

«Title» «First_Name» «Last_Name» «Company_Name»
«Address_Line_1»
«Address_Line_2»
«City», «State» «ZIP_Code»

Dear «Title» «Last_Name»:

I am writing to request your cooperation in a study being conducted by the U.S. Environmental Protection Agency (EPA, or the Agency) on the potential relationship between hydraulic fracturing and drinking water resources. Additional information on the study can be found at www.epa.gov/hydraulicfracturing.

As part of our study, we are collecting information to improve our understanding of the role of well performance during hydraulic fracturing as it relates to well design, construction, and completion practices. EPA's peer-reviewed *Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources*, which underwent extensive public comment, explains the purpose of the study, our goals, and our intent to analyze a selection of hydraulically fractured wells.¹

In late 2010, EPA received information from nine hydraulic fracturing service companies in response to a letter sent to them in September 2010. The companies identified wells for which they had provided hydraulic fracturing services and the operator of each well. Using a random sample and commonly accepted statistical procedures, EPA arrived at a list of wells operated by nine companies that reflect both geographic diversity and operator size. The list enclosed in this letter includes wells selected for this analysis that are wells owned and/or operated by your company.

The enclosures provide additional background information and a list of the items requested by EPA. This information—together with a literature review, assessment of data and information from states and communities, case studies, laboratory work, and computer modeling—will allow EPA to perform a more thorough assessment of the potential impacts of hydraulic fracturing on drinking water resources. Unless otherwise specified, we are not requesting that you create new data or information.

Natural gas is a key part of the portfolio for our nation's energy future, and your assistance will help us to ensure that the development of domestic sources of energy proceeds in a way that protects our environment and our health. As a next step, I'd like to arrange a meeting to discuss this information request and how we can most effectively work together to inform this important scientific study. Because the thoroughness of our study depends on timely access to detailed information about well

¹ U.S. EPA. *Draft Plan to Study the Potential Impacts on Drinking Water Resources*. EPA/600/D-11/001. February 2011. Page 32.

design, construction, and completion practices, we would like to receive the well files requested in this letter within thirty (30) days of the date of this request.

If you have any questions, your staff may contact Jeanne Briskin (202-564-4583 or briskin.jeanne@epa.gov) or Nathan Wiser (303-312-6211 or wiser.nathan@epa.gov) in the Office of Research and Development.

Sincerely,

Kevin Y. Teichman
Deputy Assistant Administrator for Science
Office of Research and Development

Enclosures

1. Information Request Details
2. Information Request Instructions
3. Information Request Definitions
4. Information Requested
5. List of Wells
6. List of Approved Contractors to Review Data
7. Two blank CDs

ENCLOSURE 1 INFORMATION REQUEST DETAILS

The U.S. Environmental Protection Agency is conducting a study to investigate the potential impact that hydraulic fracturing may have on drinking water resources and public health.

The Agency is undertaking the hydraulic fracturing study at the request of the U. S. Congress, specifically the Appropriations Conference Committee of the House of Representatives. In its Fiscal Year 2010 budget report, the Committee asked EPA to carry out a study on the “relationship between hydraulic fracturing and drinking water, using a credible approach that relies on the best available science, as well as independent sources of information.” EPA requests your cooperation in providing information to support the study. We understand that well design and construction is integrally related to the potential for drinking water impacts from hydraulic fracturing. Therefore, we are requesting detailed information on well design and construction for hydraulically fractured wells.

To help EPA evaluate the potential impact of hydraulic fracturing on drinking water resources and public health, EPA requests that you provide full and complete information in response to the questions set forth in this enclosure. **Please provide the information within thirty (30) days of the date of this request.**

EPA has contracted with Eastern Research Group (Contract Number EP-C-10-023) to assist in the review of the documentation you provide, including documents which you claim as Confidential Business Information (CBI). Please see Enclosure 6 of this letter for complete information regarding contractor access to CBI.

All submissions should be addressed to:

**Carissa Erickson,
Toxic Substances Control Act Document Control Officer
U.S. Environmental Protection Agency
Hydraulic Fracturing Information Request
Care of:
Eastern Research Group
14555 Avion Parkway, Suite 200
Chantilly, VA 20151**

Additionally, EPA requests that within seven (7) days of receipt of this request, you provide notice as to whether or not you will submit all of the information requested. Please notify Nathan Wiser regarding your decision at wiser.nathan@epa.gov.

