported differently for Phase One. Make sure to include a reference to the site/lease names that were submitted in Phase One and the name of the site used for Phase Two.

3a. What does “If a site was not fully operational during the entirety of 2009, or incomplete records do not allow for an accurate estimate of 2009 emissions, an alternative consecutive 12 months of emissions data may be substituted given that the period starts in 2009.” mean?

Here are some examples:

If a site began operating in March 15, 2009, report emissions using data from March 15, 2009, until March 14, 2010.

If a site was purchased in 2009, the owner on December 31, 2010, would have the following options:

- either to report emissions using January 1, 2009, through December 31, 2009, data
- or to report emissions using data from the 12 subsequent months following the purchase date.

If a site was purchased in 2010, the owner on December 31, 2010, would be required to report emissions based upon data from a consecutive 12 month period that starts in 2009.

3b. What if a site ceased operation in 2009? Do I need to report emissions using 2008 data?

Report emissions using data from January 1, 2009, until operations ceased.

General Equipment Questions

1a. Can I omit equipment from the inventory if my site or equipment falls below a certain production threshold?

Inventory reporting thresholds are based upon emissions, not production. These thresholds can be found on the “Workbook Navigation” tab in the workbook and are listed below for your convenience.

Complete a form for each piece of equipment (listed above) that meets one of the following criteria for 2009:

- ◇ Emitted 1 ton or more of NO_x,
- ◇ Emitted 1 ton or more of volatile organic compounds (VOC), or
- ◇ Emitted 0.1 tons per year or more of a hazardous air pollutant (HAP)

If individual pieces of equipment do not meet the requirements listed above, they may be omitted from the inventory provided that the total emissions from all such unreported sources are:

- ◇ less than 5 tons of NO_x,
- ◇ less than 5 tons of VOC, and
- ◇ less than 1 ton of aggregate HAPs

If the total emissions from the omitted pieces of equipment do not satisfy these requirements, report each source starting with the piece of equipment with the highest emissions until the total emissions of the remaining omitted sources satisfy the above requirements.

1b. How exactly do I determine what equipment to include in the inventory?

Please refer to the Phase II workbook overview presentation (slides 23-32) presented at the October 12, 2010, workshop for examples of applying the above thresholds to determine what equipment should be included in the inventory; this information is available at

<<http://www.tceq.state.tx.us/implementation/air/industei/psei/psei.html#barnett2>>. Please contact us if you have additional questions; see the “Inventory Assistance” section for contact information.

1c. Based on the emission thresholds listed in 1a above, what if none of the equipment at a site meets the reporting requirements?

The site-wide 2009 annual emission totals are still required. The emissions thresholds only apply to equipment reporting requirements. If all equipment at a site are below the reporting requirements listed in 1a:

- complete the “Site Info” form (included in the workbook),
- complete the “Emissions Totals Certification” form (included in the workbook),
 - make sure to complete the “2009 Annual Emissions Totals” section
- print and sign the “Emissions Totals Certification” form,
- save the Excel workbook form onto a compact disk (CD),
- attach an explanation (cover letter), and
- mail all items to the address listed in the letter (reproduced below) so that the TCEQ has a record of the company’s response to the inventory request.

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2. If equipment is out of service, should it be included in the inventory workbook?

Include only equipment that was operating during the reporting period and generated air emissions that meet the emissions reporting requirements.

3. What if I have some equipment that is below the reporting requirements but I included them in the Phase One response? Do I still have to report the sources?

Only equipment that are in operation and have air emissions that meet the emission reporting thresholds are required to be included in the inventory.

You may include an explanation of why the emission source totals between the two phases do not match in a cover letter included with your submittal if you wish. You may also include the source in the workbook but leave the annual emissions blank with a note in the comment field. However, neither option is required.

4. If the receptor was not present in 2009 but it was built sometime afterwards, does it need to be included? Does this matter if I report 2009 emissions or a 12 month consecutive period?

Only consider receptors that are present during the inventory reporting period. Here are some examples: If the inventory is for 2009 (January 1, 2009, to December 31, 2009) and a receptor was built on June 15, 2010, then the receptor was not present during the inventory reporting period and should not be considered.

However, if the inventory is for a 12 month consecutive period from August 1, 2009, until July 31, 2010 and the receptor was built on June 15, 2010, then the receptor was present during the reporting period and should be considered/included in the inventory.

5. If a piece of equipment does not meet the reporting requirements, but has a receptor within a ¼ mile, am I required to report it?

Only equipment that meet the emission reporting thresholds are required to be included in the inventory, regardless of whether a receptor is within a ¼ mile.

6. Should "Total VOC emissions" include any Hazardous Air Pollutants (HAPs) that were also reported?

The total VOC emissions should include all VOC, including any HAPs that are VOC.

7. I have a piece of equipment that meets the reporting requirement for an individual HAP. Am I required to report all emissions for this source even though the emissions are below the reporting requirements for other pollutants?

Yes, once the piece of equipment meets any reporting requirement, total VOC, nitrogen oxides (NO_x) if applicable, and any HAPs greater than or equal to 0.1 tons per year are required to be reported.