Data provided in response to this request may be claimed as CBI and if so, will be handled in accordance with EPA confidentiality regulations at 40 CFR Part 2, Subpart B. All responses that contain information claimed as CBI must be clearly marked as such. Persons submitting information, any portion of which they believe is entitled to treatment as CBI by EPA, must assert a business confidentiality claim in accordance with 40 CFR 2.203(b) for each such portion. This claim must be made at the time that the information is submitted to EPA. If a submitter does not assert a confidentiality claim at the time of submission, EPA will consider this as a waiver of any confidentiality claim and the information may be made available to the public by EPA without further notice to the submitter.

The Agency is requesting that you provide this information voluntarily; however, to the extent that EPA does not receive sufficient data in response to this letter, EPA will be exploring legal alternatives to compel submission of the needed information. Since EPA will be considering using its legal authorities to require submission if necessary, the standard for any determination of eligibility for confidential treatment will be that which applies to information that has been submitted pursuant to a requirement by EPA. By submitting information in response to this letter, you are agreeing to this standard.

Please read this enclosure carefully and follow the directions provided. Directions for properly submitting information responsive to this request and for claiming CBI are included in the enclosure. Depending on the information you may provide in response to this request, EPA may follow up with a request for your voluntary submittal of additional information.

The Agency requests that the information you submit be verified by, and submitted under an authorized signature by, a responsible corporate officer,² with the following certification:

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

² The term "responsible corporate officer," as used herein, means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.

ENCLOSURE 2

INFORMATION REQUEST INSTRUCTIONS

EPA requests that you follow the instructions below in developing and submitting responses to this information request:

- A. Respond to Each Request Completely. Each request is numbered and may contain subparts identified by lowercase letters. Each question posed should be answered. If the appropriate response is “none” or “not applicable,” that information should be so stated. You should also submit any documents you relied on in preparing your response.
- B. Source(s) of Response. Include with response, the name, position, and title of each person(s) who provided information responsive to the request.
- C. Electronic Submittal. You are encouraged to submit your responses as one or more electronic files on a CD or similar media storage device in a form that allows EPA to readily retrieve and utilize the information using commercially available software. To that end, EPA requests that your responses be provided on the CDs enclosed with this request. Your electronic files should be accompanied by a letter that identifies the file software and version, file name(s), size(s), date(s), and time(s) of creation. Your electronic files should include any documents you relied on in preparing your responses.
- D. Paper Submittal. To the extent you cannot provide responses in an electronic format, you may provide paper copies of responsive documents.
- E. Submitting Maps. When submitting maps, identify the scale of the map, the map title and an explanation of what the map depicts. When identifying features on the map, either label the feature at its location on the map or include in the map’s legend the symbol used for identifying the feature.
- F. Submission of Documents. Label each document submitted with the request number and subpart (if applicable) to which it corresponds. Date stamp each document you submit. If anything is deleted from a document produced in response to this request, state the reason for and the subject matter of the deletion.
- G. Documents Responsive to More than One Request. If a document you submit is responsive to more than one request, please provide one copy of the document and identify all the requests, by number and subpart, to which it corresponds.
- H. Do Not Substitute Derivative or Summary Documents. Where a document is requested, please provide the responsive document. You may, if you wish, provide additional or explanatory documents to accompany the responsive document(s).
- I. Provide the Best Information Available. Unless otherwise specified, we are not requesting that you create new data or information. However, you should provide responses to the best of your ability, even if the information sought was never put down in writing or if the written documents are no longer available. You should seek responsive information from current and former

employees and/or agents. If you cannot provide a precise answer to any questions, please approximate and state the reason for your inability to be specific.

- J. Unavailability of Records. If you are unable to respond to a request in a detailed and complete manner, or if you are unable to provide any of the information requested, indicate the reason for your inability to do so. If a record(s) responsive to a request is not in your possession, custody, or control and you have reason to believe that another person may be able to provide it, state the reasons for your belief and provide the person's name, address, telephone number, and any information available (i.e., author, date, or subject matter) about the record(s).
- K. Documents That Have Been Transferred. If any records responsive to a request have been transferred or otherwise disposed of, identify the document, identify the person to whom it was transferred, describe the circumstances surrounding such transfer or other disposition, and state the date or approximate date of such transfer or other disposition.
- L. Provide and/or Correct Information on a Continuing Basis. If any records responsive to a request are not known or are not available to you at the time you submitted your response, but later become known or available to you, you should submit the new information as a supplement to your response. If at any time after submission of your response you learn that any portion is or becomes false, incomplete, or misrepresents the facts, you should notify EPA of this fact as soon as possible and provide a corrected response. If any part of the response to this information request is found to be false, the signatory to the response and the company may be subject to criminal prosecution.
- M. Identify Personal Privacy Information. Personnel and medical files, and similar files, the disclosure of which to the general public may constitute an invasion of privacy, should be segregated from your responses, included on separate sheet(s), and marked as "Personal Privacy Information." You should note, however, that unless prohibited by law, EPA may disclose this information to the general public without further notice to you.
- N. Indicate Objections to Requests. While you may indicate that you object to certain requests contained in this information request, EPA requests that you provide responsive information notwithstanding those objections.
- O. Claims of Privilege. If you claim that an entire document responsive to this information request is a communication for which you assert that a privilege exists, identify the document and provide the basis for asserting the privilege. For any document for which you assert that a privilege exists for a portion of it, provide the portion of the document for which you are not asserting a privilege; identify the portion of the document for which you are asserting the privilege; and provide the basis for such an assertion. Please note that regardless of the assertion of any privilege, any facts contained in the document which are responsive to this information request should be disclosed in your response.
- P. Confidential Business Information. You should provide the information requested even though you consider it confidential information or trade secrets. You may assert a business confidentiality claim for part or all of the information requested, as described below and set forth in 40 C.F.R. Part 2, Subpart B. Information covered by such a claim will be disclosed by EPA only to the extent and only by the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no

confidentiality claim accompanies the information when EPA receives it, the information may be made available to the public by EPA without further notice to you.

If you wish EPA to treat any information or response as “confidential,” you must advise EPA and comply with the following procedures. Place on or attach to the information at the time it is submitted to EPA a cover sheet, stamped or typed legend, or other suitable form of notice employing such language as *trade secret*, *proprietary*, or *company confidential*. You must clearly identify allegedly confidential portions of otherwise non-confidential documents. Please submit these separately to facilitate identification and handling by EPA. The Agency will ask you to substantiate each claim of confidential business information by separate letter in accordance with applicable EPA regulations, 40 C.F.R. Part 2, Subpart B.

ENCLOSURE 3

INFORMATION REQUEST DEFINITIONS

Please use the following definitions for purposes of responding to the questions set forth below:

Except as otherwise defined below, terms in this information request have the same definition used in the CWA, 33 U.S.C. §§ 1251 through 1387, and TSCA, 15 U.S.C. §§ 2601 through 2695d, and the regulations promulgated thereunder.

- A. The terms “and” and “or” shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this information request any information which might otherwise be construed to be outside its scope.
- B. The term “any,” as in “any documents,” for example, shall mean “any and all.”
- C. The term “base fluid” means the liquid or gas to which additives are mixed and pumped into a well for fracturing purposes. A base fluid may or may not be aqueous.
- D. The term “cement” means cement or other grouting material used within the well to anchor well casing and isolate geologic strata.
- E. The term “Company” shall mean the entity identified as the addressee on the cover letter to this information request, and all related and affiliated corporate entities (including, but not limited to, parent corporations, subsidiaries, joint ventures, partnerships, and affiliates) that control the operation of wells listed in Enclosure 5.
- F. The term “describe” means to detail, depict, or give an account of the requested information, or to report the content of any oral and/or written correspondence, communication, or conversation, or to report the contents of any document, including the title, the author, the position or title of the author, the addressee, the position or title of the addressee, indicated or blind copies, date, subject matter, number of pages, attachment or appendices, and all persons to whom the document was distributed, shown, or explained.
- G. The term “documentation” shall mean any information subject to any method of recording, storage, or transmittal, and shall include any information now or formerly in your possession, custody or control, or now or formerly in the possession, custody or control of any agent acting on your behalf. “Document” shall include, but not be limited to:
 - 1. Writings of any kind, formal or informal, whether or not wholly or partially in handwriting, typed form, or printed form, including drafts, originals, and nonconforming copies that contain deletions, insertions, handwritten notes or comments, and including (by way of illustration and not by way of limitation) any of the following:
 - a. invoices, receipts, endorsements, checks, bank drafts, canceled checks, deposit slips, withdrawal slips, orders;
 - b. letters, correspondences, faxes, telegrams, telexes, electronic communications including, but not limited to, e-mails and other correspondence using computers or other electronic communication devices;