8. Is the HAPs>0.1 tpy tab required for all HAPs even if they are already included with the equipment emissions?

The "HAPs>0.1 tpy" is only necessary if a piece of equipment has emissions of an individual HAP that are greater than or equal to 0.1 tpy and are not already reported with the equipment emissions. For example, if an engine emits greater than 0.1 tpy each of both acetaldehyde and formaldehyde, only the acetaldehyde emissions are required to be included on the "HAPs>0.1 tpy" form because the formaldehyde emissions are reported on the "Compressor Engine(s)" tab.

9. What if during the course of working on my Phase Two workbook, I noticed that there was an equipment count error in the Phase One submittal for a site?

Please submit a revised Phase One workbook as soon as possible. Please include:

- the upstream/midstream Phase One form (included in the workbook),
- the completed "Emissions Totals Certification" form (included in the workbook),
- the revised Excel workbook saved onto a compact disk (CD),
- an explanation of why the equipment counts have been revised from the original submittal and clearly designate as Phase One revision, and

- a contact person.

Mail all items to the address listed in the letter (reproduced below) so that the TCEQ has a record of the company's response to the inventory request.

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Note: Since the Phase One submittal was completed one per owner/operator, make sure the revised submittal includes information for all applicable sites. If you need a courtesy copy of the original Phase One submittal, please contact us; contact information is available in the "Inventory Assistance" section.

Blowdown Operations and Process Vents

1. Should the "total blowdown vented volume (scf)" include methane and ethane?

Yes, include the total volume of gas vented in 2009, including methane, ethane, and any other compounds.

Vented Separators

1a. What does "vented separator" mean?

1b. I have separators with pressure relief valves that vent to the atmosphere. Are those applicable?

A vented separator is typically used to separate liquid petroleum and produced water while venting any produced gas to the atmosphere. Vented separators typically only capture the produced liquids from a well and do not normally capture and route produced gas to a compressor or pipeline.

Separators that capture and reroute produced gas but have pressure relief valves to prevent system overpressuring are NOT considered vented separators and should not be included on the "Vented Separator" worksheet

2. Is a "heater-treater" considered a vented separator?

A heater-treater is a vessel that heats an emulsion and removes water and gas from the oil. If a heater-treater is vented as explained in question 1 above, it should be reported on the vented separator tab.

Engines

1. What if my engines have been downgraded from their design capacity? For example, a 400 hp Caterpillar engine has been downgraded to 100hp engine and has been operated at 100 hp. Please let me know which power rating should be used in emission calculations for the Phase II Inventory.

To derate an engine by this amount (400hp to 100hp) and expect the emissions rate scale down to be linear, the following adjustments would have to be made on the engine:

- a. the throttle would have to be adjusted for low speed,
- b. the air to fuel ratio would have to be adjusted ,
- c. the spark timing would have to be adjusted, and
- d. the light load exhaust temperature must be hot enough to optimize the catalyst.

If **all of the above has been completed and documented**, then using 100hp (vs. 400hp) in the gram/hp-hr factor would be reasonable.

2. Should formaldehyde emissions that are included specifically on the form be included in the total VOC emissions also?

The total VOC emissions should include formaldehyde.

Storage Tanks

1. What is the definition of crude oil and condensate? What is the difference between crude oil and condensate?

For this inventory condensate is defined as a liquid hydrocarbon with an API gravity greater than 40° at 60°F (and a specific gravity less than 0.8252). Crude oil is defined as a heavy, low-volatility oil approximated by a GOR less than 1,750 cubic feet per barrel and an API gravity less than 40°.

2. How do I calculate emissions from my storage tanks?

Storage tank emissions occur because of evaporative losses of the liquid during storage (breathing losses) and as a result of changes in liquid level (working losses). Flashing losses occur when a liquid with entrained gases experiences a pressure drop or a temperature increase. There are several different methods of determining flash emissions; however, there are specific constraints associated with each method.

Refer to the Barnett Shale Phase Two Emissions Calculator available at <http://www.tceq.state.tx.us/implementation/air/industei/psei/psei.html#barnett2> for a list of approved calculation methodologies.

3a. Why would you expect emissions from a produced water/saltwater storage tank?

3b. How do I calculate emissions from my water storage tank?

Produced water is generated during oil and gas exploration and production, transmission, and treatment operations, and typically stored on-site. It may contain various contaminants, including hydrocarbons, which generate VOC emissions.

If VOC are present in produced water, the VOC may vaporize in the tank's headspace causing working and breathing losses. To determine working and breathing losses, it is possible to create a mixture in the TANKS program similar to the composition of the produced water stored in the tanks (for example, a mixture of 99 percent water and 1 percent condensate) to determine the emissions.

If VOC are entrained in water produced during oil and gas exploration and production activities, VOC could flash when placed in atmospheric pressure tanks due to pressure differentials. To determine flash losses, direct measurement of emissions or measurement of the amount of flash gas from a pressurized sample of produced water (similar to the GOR method) are the preferred emissions determination methods.

4. I have a saltwater disposal site with an open pit where water is stored before being placed in storage tanks. How do I estimate emissions from the open pits?

Currently, specialized methods for determining emissions from open water dump pits do not exist. However, these pits are a potential source of VOC emissions that should be evaluated. The Environmental Protection Agency's WATER9 program (available at http://www.epa.gov/ttn/chief/software/water/water9_3/index.html) may be used to determine the emissions from these types of sources.