- c. minutes, memoranda of meetings and telephone and other conversations, telephone messages;
 - d. agreements, contracts, and the like;
 - e. log books, diaries, calendars, desk pads, journals;
 - f. bulletins, circulars, forms, pamphlets, statements;
 - g. reports, notice, analysis, notebook;
 - h. graphs, charts; or
 - i. records, pamphlets, surveys, manuals, statistical compilations, pictures.
 - 2. Microfilm or other film record, photograph, or sound recording on any type of device.
 - 3. Any tape, disc, or other type of memory generally associated with computers and data processing, together with:
 - a. the programming instructions and other written material necessary to use such disc, disc pack, tape, or other type of memory; and
 - b. printouts of such disc, disc pack, tape, or other type of memory.
 - 4. Attachments to or enclosures with any document.
- H. The term “field” means the formally designated and named, or generally understood, oil or gas field, where the objective of drilling a well is to extract hydrocarbons from one or more geologic horizons. A “field” is usually contiguous, may or may not be unitized, and represents a uniquely identified reservoir of hydrocarbons identified for production.
- I. The term “flowback” as used in this information request refers to the water mixture produced when the hydraulic fracturing procedure is completed and pressure is released, and the direction of fluid flow reverses. The well is “cleaned up” by allowing the spent fracturing fluid mixture and excess proppant to flow up through the wellbore to the surface. This term is sometimes interchangeably used with “produced water” as defined in section M below.
- J. The term “identify” or “provide the identity of” means, with respect to a person to set forth: (a) the person’s full name, (b) present or last known business and home addresses and telephone numbers; (c) present or last known employer (including the full name and address), with job title, and position or business;
- K. The term “identify” or “provide the identity of” means, with respect to a corporation, partnership, business trust, government office or division, or other entity (including a sole proprietorship), to set forth: (a) its full name; (b) complete street address; (c) legal form (e.g. corporation, partnership); (d) the state under whose laws the entity was organized; and (e) a brief description of its business.
- L. The term “identify” or “provide the identity of” means, with respect to a document, to provide: (a) its customary business description (e.g., letter, invoice); (b) its date; (c) its number if any (e.g., invoice or purchase order number); (d) the identity of the author(s), the address, and the addressee(s) and/or recipient(s); (e) and a summary of the substance or the subject matter.

- M. The term “produced water” as used in this information request refers to the water mixture produced when the drilling and fracturing of the well are completed, and the well is being developed or has been placed on production following a period when “flowback” fluids are produced. Some of this water may be returned fracture fluid otherwise meeting the “flowback” definition in section I above.
- N. The term “site” means a property where natural gas or oil drilling and related activities occur, including all areas within the exterior boundaries of that property. Multiple wells may be located at a single site.
- O. The term “well” or “wellbore” means each uniquely named and numbered drilled hole with conveyed casing and completed for the purpose of extracting or aiding in the extraction of oil or gas from the subsurface.

ENCLOSURE 4 INFORMATION REQUESTED

Your response to the following questions is requested within thirty (30) days of receipt of this information request:

For each well listed in Enclosure 5 of this letter, provide any and all of the following information:

Geologic Maps and Cross Sections

1. Prospect geologic maps of the field or area where the well is located. The map should depict, to the extent known, the general field area, including the existing production wells within the field, preferably showing surface and bottom-hole locations, names of production wells, faults within the area, locations of delineated source water protection areas, and geologic structure.
2. Geologic cross section(s) developed for the field in order to understand the geologic conditions present at the wellbore, including the directional orientation of each cross section such as north, south, east, and west.

Drilling and Completion Information

3. Daily drilling and completion records describing the day-by-day account and detail of drilling and completion activities.
4. Mud logs displaying shows of gas or oil, losses of circulation, drilling breaks, gas kicks, mud weights, and chemical additives used.
5. Caliper, density, resistivity, sonic, spontaneous potential, and gamma logs.
6. Casing tallies, including the number, grade, and weight of casing joints installed.
7. Cementing records for each casing string, which are expected to include the type of cement used, cement yield, and wait-on-cement times.
8. Cement bond logs, including the surface pressure during each logging run, and cement evaluation logs, radioactive tracer logs or temperature logs, if available.
9. Pressure testing results of installed casing.
10. Up-to-date wellbore diagram.

Water Quality, Volume, and Disposition

11. Results from any baseline water quality sampling and analyses of nearby surface or groundwater prior to drilling.
12. Results from any post-drilling and post-completion water quality sampling and analyses of nearby surface or groundwater.

13. Results from any formation water sampling and analyses, including data on composition, depth sampled, and date collected.
14. Results from chemical, biological, and radiological analyses of “flowback,” including date sampled and cumulative volume of “flowback” produced since fracture stimulation.
15. Results from chemical, biological, and radiological analyses of “produced water,” including date sampled and cumulative volume of “produced water” produced since fracture stimulation.
16. Volume and final disposition of “flowback.”
17. Volume and final disposition of “produced water.”
18. If any of the produced water or flowback fluids were recycled, provide information, including, but not limited to, recycling procedure, volume of fluid recycled, disposition of any recycling waste stream generated, and what the recycled fluids were used for.

Hydraulic Fracturing

19. Information about the acquisition of the base fluid used for fracture stimulation, including, but not limited to, its total volume, source, and quality necessary for successful stimulation. If the base fluid is not water, provide the chemical name(s) and CAS number(s) of the base fluid.
20. Estimate of fracture growth and propagation prior to hydraulic fracturing. This estimate should include modeling inputs (e.g., permeability, Young’s modulus, Poisson’s ratio) and outputs (e.g., fracture length, height, width).
21. Fracture stimulation pumping schedule or plan, which would include the number, length, and location of stages; perforation cluster spacings; and the stimulation fluid to be used, including the type and respective amounts of base fluid, chemical additives and proppants planned.
22. Post-fracture stimulation report containing, but not limited to, a chart showing all pressures and rates monitored during the stimulation; depths stimulated; number of stages employed during stimulation; calculated average width, height, and half-length of fractures; and fracture stimulation fluid actually used, including the type and respective amounts of base fluid, chemical additives and proppants used.
23. Micro-seismic monitoring data associated with the well(s) listed in Enclosure 5, or conducted in a nearby well and used to set parameters for hydraulic fracturing design.

Environmental Releases

24. Spill incident reports for any fluid spill associated with this well, including spills by vendors and service companies. This information should include, but not be limited to, the volume spilled, volume recovered, disposition of any recovered volume, and the identification of any waterways or groundwater that was impacted from the spill and how this is known.

**ENCLOSURE 5
LIST OF WELLS**

Well Identifier	State	County

ENCLOSURE 6
CONTRACTOR ACCESS TO CONFIDENTIAL BUSINESS INFORMATION

Contractors under Contract Number 68-C-02-095, Eastern Research Group (ERG) of Chantilly, VA; Contract Number EP-C-10-023, Westat of Rockville, MD; and Contract Number EP-C-08-01, Cadmus of Watertown, MA, will assist the Office of Research and Development in its work regarding hydraulic fracturing. These contractors will compile and analyze data collected by EPA from industry and will write reports based on the collected information.

In accordance with 40 CFR 2.306(j), EPA has determined that under Contract Number 68-C-02-095, ERG; Contract Number EP-C-10-023, Westat; and Contract Number EP-C-08-01, Cadmus, will require access to information submitted to by your company in response to the Administrator's letter dated August 10, 2011, to successfully perform the duties specified under the contract. Some of this information may be claimed as confidential business information (CBI). ERG, Cadmus and Westat personnel will be given access to such information submitted to EPA.

The Agency is issuing this notice to inform you, as a submitter of such information, that EPA will provide ERG, Cadmus, and Westat access to these CBI materials. All access to such information under these contracts will take place, in accordance with EPA's TSCA CBI Protection Manual, at EPA Headquarters, ERG's site located in Chantilly, VA; Westat's site located in Rockville, MD; and Cadmus' site located in Seattle, WA. Access to the information will occur no sooner than September 10, 2011. If you have comments regarding this disclosure, they must be submitted to EPA no later than August 22, 2011. Comments can be submitted to Scott M. Sherlock via email at sherlock.scott@epa.gov or by fax at (202) 564-8251.

Access to such information will continue until September 25, 2011, for ERG; May 31, 2012, for Westat; and December 31, 2011, for Cadmus. If any or all of the contracts are extended, this access will also continue for the duration of the extended contract(s) without further notice.

ERG, Westat, and Cadmus personnel will be required to comply with EPA security requirements, sign nondisclosure agreements and will be briefed on appropriate security procedures before they are permitted access to such information.